



HEALTHREATS PROJECT

WP5 REQUIREMENT SPECIFICATION

DELIVERABLE 4

HEALTHREATS PDT PACKAGE REQUIREMENT SPECIFICATION

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WP 5 OBJECTIVE

Work in this WP involves the collection and analysis of requirements and the definition of the specifications of the HEALTHREATS system and its components.

Collection and documentation of User Requirement

The participating health authorities and end users will provide descriptions of application scenarios, reflecting their wishes and plans for potential HEALTHREATS applications.

The requirements and specifications of the overall PDT system and its components will be written down in a formal way, under LASER leadership.

The activities to be performed in this task include:

- Definition of a method to collect user requirements including questionnaires, interviewing and brainstorming,
- Definition of a requirements description method and associated tools (such as MindMaps), functional modelling (IDEF0), use case diagrams, etc.,
- Planning and performing of interviews and brainstorming meetings for requirements gathering,
- Documentation of requirements.

Analysis and generalisation of requirements

The user requirements collected and documented in Task 5.1 will be analysed in order to identify the most appropriate generic elements to be used in the specifications of the HEALTHREATS PDT package. Based on the analysis of the user requirements, the specifications of the HEALTHREATS PDT package will be defined and documented.

The activities to be performed in this phase are:

- Analysis of the user requirements,
- Generalization of requirements in view of PDT package design,
- Specification of DSS requirements.

For the DSS component requirement specification will include the following main items:

- identification of user classes
- definition of functional requirements, stated in terms of use cases (UML), for each user class
- specification of the decision making process (after reengineering) that the DSS should support / implement, stated in a suitable (graphical) process representation language
- definition of usability requirements and user interface requirements
- definition of operational requirements and constraints

This report presents three sections that propose the requirements for each component of PDT package: DSS, Process and Training. The requirements research has been carried out analyzing structures of partners involved in the experimental phase, as involved in the project (ASL, IVZ, SEC and RSDM).

The Annex 1 and 2 are documents that integrate analysis of process requirements involving in this research local contexts implicated in a scenario of pandemic influenza spread, in particular in Italian ambit.

- first document is an ASL contribution to collection and documentation of process requirements and analyses the possibility to provide the Local Health Centre with an integrated plan for the

management and the implementation of procedures during an influenza pandemic among irregular migrants;

- other document is a contribution of the Non-Profit Association “Disciplina della Solidarietà”. which analyses the role of non profit organisations in crisis management at a local level during the pandemic influenza spread.

HEALTHREATS DSS REQUIREMENTS SPECIFICATION

1. Starting point, scope of the work and methodology

The work reported in this documents originates from the activities carried out in the frame of Task 5.1: Collection and documentation of User Requirement and Task 5.2: Analysis and generalisation of requirements.

The goal of this work is to produce a complete, integrated and final version of DSS requirements to be used as a reference for the subsequent Work Packages, in particular for WP7: DSS design and implementation

This report aims at covering majority of the needs concerning the development of the DSS, with attention to all partners involved in the experimentation, namely: Italy, Romania, Slovenia and Spain. However, since the Italian case will be used as the leading context for the development of the first version of the DSS (according to the organization of WP7, Task 7.6 and 7.7), this analysis will focus on the Italian case in greater detail. It is expected that the countries who will develop national experimentations (namely: Romania, Slovenia and Spain), will develop their own analysis to tune the DSS to the characteristics of local health organizations.

The methodology adopted for the analysis and generalisation of requirements conforms to the outline and goals stated in the Technical Annex without any major deviations. In particular, the work has been organized into three Phases:

- Phase I: Collection and documentation of user requirement (Italian case)
- Phase II: Collection and documentation of user requirement (Romanian, Slovenian and Spanish cases)
- Phase III: Analysis and generalisation of requirements.

Best practices in the field of software engineering have been adopted, especially for what concerns requirements classification (identification of functional and non functional requirements, ranking of requirements, evaluation of feasibility) and documentation (identification and modelling of user classes and development of use cases according to UML principles). Also, commonly accepted knowledge elicitation techniques have been adopted for the refinement of functional requirements (interview techniques with domain experts from ASL).

The methodology followed is illustrated in detail in Annex A.

PART I – The DSS and its environment

2. The context

2.1 The international scenario

WHO (the World Health Organization) has defined the “WHO global influenza preparedness plan” (all reference documents mentioned in this section are listed in Annex B) with the goal of assisting member states and persons responsible for public health in responding to the threats deriving from the occurrence of a pandemic influence. The document provides an overview of objectives and action to be taken by WHO and recommends priority goals to national authorities. This document does not replace the national plans, but individual countries should develop national preparedness plan according to WHO recommendations.

The “WHO global influenza preparedness plan” defines six pandemic phases, grouped in three periods:

Period	Phase
Interpandemic period	Phase 1
	Phase 2
Pandemic alert period	Phase 3
	Phase 4
	Phase 5
Pandemic period	Phase 6

2.2 The national scenarios

2.2.2 The Italian case, with specific attention to ASL Brescia

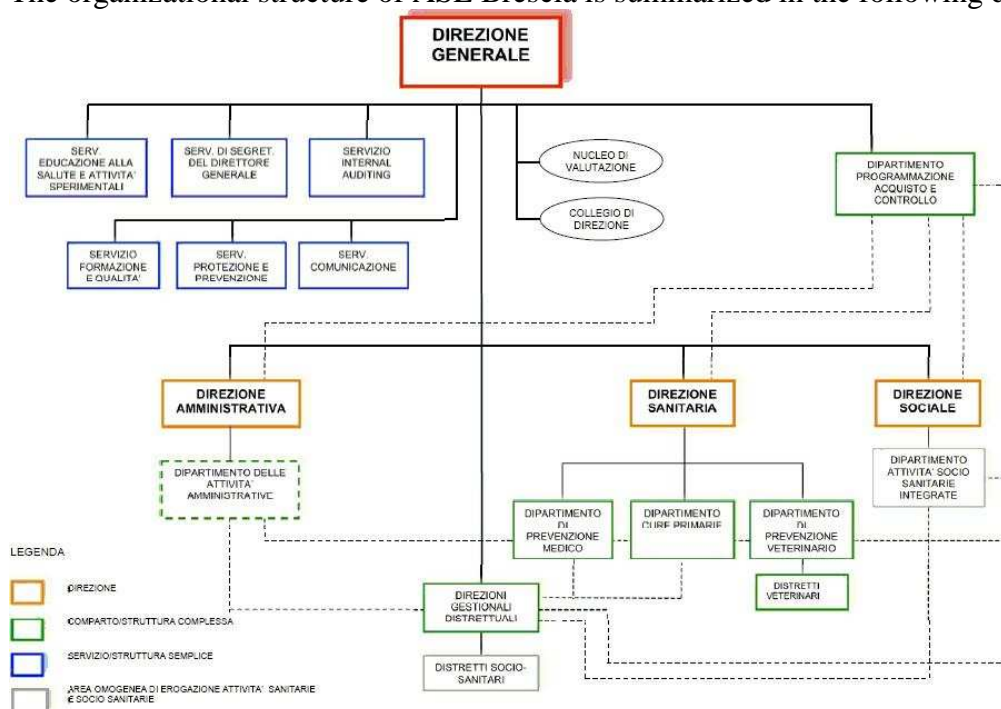
The Italian Governemnt has defined the “Piano nazionale di preparazione e risposta ad una pandemia influenzale” on the basis of WHO recommendations; for each phase objectives, actions and actors (national health authorities, regional health authorities, and others non-health structures) are defined. The Italian plan represents the national reference under which the operative regional plans have been developed.

Regione Lombardia has developed the “Piano pandemico regionale di preparazione e risposta ad una pandemia influenzale secondo le direttive del Ministero della Salute” that implements, at regional level, the prescriptions provided by the national plan.

The regional plan defines the institutional actors in charge of applying the measures related to the various pandemic phases; it defines the actions to be carried out to assure surveillance, prevention, control and assistance; actors, time lines and operational modes are also defined.

ASL Brescia (Azienda Sanitaria Locale di Brescia) has developed the local plan, named “Documento locale per l’attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale”, that defines the operative and decisional protocols as required by the regional plan. ASL plan defines the local actions needed to prevent and manage a pandemic influence.

The organizational structure of ASL Brescia is summarized in the following diagram:



ASL Brescia organizational chart

At the top-level, the main structures of ASL Brescia are:

- Direzione generale (General Direction): in charge of the general management of the activities of ASL and of the external relationships;
- Direzione sanitaria (Health Direction): in charge of managing all activities related to health and, specifically, to an health emergency;
- Direzione sociale (Social Direction): in charge of managing all activities related to social health services.

The Dipartimenti (Departments) are organizational structures characterized by a common purpose, with economical and organizational autonomy; they have to establish plans, distribute resources at territorial level, and promote activities in the various areas of competence; they define the activities to be carried out in the territorial structures.

The Departments of ASL Brescia are the following:

- Department of medical prevention
- Department of veterinary medicine prevention
- Department of primary health care
- Department of integrated socio-sanitary activity area
- Management Planning, Purchase Processes and Controls for Health Care Department
- Administration Department.

At operative level, all ASL health-related activities are organized, on territorial level, into 6 DGD's (Direzioni Gestionali Distrettuali – District Managing Directions) which are in turn divided into 12 Distretti Socio Sanitari (Districts). A DGD corresponds to an area with more than 100.000 inhabitants. DGD's and Districts are the following:

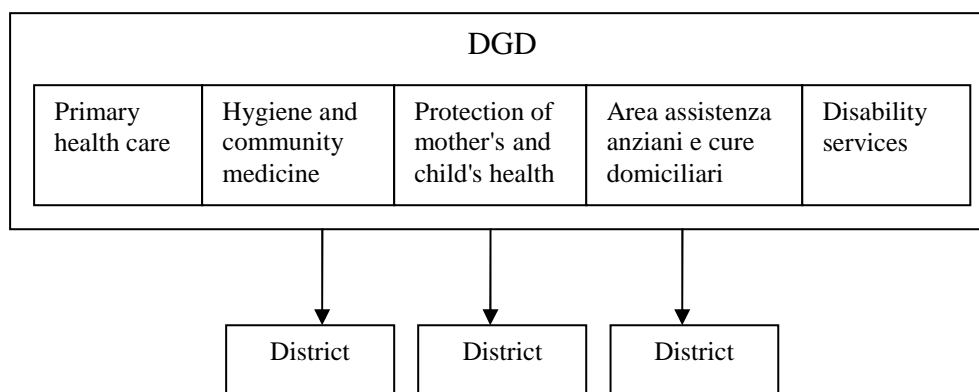
- DGD 1
 - District 1 - Brescia
- DGD 2
 - District 2 – Brescia ovest
 - District 3 – Brescia est
- DGD 3
 - District 4 – Valle Trompia
- DGD 4
 - District 5 – Sebino
 - District 6 – Monte orfano
 - District 7 – Oglio ovest
- DGD 5
 - District 8 – Bassa bresciana occidentale
 - District 9 – Bassa bresciana centrale
 - District 10 – Bassa bresciana orientale
- DGD 6
 - District 11 – Garda
 - District 12 – Valle Sabbia

DGD activity is managed by a Direttore di DGD (DGD Manager), responsible for all Districts that belong to the DGD. He is in charge of managing human resources, material resources, and budget. The DGD manager is also in charge of the relation with town mayors, in order to assess the primary needs of the territory.

Each DGD includes 5 Aree Funzionali Integrate (Integrated Functional Areas) that correspond to the competence domains of the people employed in the DGD and its Districts. The Integrated Functional Areas are:

- Primary health care
- Hygiene and community medicine
- Protection of mother's and child's health
- Aging services and home health care
- Disability services.

The structure of DGD's and Districts is summarized in the following diagram:



ASL Brescia DGD's and Districts

The DGD Manager appoints a Coordinatore (Coordinator) for each Integrated Functional Area, in charge of managing human resources and internal functions.

Generally, health and social-health care is managed directly by the Districts; only in specific cases the Districts resort to the support and approval of the relevant Department.

ASL includes also 4 Distretti Veterinari (Veterinary Districts) that depend directly from Dipartimento di Medicina Veterinaria. Each District has a District Manager who organizes the relevant activities using the resources he receives from the Dipartimento di Medicina Veterinaria, in order to guarantee animal health and safety of animal products, especially food of animal origin.

In case of an health emergency, a specific task force is activated inside ASL Brescia called SACE - Struttura Aziendale Comando Emergenza (Emergency Control Group) It includes:

- The Health manager (the manager of the Health Direction): he starts-up and manages all activities of SACE under the supervision of the General Director; he can start up a Unità di Crisi Locale (Local Crisis Unit), if necessary;
- Department Managers (or their representatives) of all Departments involved in emergency; each Department Manager has a collaborator who acts as central crisis manager;
- The Responsabile del Servizio Prevenzione e Protezione (Manager of Prevention and Protection Service), a service of the General Direction;

- The Medico competente (physician in charge) – a function of Servizio Medicina Preventiva (Preventive Medicine Service) of the Health Direction.

The information flow between SACE and DGD's is maintained through the involved DGD Managers; each DGD Manager has a collaborator who acts as local crisis manager.

2.2.3 The Romanian case

The Rumanian Sanitary System is organized in two main levels:

- the central Government, which acts through the Health Ministry and the Ministry of Interior; the Health Ministry is in charge of setting the policy for the national health strategies and control the implementation, monitoring the health status of the population, financing the emergency medical care and the health structures for disaster preparedness (e.g. pandemics, epidemics, etc.). Ministry of Interior participates in the management of the emergency medical care in cooperation with the Ministry of Health, in particular for financing at local level.
- local level, that has the same competences of the Ministry of Health but reserved to the local level, except the financing which comes directly from the Ministry of Health for the emergency situations

No administrative regional governments are present.

The Romanian Society for Disaster and. Emergency Medicine (RSDM), a Non-Governmental Organisation, operates in cooperation with State structures, training at all levels, supporting implementation and development of first response system, in cooperation with the Ministry of Interior, in order to develop emergency services. RSDM is not an operational emergency care provider but is in charge of supporting the development of the emergency care by training and consulting.

2.2.4 The Slovenian case

The Slovenian Sanitary system is based on the principles of social health insurance (Bismarck Model). HIIS - Health Insurance Institute of Slovenia has the responsibility and competence for implementing mandatory health insurance for the whole country and acts as a purchaser of health services from health care providers. Health legislation and National Health Care Plan provide framework for development and distribution of health services which are available to the citizens. There are two levels of self governance:

- national: the Government is responsible for assuring the conditions for a healthy environment and healthy living and for the implementation of national health programmes. The Ministry of Health is in charge of preparing legislation for health care and health protection, and for ensuring regulation and supervision of the implementation of legislation. The Ministry of Health monitors public health, prepares and implements health promotion programmes, ensures conditions for people's health education, supervises the production, trade and supply of medicines and medicinal products. The Ministry of Health is also responsible for establishing hospitals and public health institutions at the national level. The ministry approves the policies of an institution and provides financing for specific expenses (i.e. capital investments in state-owned hospitals). The Ministry of health has many relationships with the other Ministries of Government.

- municipal: are responsible for organizing primary health care in their communities (providing facilities or granting concessions to the private providers)

No regional government are present.

National Public Health Institute (IVZ) and 9 regional public health institutes cover the fields of social medicine, environmental health, communicable diseases, informatics and data management; IVZ supports Ministry of Health with necessary inputs. IVZ is organized in five centres (health and health care research, health care organization economics and informatics, health and environment, communicable diseases and health promotion) and three units (health statistics, illicit drugs, drug purchase and distribution).

Planning of health information takes place in the Council on Health Informatics at the Ministry of Health; the information are provided by IVZ that has responsibility to collect data on health and health care from all health care providers. IVZ is also responsible for planning, purchasing and distribution of vaccines to health care providers. Staff at the IVZ, who are responsible for pandemics' response, are medical doctors, specialized in epidemiology and public health. IVZ is based in Ljubljana and has no organizational units around the country but plays a coordinative role, between the Regional Institutes of public health, regarding monitoring and responding to important public health issues.

Slovenia has adopted 2006 the National pandemic plan for health care that describes tasks of Ministry of Health, Ministry of Health pandemics coordination group, Institute of Public Health of the Republic of Slovenia, Regional Institutes of Public Health and providers of health care. National pandemic plan which would link different sectors and stakeholders with health care and which would provide clear emergency management on the level of the government, society and its subsystems, hasn't been prepared yet.

2.2.5 The Spanish case

National pandemic preparedness plan

The Spanish government has since May 2005 a "Plan Nacional de Preparación y Respuesta ante una Pandemia de Gripe" which was elaborated by the Ministry of Health and Consumer Affairs in collaboration with the autonomous regions on the basis of WHO recommendations.

The objective of this plan, which was updated in December 2006, is to guarantee a health response and the measures established by the Health administrations in order to reduce the impact in the population of the occurrence of a pandemic, and to guarantee, at the same time, the health and social services. This plan, in the same way than the complementary action guidelines, is constantly reviewed and updated.

With these guidelines, each autonomous region in Spain has elaborated its own action plans.

Regional pandemic preparedness plan

Following the same criteria of these documents, but taking into account the reality of the health, social and political structure of Catalonia, we have developed a plan whose objective is to reduce, as far as possible, the mortality, morbidity and social and health care impact of this infectious process in Catalonia.

The regional plan defines the actions to be carried out to assure, surveillance, prevention, control, assistance and communication. Actors, time lines and operational models are also defined.

To render it possible to update the action plan as required by the epidemiological situation and for it to be implemented, a suitable organizational structure is necessary.

Executive Committee

An Executive Committee of Catalonia for the prevention, control and surveillance of the evolution of a possible influenza pandemic, reporting to the Department of Health (Ministry of Health of Catalonia), will be set up.

The functions of the Executive Committee of Catalonia for the prevention, control and follow-up of the evolution of a possible pandemic of the influenza will be as follows:

- a) The design of the organizational structure and the determination of the levels of responsibility in decision-making to face up to a possible influenza pandemic in Catalonia, including the approval of the Pandemic Plan.
- b) The follow-up and assessment of the response plans of the health-care centres and of all the areas involved.
- c) The approval of specific guidelines for every phase of the pandemic, following the recommendations of the WHO and of the Ministry of Health and Consumer Affairs (Spain).
- d) The coordination of the information that has to be supplied to organisations and institutions of Catalonia, national and international.
- e) Any another action related to the influenza pandemic.

The Executive Committee of Catalonia for the prevention, control and follow-up of the evolution of a possible influenza pandemic will be comprised of the following members (in this Committee are represented all the different departments of the Catalan Government, together with the two institutions more representative of the municipalities (local level):

- The minister of the Health Department in Catalonia, who is the president of the committee
- The general secretaries of all the government departments (ministries) in Catalonia
- The director of the Catalan Health Service
- The director of the Catalan Health Institute
- The director of the Catalan Institute of Social Services
- The general director of Public Health, who is the secretary of the committee
- The general director of Health Resources
- The general director of Health Evaluation and Planning
- The director of the Institute of Health Studies
- The general director of Civil Protection
- The director of the Medical Emergency Service
- The head of the Cabinet of the health minister in Catalonia
- The president of the Catalan Association of Municipalities and Regions
- The president of the Federation of Municipalities in Catalonia

- The general secretary of the Presidential Department, who is the vice-president of the committee

This Executive Committee of Catalonia for the prevention, control and follow-up of a possible influenza pandemic meet with the frequency required to accomplish its aims.

The Technical Secretary's Office

With a view to making the decisions adopted by the Executive Committee of Catalonia for the prevention, control and follow-up of the evolution of a possible influenza pandemic operative, and manage the plans and actions determined for every pandemic phase, a Technical Secretary's Office will be set up.

This Technical Secretary's Office is comprised of the following members:

- The general director of Public Health, who is the president
- The sub-director of the Catalan Health Service, who is the vice-president
- The technical directors of the Pandemic Plan
- The directors of the different territorial services of the Department of Health
- The director of the Public Health Agency of Barcelona
- Technicians of the different departments (ministries) and institutions represented in "The executive Committee of Catalonia for the prevention, control and evolution follow-up of a possible pandemic influenza"

The Technical Secretary's Office will meet whenever the agreements of the Executive Council of Catalonia for the prevention, control and follow-up of the evolution of a possible influenza pandemic must be implemented, and with the frequency established by or for epidemiological risk situations.

The Scientific Advisory Committee

A Scientific Advisory Committee of the Influenza Pandemic Plan will be set up to guide the decisions of the Executive Committee of Catalonia for the prevention, control and follow-up of a possible influenza pandemic, in accordance with the scientific knowledge and experience of the professionals related to this matter.

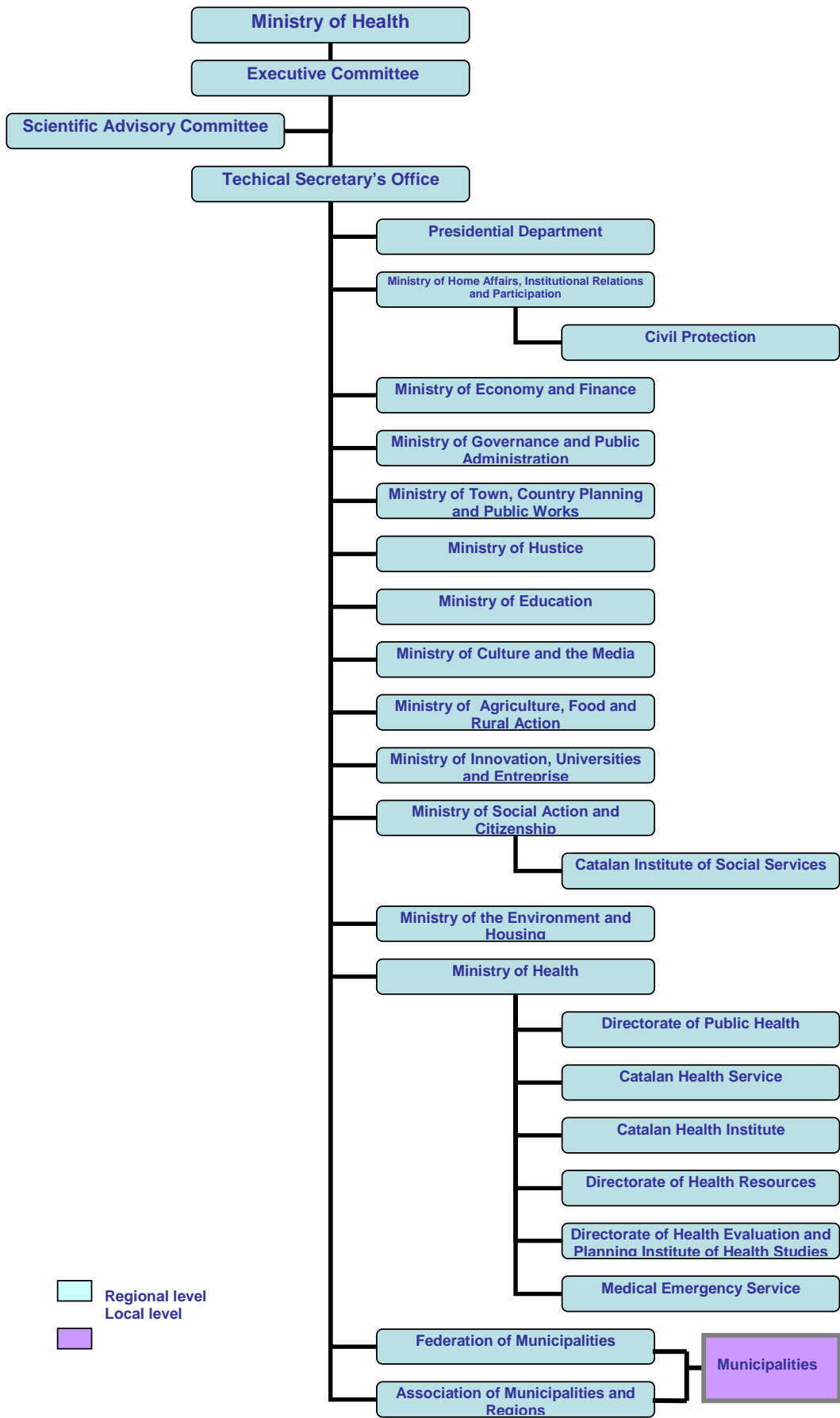
This Scientific Advisory Committee of the Influenza Pandemic Plan will report to the Executive Committee of Catalonia for the prevention, control and follow-up of a possible influenza pandemic, and will be comprised of the following members:

- The president of the Scientific Advisory Committee, who is designated by the minister of health in Catalonia because his scientific career and expertise in the subject
- The general sub-director of surveillance and response to public health emergencies, who is the secretary of the committee
- A representative of the Research Department in Catalonia
- A representative of the Department of Agriculture, Food and Rural Action

- A representative of the Catalan Society of Infectious Diseases and Clinical Microbiology
- A representative of the Catalan Society of Family and Community Medicine
- A representative of the Catalan Society of Paediatrics
- A representative of the Society of Public Health of Catalonia and Balearic Islands
- A representative of the Catalan Society of Emergencies Medicine
- A representative of the Catalan Society of Geriatric medicine and Gerontology
- A representative of the Spanish Society of Preventive Medicine, Public Health and Hygiene
- A representative of the Spanish Society of Epidemiology
- A representative of the Catalan Nurses Association
- A representative of the Catalan Family and Community Nurses Association
- A representative of the Catalan Control Infection Nurses Association
- A representative of the Catalan Society of Clinical Pharmacy
- A representative of the Catalan Society of Occupational Medicine
- A representative of the Catalan Society of Pneumology
- A representative of the Council of Catalan Colleges of Medicine
- A representative of the Council of Catalan Colleges of Pharmacy
- A representative of the Council of Catalan Colleges of Veterinary
- A representative of the Council of Catalan Colleges of Nurse Diplomates
- A representative of the Agency of Technology Evaluation and Medical Research
- A representative of the Catalan Agency of Food Security
- A representative of the Research Centre in Animal Health

Different experts in the subject designated by the minister of health, the vice-president is elected between them.

The Scientific Advisory Committee of the Influenza pandemic Plan will be summoned whenever the Executive Committee of Catalonia for Prevention, control and follow-up of the evolution of a possible influenza pandemic or its Technical Secretary's Office needs its assessment. The organizational structure is summarized in the following diagram:



The Catalan health system

The Catalan health care model was established in 1990 under the LOSC (the Health Care Organization in Catalonia Act), which created the Catalan Health Service (CatSalut) and consolidated a mixed health system that belonged to Catalonia and extended the model to all the areas of health care products and health services.

This integration model was initiated with the public hospital network (PHN). The model was then extended from the PHN to other lines (primary, social health, mental health) and other health services (emergencies, health transport).

CatSalut was established as the basic axis of the Catalan health care model. CatSalut, the Catalan Health Service, was established in January 1991 as the organization in charge of planning, funding, assessing and purchasing health services.

CatSalut is currently defined as the public health service financial organization provider in Catalonia and guarantees the provision of health services to all population. CatSalut plans, purchases and assesses health services according to the population's needs, developing an integral management of supply and demand and providing communication channels with citizens, allowing for their participation.

It was a mixed health care model that integrated in a single network the public use of all health resources, regardless of whether they were publicly owned, and which brought together a tradition of organizations (health care funds, foundations, consortiums, Church-run centres) historically devoted to health care.

CatSalut is the public health care provider in Catalonia

CatSalut is a registered company of the Health Department of the Generalitat de Catalunya, Catalonia's regional government. Its brief is to guarantee quality health care to all citizens in Catalonia. CatSalut, the Catalan Health Service, is the public body responsible for warranting the provision of public cover health services for all the citizens of Catalonia. As the public health care provider for Catalonia, CatSalut has the following basic objectives:

- To put citizens at the centre of health management and care.
- To warrantee quality health care.
- To ensure the sustainability of the health care system.

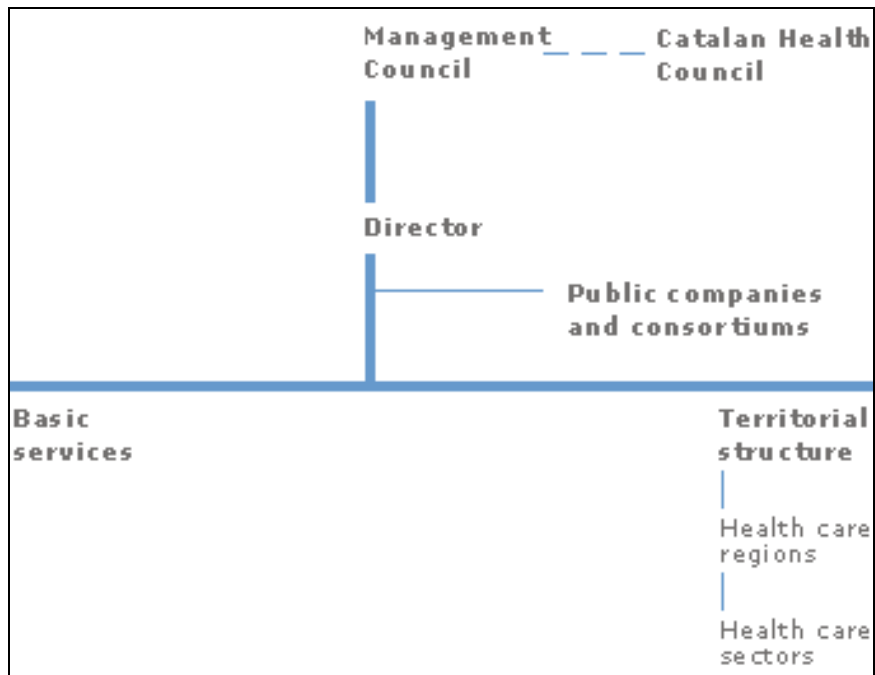
Accessibility, participation, direct attention, co-responsibility in health issues, information and communication, preventive medicine and studies on future demand trends are basic aspects in the active management of Catalonia's health requirements.

Organization

As the organization responsible for providing public coverage in Catalonia, and in compliance with its commitment to guarantee quality health services and assistance for everyone, CatSalut makes its corporate organization available to the service of the public health care network.

Providers

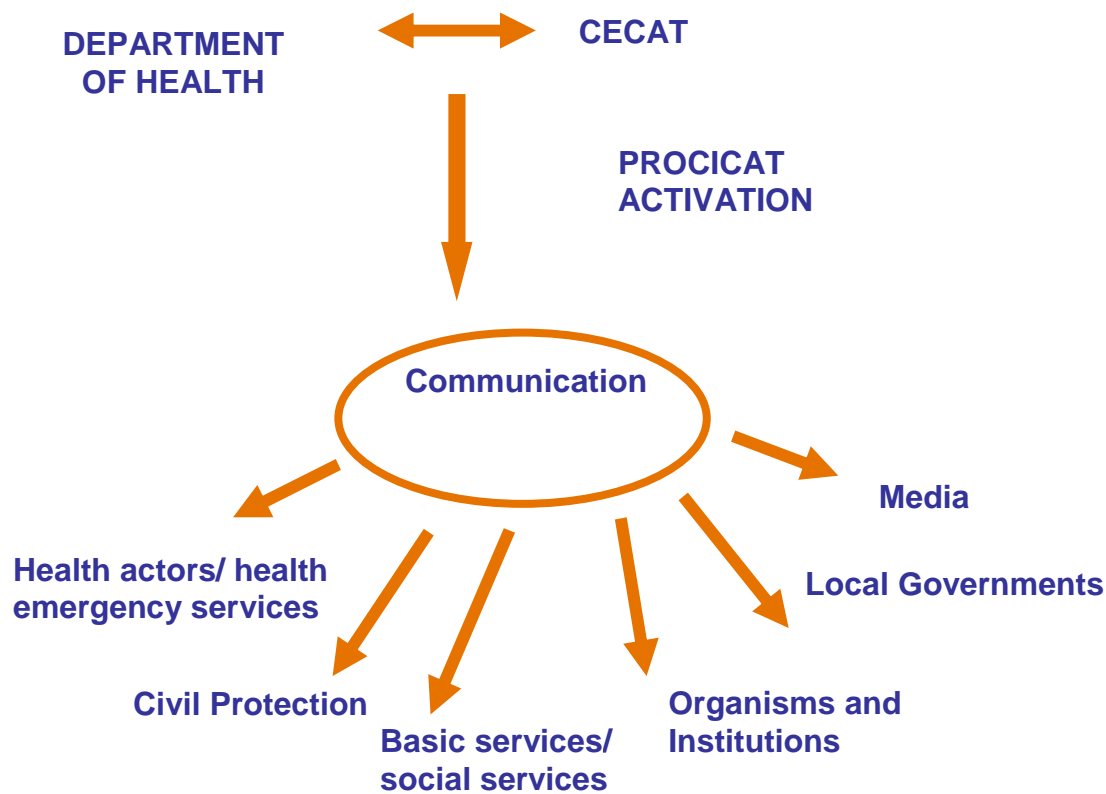
CatSalut has the responsibility to buy public health services to different providers. These services, including primary and hospital health care, are offered by public and private companies. Coverage of all health services is warranted to all Catalan citizens.



Organizational flowchart - Corporate structure

In case of a health emergency, a specific task force is activated in Catalonia called PROCICAT (Civil Protection of Catalonia) from the Ministry of Home Affairs, Institutional Relations and Participation. PROCICAT is an overall action plan which includes the so called specific plans such as the pandemic plan and also enforces plans at the local level. It also works on information to the population, education, training and periodical simulation exercises.

In all disease emergencies the lead body of the task force is the Catalan Health Department (Ministry of Health) through the General Directorate of Public Health and the Catalan Health Service.



There is a main communication and coordination centre that receives all the warnings and alarms and contacts with the different responsible persons/services/systems. This centre is called CECAT (Coordination Centre of Emergencies in Catalonia) and activates the PROCICAT plan after coordination with the Ministry of Health. At regional level the main actors of the emergency plan are the Ministry of Health (General Directorate of Public Health and the Catalan Health Service), responsible of the health care centres and health emergency services response and the Ministry of Home Affairs, Institutional Relations and Participation (Civil Protection), responsible of the Civil Protection response. At the local level the Town Halls are responsible of activating their own plans and to provide the logistic support.

There is a Communication Committee, responsible of the relationship between the media and the delivered information.

2.2.6 Synthesis and conclusion

From the above analysis the following main points emerge:

- Different levels of emergency management can be identified, namely central level (associated with a national or regional health authority) and local level (associated with the territorial branches of the health authority or other local institutions in charge of health emergency management). Action plans can be defined at either level and require distinct management procedures accordingly. A further operative level is in charge of the actions execution of the action plans defined at the management levels.
- Emergency management has to follow predefined guidelines: action plans for responding to various crisis-related events are available (or are being defined) and have to be activated

and executed by crisis managers. DSS support in suggesting appropriate action plans and monitoring their execution is advisable.

- A suitable information flow related to plan execution and monitoring is necessary between central and local management levels and between local management and operative level. Automated support by a DSS is advisable also in this context.

3. Scope of the DSS

3.1 Definition and main tasks of the DSS

The DSS is conceived as a tool to be used during phases 4, 5 and 6 defined by WHO in “WHO global influenza preparedness plan - The role of WHO and recommendations for national measures before and during pandemics”, namely:

- Phase 4 – pandemic alert period: *Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans*
- Phase 5 – pandemic alert period: *Large cluster(s) but human-to-human spreads still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk)*
- Phase 6 – pandemic period: *Pandemic: increased and sustained transmission in general population.*

With specific reference to the case of ASL Brescia, the DSS will be used after the activation of SACE (i.e. the central task force).

The intended users of the DSS include both decision makers at central level (SACE) and managers and operators in the territorial branches of the health authorities (DGD). User classes are defined and analyzed in chapter 4.

The objective of the DSS is to support crisis managers in their complex decision making tasks: it supports strategic as well as tactic decision making in a pandemic emergency. The DSS will provide functions useful to control those risk factors that, if not managed properly, might lead to crisis. In particular, it will provide a focused view on available resources – both human and material – and active help in action planning and execution. In particular, the DSS:

- will be able to deal with multiple and concurring events and will help in the execution of intervention plans, suggesting step by step the actions to be carried out; it enables event, plan and action tracking, allows decision sharing, and supports communication among different operating and decisional levels;
- will give clear and structured access to all necessary information to make correct and feasible decisions, such as information about available resources – both human and material, health profile of the strategic and receptive population, etc.;
- will provide access to norms, plans, documents, protocols and forms to be used during emergency management;
- will deal with both the human and veterinary aspects of an emergency.

3.2 Limits and exclusions

The main limitations and exclusions emerged during requirements analysis are listed below.

Coarse level. The DSS provides decisional support to decision makers who operate at a coarse level and are not involved in operative details.

No simulation. The DSS does not predict what will happen, but it reacts to occurred events. It does not simulate the evolution of an emergency over time and does not use mathematical simulation models to predict possible emergency scenarios. In fact reliable simulation models are not available so far, since it is not possible to predict the characteristics of the virus that will be responsible for the pandemic flu, its transmission speed, the vulnerability of the receptive population, the effectiveness of antiviral drugs, etc. The DSS supports decision makers only on the basis of the real situation and occurred events.

Knowledge dependency. The capabilities of the DSS strictly depend on the ability to model a large set of possible events, as well as on the availability of knowledge (plans) to deal with them. The DSS operates on the basis of compiled knowledge: effective and correct operation ends exactly where knowledge starts to be lacking (according to the “no knowledge – no support” principle). If no intervention plan is available for a given event or if an unknown event occurs, the DSS will not be able to provide any decision making support. The addition of new knowledge (plans) will be possible during the whole life cycle of the DSS to allow the management of unknown events after the relevant plans have been defined by the experts.

Data set dependency. The DSS will provide a structured and clear view on available resources (human and material) through access to the relevant external data bases. Creation, management, update and validation of these data sets do not belong to the DSS project: the data bases represent only an input to the DSS, that is then in charge of managing proper access to the relevant information (through storage, aggregation, disaggregation, search, and display). Therefore, the quality of the information the DSS will provide (granularity, timeliness, completeness, reliability, etc.) will solely depend on the quality of data stored in the data bases available to it. In particular specific organizations and processes external to the DSS context will be necessary for:

- managing and periodical updating of the databases about human resources (health authority personnel, professional operators, etc.) and their actual availability for the needs of emergency management:
- managing and periodical updating of the databases about material resources (drugs, antiviral, vaccines, individual protective devices, etc), including their actual availability and stocks for the needs of emergency management.

The DSS will be connected only to actually available data bases, organized according to a standard DBMS; unstructured collections of data (such as Excel files, etc.) will not be considered: they will need to be converted in a standard DBMS if necessary (this activity is outside the scope of the project). Specific interface rules will be defined to allow an external data base to be connected to DSS.

No resource allocation. The allocation of resources is responsibility of decision maker; the DSS does not supply any automatic or interactive resource allocation mechanism.

Links to external resources. The DSS does not replicate any information service that is available as a public resource such as, for example in the Italian case:

- Virological and epidemiological surveillance: information system INFLUNET, at national level, operating since the year 2000, managed by “Istituto Superiore di Sanità”.

- Surveillance, control, validation and notification of infectious illness according to European criteria: information system MAINF, at regional level, operating since the year 2006, managed by the “Direzione Generale Sanità della Regione Lombardia”.
- Vaccine management: registration of vaccinations performed and definition of vaccination plans; information system “Vaccinazioni ASL”, at local level, integrated with the SISS (Sistema Informativo Socio Sanitario – Health and Social Information system), operating since the year 2008.

The DSS will only provide links to such external resources.

National localization by plan coding. The DSS will provide a general mechanism to execute intervention plan; the DSS will be able to execute only plans specified in a proper language, that will be defined later. The only way to specify the national or regional rules will be to code them into intervention plans. The DSS does not offers any mechanism to customize its normative support in a given country without coding proper plans.

However the DSS will able to adapt to different language; in particular, especially textual elements (e.g. labels, messages, etc.) will be retrieved dynamically. The DSS will be developed with textual elements in Italian, and the countries who will develop national experimentation have to translate them in the desired language.

4. Organizational framework and user classes

The management of a health emergency involves different levels of the organizational structure of a health authority:

- the central level is represented by the task force, where all the competencies needed for emergency management are represented; on the basis of the events occurred, the task force decides the intervention plans to be carried out by the territorial branches or by the task force itself; the Departments and the Directions represented in the task force monitor the execution of the intervention plans and the evolution of the situation, but the decision-making process is managed by the task force;
- the territorial level is represented by the health authority branches; they start the intervention plans suggested by the task force and assign the necessary resources to the individual actions to be carried out; territorial branches also manage the information flow with the task force;
- the operative level is represented by operative units, who are in charge of carrying out the actions of the active intervention plans and to give to the territorial branches the relevant feedback.

The organization defined above holds for the human health area; for the veterinary area there are only slight differences:

- the territorial level is represented by Veterinary Districts (VD's), and
- the operative level is represented by Operative Units.

In this context, the following **user classes** have been identified concerning the emergency management phase:

Event managers: in charge of collecting and validating information about the occurred events from

the emergency field or in general from external entities such as government and local institutions, other emergency management units, laboratories, etc. (primary events). They operate through a structured interaction frame provided by the DSS: they acquire information, classify it according to stated criteria, assess their validity and give it in input to the DSS; they operate at central, territorial and operative level; they are not part of any decision making structure (central task force or territorial branches) but constitute a separate role.

Central crisis managers: in charge of the decisions necessary to manage the emergency at high level, by identifying and instantiating the most appropriate intervention plans. They operate as a staff to the central task force; central crisis managers can access any information in the DSS: they can either choose among different intervention plans proposed by the DSS (in case alternative plans are possible) or, if appropriate, require the execution of a plan not suggested by the DSS (tertiary event). They instantiate the intervention plans in the relevant territorial branches specifying any useful target information (operative unit, municipality, etc.). If a selected intervention plan concerns the central level, central crisis managers are also in charge of executing it and providing the relevant feedback (result of the executed actions, etc.).

Local crisis managers: in charge of decisions necessary to manage the emergency at local level, by taking care for the execution of the intervention plans suggested by the task force. They operate as a staff to the territorial branches; local crisis managers receive the intervention plans from the central crisis managers and are in charge of starting and executing the plans: they select among alternative actions possibly present inside a specific intervention plan, in case there are choices that can not be made by the DSS autonomously, and manage resource allocation. They have access to a resource frame that shows the human and material resources available to the territorial branch and decide how to employ them to carry out the active plans; they monitor and control the execution of plans, may require the execution of a new plan (tertiary event), and may stop the execution of a plan if appropriate.

Field operators: in charge of executing the actions of active intervention plans at territorial or Operative Unit level; they receive plans to be carried out, focus on current actions, execute the scheduled actions and provide the territorial branch with the relevant feedback (the results of the actions undertaken – secondary event).

Observers: any person who can access the DSS through a specialized read-only view; they can not operate with the DSS but can, according to their role, access and inspect specific sections of the DSS (informative repository, plans and actions history, event history, etc.); the identification of the specific subclasses and the definition of the relevant views (authorizations and privileges) will be the subject of a later analysis.

Allocation table managers: in charge of updating and monitoring human resources allocation in the various Districts.

Two classes of user are involved in the knowledge management activity:

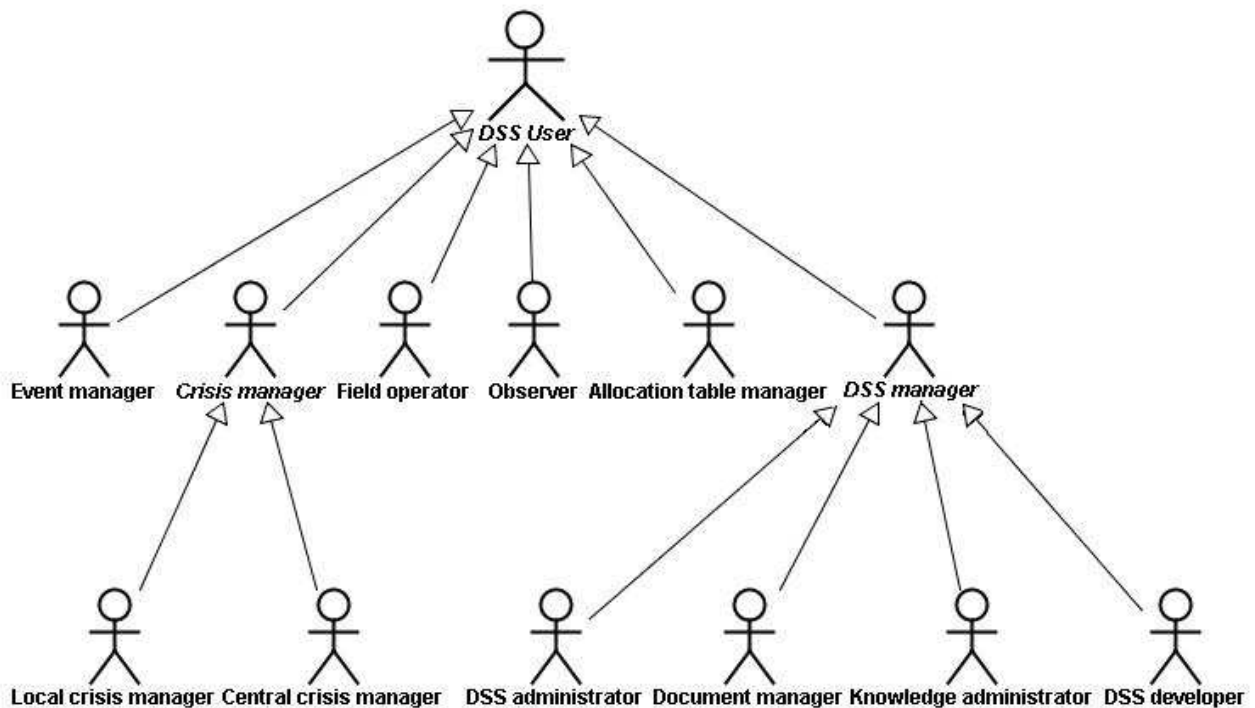
- **Knowledge administrator:** responsible for managing the knowledge base of the DSS: s/he is in charge of acquiring the intervention plans from the experts and editing them into the knowledge base.
- **Document manager:** responsible for managing the document repository of the DSS: classifying and publishing documents (regulations, standards, prescriptions, forms, etc.), deleting obsolete material, etc.;

In addition to these classes, other users have been identified, who are in charge of managing the DSS itself, namely:

- **DSS administrator:** responsible for managing user accounts and user groups and for providing operative support during DSS operation;

- **DSS developer:** in charge of corrective and evolutive software maintenance.

The user classes identified are summarized in the following UML diagram:



The hierarchy of user classes

Please note that no database administrator is defined in this context since all data bases must be managed and updated outside the DSS context

5. Approach to decision support

The analysis of the application domain has revealed that the majority of decisions that have to be made by crisis managers can be made on the basis of available domain knowledge; only a small number of decisions require personal experience and specific attention of crisis managers. Therefore, the following schema to decision support has been identified:

- Most decisions are supported by a normative approach: in front of a specific event the best intervention plan is suggested by the DSS that step by step monitors its correct execution; in fact, existing regulations, formal emergency plans and available experience of previous cases provide a rich and reliable knowledge base for decision making. This way, crisis managers are allowed to focus only on critical decisions that definitely require their personal skill and experience. Therefore, their cognitive resources are not dispersed among a number of choices, but are focused on a small set of crucial aspects, namely:
 - the selection among alternative intervention plans;
 - the selection among alternative ways of execution of intervention plan.
- For all critical decisions, crisis managers receive an informative, structured decision support to assess the situation. The DSS provides only useful information at the right level of aggregation and synthesis, about the critical aspects such as: resource availability and allocation, time evolution of the health situation and primary needs.

The overall decision support model is built around the concept of “intervention plan”, that comprises a set of actions that should be executed following a pre-defined control scheme. One or more intervention plans are linked to each event that characterizes a crisis context.

6. Collecting data from the field

All data from the emergency field that constitute inputs for the DSS are characterized as events. An **event** denotes any fact that happens at a certain instant and in a certain place which is significant to the emergency management process.

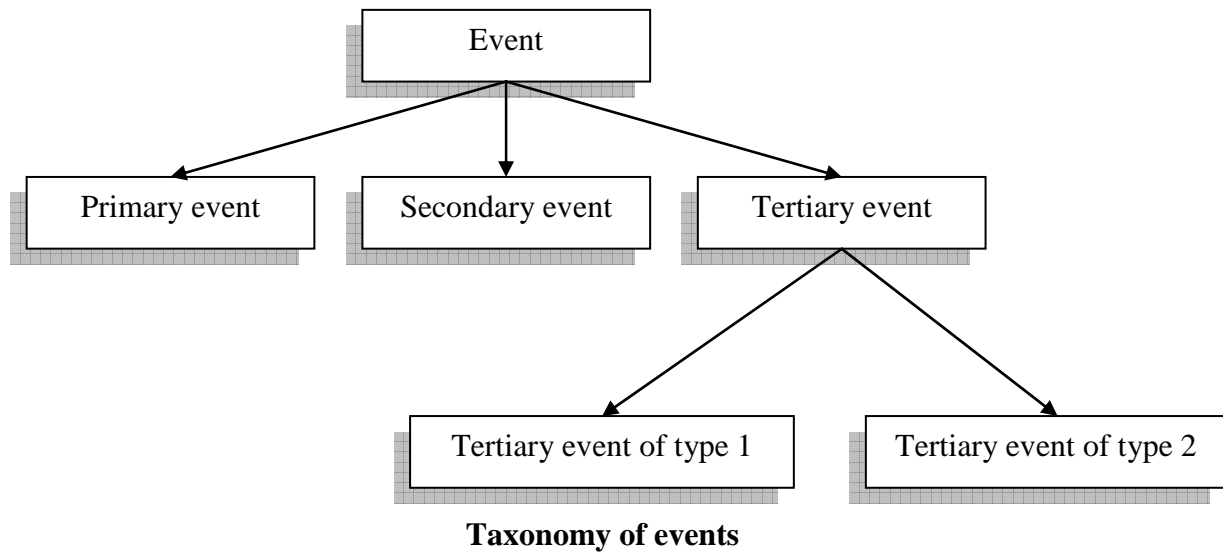
The DSS will offer several specific functions to collect and characterize the events occurred and collected by the various agents active in the emergency area. Information about events is reported to the central level according to the type of event occurred. Three classes of events have been identified:

Primary events: this class includes the events that occur in the emergency scenario not caused by any action undertaken by the health authority to manage the emergency. Primary events include, among others, the events that originate the emergency, their consequences at any level, and the decisions made by national and international authorities. Primary events are communicated to the event managers who are in charge of collecting and validating them and, then, of putting them in input to the DSS. To this purpose the DSS provides specific functions to identify and characterize an event through a set of attributes. Some attributes are common to any event type (for example, the time and place where the event has occurred, the subject that has notified it, etc.), while others depend on the specific event type occurred (for example, a phase up-scaling is characterized by the destination phase, the national risk level, etc.). On the basis of the events occurred, the DSS will suggest one or more intervention plans to be carried out in order to face the situation.

Secondary events: this class includes the events that represent the result of actions undertaken by the health authority to face the emergency. Field operators (for plans carried out at local level) and central crisis managers (for plans carried out at central level) are in charge of generating a secondary event whenever an action is completed reporting its results. Such events cause the execution of a plan to progress from an action to the following one.

Tertiary events: this class includes the events directly generated by the emergency management organization that suggest the execution of a specific intervention plan. The following subclasses of tertiary events have been identified:

- tertiary events of type 1: these events are automatically generated by an active plan that may require the execution of another intervention plan;
- tertiary events of type 2: these events are generated by the local or central crisis managers, who deem appropriate to launch a new intervention plan appropriate to manage the current situation.



The DSS provides an event tracking mechanism, that stores a complete time-stamped log of all events occurred. This may be used by crisis managers and external observers to monitor the situation and to assess the results of the emergency management activity.

7. Events and plans

The DSS supports the decision-making process suggesting the intervention plans and the related actions to be carried out to face the events occurred.

A **plan** is a formal description of an intervention procedure that must be carried out in order to face a specific event.

A plan embodies the best available knowledge (best practice) about how to tackle the event. A plan specifies the actions, and eventually the linked intervention plans, that must be executed. Examples of intervention plans are: outbreak containment plan, antiviral distribution plan, vaccination plan.

Actions are the elementary components of plans. Actions are carried out by specialized personnel and may require material resources. Execution of an action (in the context of an active plan) is required by crisis managers, central or local. For each action a list of the possible action results is provided: an action is completed when the final result (secondary event) is reported by field operators or by central crisis managers.

Whenever a new primary event is communicated to the DSS by the event manager, the DSS suggests the plan or plans that might be exploited to face the occurred event. The DSS considers at each instant all the events occurred and on the basis of specific rules suggests the plan to be applied; if alternative plans are available, a central crisis manager has to select the plan to be carried out.

Furthermore the DSS may suggest a specific intervention plan, if a tertiary event has happened.

In both cases, for primary or tertiary events, the DSS does not start automatically any plan but always requires the approval of the central crisis manager.

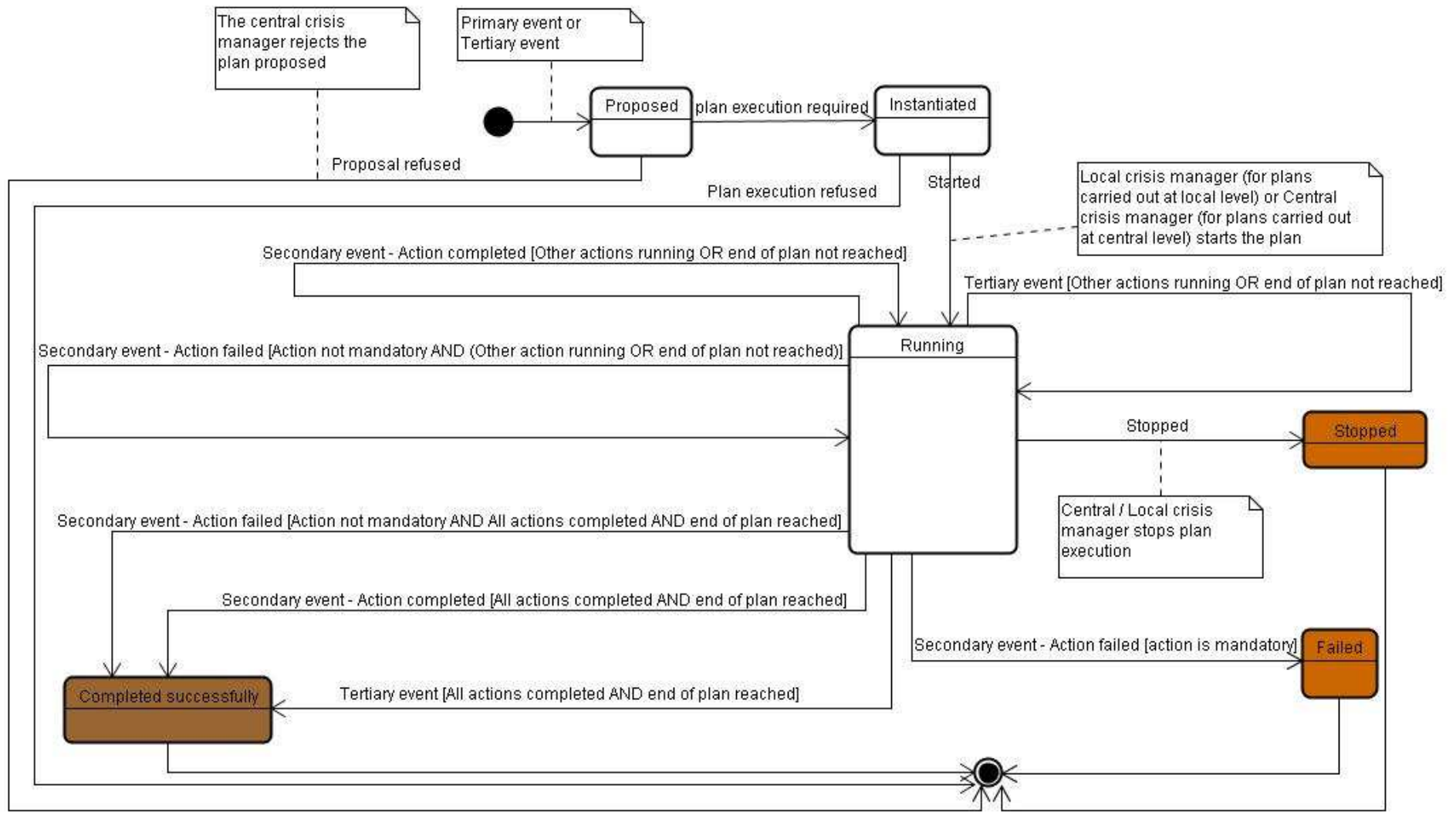
Plans are classified according to the following criteria:

- structure:
 - a. Structured plan: actions can be executed sequentially or in parallel, can be controlled by the occurrence of specific conditions, can be repeated until a certain condition is verified, can wait for the execution of other actions before starting. This type of plan specifies an ordered flow of actions.

- b. Unstructured plan: the plan requires the execution of an unordered list of actions; the flow of execution is not defined.
- level:
 - c. Local: the central crisis manager instantiates the plan in the appropriate territorial branch; the local crisis manager starts the intervention plan and controls its execution. The final result of undertaken actions is reported to the territorial branch by the field operators.
 - d. Central: the central crisis manager instantiates and starts the intervention plan and controls the execution. The actions are carried out by the central task force or other central structures and the final result is reported by the central crisis manager.

The DSS will support concurrent execution of distinct intervention plans: each plan runs independently of the others and no information is exchanged between distinct plans. The only possible link is the generation of a tertiary event of type 1.

The UML state chart diagram reported below shows the lifecycle of an intervention plan.



State chart diagram of an intervention plan

In particular, the following states have been identified:

- Proposed: the DSS suggests an intervention plan to face a primary event occurred or an intervention plan is specified by a tertiary event.
- Instantiated: the central crisis manager instantiates a plan suggested by the DSS (in the appropriate territorial branch or at central level) and requires its execution.
- Running: the crisis manager starts the intervention plan. A plan carried out at territorial level (DGD, in the Italian case) is started by the local crisis manager; in case of a plan carried out at central level it is started by the central crisis manager. The DSS suggests the actions that must be executed, and moreover it can generate a tertiary event.
- Stopped: the crisis manager stops a running plan:
 - plan carried out at local level may be stopped by the central crisis manager or by the local crisis manager;
 - plan carried out at central level may be stopped by the central crisis manager;
- Failed: is not possible to carry out a mandatory action; the plan fails.
- Completed: all mandatory action have been carried successfully; the plan ends.

Please note that running plans and active actions may be stopped, but not changed.

8. Resources

Actions specified by intervention plans usually need specific human resources (physicians with a particular specialization, veterinarian, professional nurses, technicians, etc.) and material resources (medical instrumentation, vaccines, antiviral, drugs, etc.) in order to be carried out: accordingly, resources are partitioned into two types, namely *human resources* and *material resources*.

Human resources

At territorial level, human resources are managed by a coordinator, (in the Italian case: the Coordinator of Integrated Functional Area under the supervision of the DGD Manager), according to active plans. The central level may decide to change the distribution of human resources among territorial branches or it can send personnel from central services to territorial branches, if necessary. The DSS is not required to offer any specific function for the allocation of human resources, but it allows monitoring the available resources and their territorial distribution and offers search facilities to ease the allocation work.

Human resources management will be as follows:

1. Since the DSS will have a specific logical model, possibly different from that of external databases from which it imports the data (a formal specification of the logical model will be made available), the DSS will have an internal database containing information about:
 - health authority staff
 - doctors, which, in the Italian case, can be partitioned in the following classes: MMG (Medici di Medicina Generale – General Practitioners), PLS (Pediatri di Libera scelta – Paediatrics), MCA (Medici di continuità assistenziale – Medical Guard)

Each subject has the following main attributes:

- Personal data
 - Contact information
 - Company position, qualification and role
 - Availability
 - Vaccine and anti-viral coverage
2. All data in the internal DSS database will be updated (adapting the original data to the DSS logical model) through query/copy from external databases updated by a dedicated organizational information system (not included in the emergency management organization which directly uses the DSS). No direct update operations are possible on the internal database of the DSS.
 3. The required update time is as follows:
 - Weekly for all new engagements, dismissals, long time absences, temporary retirements: this information indicates the maximum resource availability of the week, in case all resources are actually at work
 - Every 4 hours during emergency time, considering short illness, short absences, permissions, etc.; this information defines the actual resource availability at a given time instant.
 4. Human resources are allocated in the Districts, in order to carry out the actions specified by active plans. The DSS will offer a resources allocation table which shows how resources are allocated in the various districts. Update of resource allocation is done by territorial branches. The DSS does not offer any specific resource allocation function, but it allows to inspect availability and to monitor the allocation.

4. Human resources are allocated in the Districts, in order to carry out the actions specified by active plans. The DSS will offer a resources allocation table which shows how resources are allocated in the various districts. Update of resource allocation is done by territorial branches. The DSS does not offer any specific resource allocation function, but it allows to inspect availability and to monitor the allocation.

The resource allocation table will be designed as in the following example:

DGD 1							
Area / Professional level	Primary health care	Hygiene and community medicine	Protection of mother's and child's health	Aging services and home health care	Disability services	Other	Total
Physicians	5	2	7	3	4	2	23
Nurses	2	6	3	1	1	3	16
...							

In order to generalize the requirements about the resources allocation table, each resource will belong only to one structure (DGD for the Italian case) and one area of competence. The subdivision in districts (the sublevel of DGD for the Italian case) will not be considered. For the other partners of experimentation will be considered only one territorial level of subdivision.

The DSS will produce reports and graphics referred to vaccine's coverage of the strategic population. The graphics will show the evolution of vaccine's coverage during the time. These graphics will take into account the classification in priority levels and classes of the relevant population. In the Italian case, this will be done in accordance with the document named "Documento locale per l'attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale; ASL Brescia, Direzione Sanitaria".

For health authority human resources, including doctors, the DSS will allow the monitoring of vaccine coverage of every subject.

Material Resources

Material resources are classified into reusable resources and consumable resources. The DSS allows monitoring the consumable resource stock and the availability of reusable resources.

As in the previous case the DSS will have an internal database, like that of human resources, periodically updated by external information systems dedicated to this task.

The material resources considered are the following:

- Ordinary and extraordinary (additional beds) availability of hospital, nursing homes, health-care, socio-sanitary e socio-assistance structures, with daily update;
- Anti-viral drugs
- Vaccines
- Individual Protection Equipments
- Diagnostic kits
- Material for disinfection
- Useful drugs (antibiotics, antipyretics, etc.);

The DSS will offer reports and graphics about consumable resources that show the evolution of the stock over the time; the DSS will offers search facilities to retrieve information about specific resources. For each consumable resource will be reported:

- Identification and type of the resource
- Place where the resource is stored:
 - Public and private hospitals (in the Italian case, about 30 structures)
 - Health and social-care structures (in the Italian case: RSA – Residenze Sanitarie Assistenziali, about 85 structures)
 - Health authority territorial structures (in the Italian case Districts / DGD's)
 - Health authority central structures
 - Drug wholesale traders (in the Italian case: CEF Cooperativa Esercenti Farmacia e Commercio medicinali all'ingrosso)
- Quantity available
- Date of last update.

The list of the main existing external data sets relevant to the DSS is reported in Annex G.

9. Geographical mapping

The need of geographical representation of data did not arise during requirement elicitation with domain experts. However, the potential benefits deriving from the possibility of having a geographical representation of the emergency scenario might be substantial, as it can be derived from the analysis of literature and from practical experience. Therefore, it has been decided to extend the original version of DSS requirements with a section concerning geographical mapping (see Section 11, requirements 70-75).

Geographical mapping will provide the facilities to draw cartographic maps, associating and displaying the information collected by the DSS.

From the DSS database, it will gather the information (including the address or latitude and longitude coordinates) to be displayed on the map. Appropriate markers will be set on the map to indicate the location, the type (e.g. human or veterinarian environment, infection or death, etc.) and the number of items considered (human subject or animals).

The geographical mapping facility will assist the decision makers to evaluate the result of applied intervention plans, to assess the emergency situation and to plan the subsequent intervention on the field. It will be possible to inspect the emergency evolution comparing the maps generated at different times.

Geographical mapping will allow to turn the “raw data” into valuable information and may help the decision makers to analyze the collected data and to understand geographic relationships that affect health outcomes. In particular it will provide functionalities to:

- Display the spread of disease, showing the geographical distribution of outbreaks or clusters of infection for human and veterinarian environments
- Individuate the areas where to distribute the pandemic vaccine or the antiviral when an outbreak occurs
- Display the outcomes of illness (death or healing) for human subjects to evaluate the result of undertaken actions
- Display the location of poultry farms infected and draw circular areas around them to denote the alert zone

The decision makers may navigate the map, inspecting the desired area at the right level of granularity.

Geographical mapping will not be conceived as a GIS (Geographical Information System) to integrate, aggregate, store, and make a spatial analysis of information, but as a data visualization tool, to display data that are spatially referenced.

10. Document management

Document management is an important function of the DSS. It includes four different aspects:

- Management of a collection of reference documents (standards, official regulations, plans, maps, etc.). The documents must be accessible to the users in read-only format (open or download) and are automatically pointed out by the DSS when considered appropriate during the execution of an intervention plan. Documents can be loaded or removed from the repository by the document manager.

- Management of a collection of fill-in forms (infectious disease report forms, vaccination reports, reports about focus extinction, etc). The forms are linked to the relevant actions and are pointed out by the DSS. These forms can be loaded or removed from the repository by the document manager.
- Upload of minutes or fill-out forms concerning the undertaken actions. The reports must be uploaded by the field operator or by the central crisis manager, when reporting the result of the actions executed.
- Automated generation of structured reports of all events occurred (type of event, context, timestamp, etc.) and all decisions made by the crisis managers (type of decision, context, decision maker involved, timestamp, etc.).

PART II – DSS requirements

11. Functional requirements

Requirements have been divided in thematic classes and for each requirement the related user classes have been reported. These requirements have been prioritized of the basis of the importance expressed by the experts group:

- Mandatory: the DSS must implement the requirement.
- Advanced: the DSS should implement the requirement, if possible.
- Nice to have: the DSS may optionally implement the requirement.

Function requirements	User classes	Priorities		
		Mandatory	Advanced	Nice to have
Events, plans, and actions				
1. The DSS must be able to propose and support the execution of plans for human and veterinarian aspects according to the events occurred		X		
2. The DSS must be able to support the execution of plans at central and local level		X		
3. The DSS must be able to support execution of both structured and unstructured plans		X		
4. The DSS must allow users to specify any primary events occurred, specifying: <ul style="list-style-type: none"> – Common attributes – characterizing attributes – documentation attached (as appropriate) The DSS must keep a record of the event manager that inserts the event, date and time	Event manager	X		
5. The DSS must be able to accept at any time instant the specification of occurred events		X		
6. The DSS must allow users to consult the list	Event manager	X		

<p>of primary events occurred:</p> <ul style="list-style-type: none"> – Common attributes – characterizing attributes – documentation attached (if any) – event manager notifying – date and time of insertion 	<p>Central crisis manager Local crisis manager Observer</p>			
<p>7. The DSS must suggest the intervention plan to be applied to face a primary event. The DSS may suggest:</p> <ul style="list-style-type: none"> – No plan (in case no plan has been defined for the type of event occurred) – A single plan – More plans to be carried out in parallel – Alternative plans. <p>The central crisis manager may choose to start a plan not suggested by the DSS, generating a tertiary event of type 2</p>	<p>Central crisis manager</p>	X		
<p>8. The DSS must allow users to choose which plan to execute (in case alternative plans are suggested)</p>	<p>Central crisis manager</p>	X		
<p>9. The DSS must allow users to require the execution of a specific plan (tertiary event of type 2); the request may be made both at local and central level</p>	<p>Central crisis manager Local crisis manager</p>	X		
<p>10. The DSS must manage the parallel execution of plans</p>		X		
<p>11. The DSS must allow users to stop a running plan</p>	<p>Central crisis manager Local crisis manager</p>	X		
<p>12. The DSS must allow to select among alternatives actions present inside a specific intervention plan, in case the DSS can not decide on the basis of the result of undertaken actions</p>	<p>Central crisis manager Local crisis manager</p>	X		
<p>13. The DSS must suggest the actions to be carried out on the basis of:</p> <ul style="list-style-type: none"> – Plan control flow – Secondary events – Decisions taken by crisis managers 		X		

Actions may have links to the documental repository (fill-in forms or documentation)				
14. The DSS must allow the continuous monitoring of the state of execution of the plan through a visual aid (a flow chart with execution trace)	Central crisis manager Local crisis manager Field operator Observer	X		
15. The DSS must allow to view all completed plans; the DSS must allow to inspect the actions undertaken, the decisions made and the results	Central crisis manager Local crisis manager Observer	X		
16. The DSS should provide search methods to retrieve plans on the basis of an originating event, a thematic area or a name	Central crisis manager Local crisis manager		X	
17. The DSS must allow to inspect an intervention plan before its execution through a visual aid (a flow chart)	Central crisis manager Local crisis manager	X		
18. The DSS must allow to inspect the originating event of an intervention plan, during its execution	Central crisis manager Local crisis manager Field operator Observer	X		
19. The DSS must allow to insert the result of any action undertaken (secondary event), attaching, as appropriate, documentary evidence	Central crisis manager Field operator	X		
<u>Plan management at central level</u>				
20. The DSS must allow users to require plan execution at central level.	Central crisis manager	X		
21. The DSS must notify the central level about the request of execution of a plan	Central crisis manager	X		
22. The DSS must notify the central level about the interruption or the failure of a central plan	Central crisis manager	X		

<u>Plan management at local level</u>				
23. The DSS must allow requiring plan execution in one or more territorial branches; any useful target information may be specified	Central crisis manager	X		
24. The DSS must notify the local level about the request of execution of a plan	Local crisis manager	X		
25. The DSS must allow a local crisis manager to refuse to execute a plan; the DSS must notify the central level about the refusal	Local crisis manager Central crisis manager	X		
26. The DSS must notify the central level about the interruption or the failure of a local plan	Central crisis manager	X		
Document management				
27. The DSS must allow to store documents about primary events (see item n. 4)	Event manager	X		
28. The DSS must allow to store documents about secondary events (see item n.19)	Field operator Central crisis manager	X		
29. The DSS must allow to insert a collection of reference documents useful to emergency operation	Document manager	X		
30. The DSS must allow to insert a collection of fill-in forms	Document manager	X		
31. The DSS must allow to download the fill-in forms related to specific actions	Field operator Central crisis manager	X		
32. The DSS must allow to retrieve documents about primary events occurred (see item n. 6)	Central crisis manager Local crisis manager Field operator Observer	X		
33. The DSS must allow to retrieve documents about secondary events (fill-in forms)	Central crisis manager Local crisis manager Field operator Observer	X		

34. The DSS must allow to retrieve reference documents by: <ul style="list-style-type: none"> – Direct link from the plans – Search methods 	Central crisis manager Local crisis manager Field operator Observer	X		
Knowledge management				
35. The DSS must allow to classify a new primary event, defining its attributes	Knowledge administrator	X		
36. The DSS must allow to associate to a primary event the relevant intervention plans: <ul style="list-style-type: none"> – A single plan – More plans to be carried out in parallel – Alternative plans 	Knowledge administrator	X		
37. The DSS must allow to define a new intervention plan, specifying: <ul style="list-style-type: none"> – Name – Thematic area – Structure – Level – Actions – Control flow – Decision points – Tertiary events 	Knowledge administrator	X		
Users administration				
38. The DSS must allow to create, modify and update user accounts; each user account must be associated (at least) to a user group	DSS administrator	X		
39. The DSS must allow to create, modify and update user groups; for each user group permissions and privileges must be defined	DSS administrator	X		
Material Resources management				

<p>40. The DSS must provide the ordinary and extraordinary (additional beds) availability of:</p> <ul style="list-style-type: none"> – hospitals – nursing homes – health-care structures – socio-assistance structures <p>For each structure the following information must be specified:</p> <ul style="list-style-type: none"> – Contact information – Ordinary and extraordinary maximum availability – Ordinary and extraordinary actual availability 	<p>Central crisis manager Local crisis manager Observer</p>	<p>X</p>		
<p>41. For each structure listed at item 40 the DSS should specify:</p> <ul style="list-style-type: none"> – Number of operators exposed to risk of infection – Number of operators treated with antiviral prophylaxis – Number of operators vaccinated 	<p>Central crisis manager Local crisis manager Observer</p>		<p>X</p>	
<p>42. The DSS must provide the availability of:</p> <ul style="list-style-type: none"> – Anti-viral drugs – Vaccines – Individual Protection Equipments – Diagnostic kits – Material for disinfection – Useful drugs 	<p>Central crisis manager Local crisis manager Observer</p>	<p>X</p>		
<p>43. The DSS should provide the availability of vaccine storage facilities specifying:</p> <ul style="list-style-type: none"> – Facility information – Maximum availability – Actual availability 	<p>Central crisis manager Local crisis manager Observer</p>		<p>X</p>	
<p>44. The DSS must provide search facilities to obtain a list of available material resources according to a set of user-specified criteria</p>	<p>Central crisis manager Local crisis manager Observer</p>		<p>X</p>	
<p>Human resources management</p>				

45. The DSS must provide the list of health authority staff, including doctors, specifying: <ul style="list-style-type: none"> – Personal information – Contact information – Company position – Qualification and role – Availability – Antiviral coverage – Vaccine coverage 	Central crisis manager Local crisis manager Allocation table manager	X		
46. The DSS must provide the list of medical guard services specifying: <ul style="list-style-type: none"> – Contact information – Number of available day shifts – Number of available night shifts – MCA's allocated to services 	Central crisis manager Local crisis manager	X		
47. The DSS must provide for each doctor the number of patients.	Central crisis manager Local crisis manager	X		
48. The DSS should provide for each doctor the subdivision of patients in risk classes (as defined in the regional plan)	Central crisis manager Local crisis manager		X	
49. The DSS should provide functions to contact health authority staff and doctors by email and SMS	Central crisis manager Local crisis manager		X	
50. The DSS must provide the allocation table of health authority staff in the territorial structure, specifying: <ul style="list-style-type: none"> – Qualification – Area 	Central crisis manager Local crisis manager Allocation table manager Observer	X		
51. The DSS must permit to obtain manually the allocation of health authority staff in the territorial structures; it must be possible to select a person from a list (item 45) and allocate him to the structure, specifying the area	Allocation table manager	X		
52. The DSS should provide search facilities to obtain a list of available human resources	Central crisis manager Local crisis manager Allocation table manager		X	

according to a set of user-specified criteria	Observer			
<u>Antiviral drugs management</u>				
53. The DSS may provide the list of individuals (staff not belonging to health authority) treated with antiviral drugs	Central crisis manager Local crisis manager			X
54. The DSS must provide the list of health authority staff treated with antiviral drugs	Central crisis manager Local crisis manager	X		
55. The DSS should provide reports and graphics (time evolution) about the antiviral coverage of health authority staff and doctors	Central crisis manager Local crisis manager Observer		X	
<u>Pandemic vaccine management</u>				
56. The DSS must provide the list of health authority staff and doctors vaccinated (pandemic vaccine)	Central crisis manager Local crisis manager	X		
57. The DSS must provide reports and graphics (time evolution) of immunisation coverage (pandemic vaccine) for health authority staff and doctors	Central crisis manager Local crisis manager Observer	X		
58. The DSS must provide reports and graphics (time evolution) of immunisation coverage (pandemic vaccine) of the population; a classification based on regional criteria must be taken into account: – Classes of subjects: – Health care and socio assistance staff – Essential services, security and emergency staff – Public utility services staff – People with high risk of serious complications – People who can probably become	Central crisis manager Local crisis manager Observer	X		

<p>ill</p> <ul style="list-style-type: none"> – Priority level <ul style="list-style-type: none"> – Prime level – to ensure immediately – Second level – Third level 				
Information about the emergency situation				
<p>59. The DSS must provide the list of critical patients specifying:</p> <ul style="list-style-type: none"> – Private data – Contact information – Health care needed – Pandemic vaccine coverage 	<p>Central crisis manager Local crisis manager Field operator</p>	X		
<p>60. The DSS must provide the list of patients in domiciliary health care specifying:</p> <ul style="list-style-type: none"> – Private data – Contact information – Kind of assistance – Pandemic vaccine coverage 	<p>Central crisis manager Local crisis manager Field operator</p>	X		
<p>61. The DSS must provide the list of poultry farms specifying:</p> <ul style="list-style-type: none"> – Contact information – Poultry species and number 	<p>Central crisis manager Local crisis manager Field operator Observer</p>	X		
<p>62. The DSS should specify, for each poultry farm:</p> <ul style="list-style-type: none"> – Number of operators exposed to risk of contagion – Number of operators treated with antiviral prophylaxis – Number of operators vaccinated 	<p>Central crisis manager Local crisis manager Field operator Observer</p>		X	
<p>63. The DSS must provide reports and graphics (time evolution) of deaths in representative sample of municipalities, with weekly update</p>	<p>Central crisis manager Observer</p>	X		
<p>64. The DSS may provide reports and graphics (time evolution) of number of hospital</p>	<p>Central crisis manager Observer</p>			X

admissions, classified according to the type of disease, with weekly update				
65. The DSS must provide reports and graphics (time evolution) of hospital deaths from pandemic influence, with weekly update	Central crisis manager Observer	X		
66. The DSS must provide reports and graphics (time evolution) about the number of infected people	Central crisis manager Observer	X		
67. The DSS must provide reports and graphics (time evolution) about the number of healed subjects	Central crisis manager Observer	X		
68. The DSS may provide reports and graphics of weekly rate of absenteeism in a sample of schools	Central crisis manager Observer			X
69. The DSS should provide reports and graphics of weekly rate of absenteeism in a sample of companies	Central crisis manager Observer		X	
Geographical mapping				
70. The DSS should provide maps about the evolution of the emergency situation. Maps will display the geographical location of: <ul style="list-style-type: none"> – Poultry farms with and without animal infections – Single human outbreaks of pandemic influence – Clusters of infected people – Municipalities / quarter where pandemic vaccine has been distributed – Municipalities / quarter where antiviral prophylaxis has been carried out – Municipalities / quarter with healed subjects – Municipalities / quarter with deaths from pandemic influence – Available sanitary services (doctors and medical guard service) 	Central crisis manager Local crisis manager Observer		X	

<ul style="list-style-type: none"> – Critical patients – Patients in domiciliary care 				
71. The DSS should provide maps showing the geographical location of available sanitary services (doctors and medical guard service)	Central crisis manager Local crisis manager Observer			X
72. The DSS will display the geographical location with appropriate markers / placeholder (a map key will be defined) dependent on the item represented			X	
73. If the placeholder represents a variety of elements (number of infected people, healed subjects, etc.), the DSS will provide a marker appropriate to the number of elements (or it will permit to consult this information)				X
74. The DSS should provide maps with circular area (of desired size) around points of interest	Central crisis manager Local crisis manager Observer		X	
75. The DSS should provide functionalities useful to consult maps at the right zoom level	Central crisis manager Local crisis manager Observer		X	

12. Operative and technical requirements

The requirements listed in the previous chapters, the conceptual model and the organizational framework allow to define a possible system architecture of the DSS.

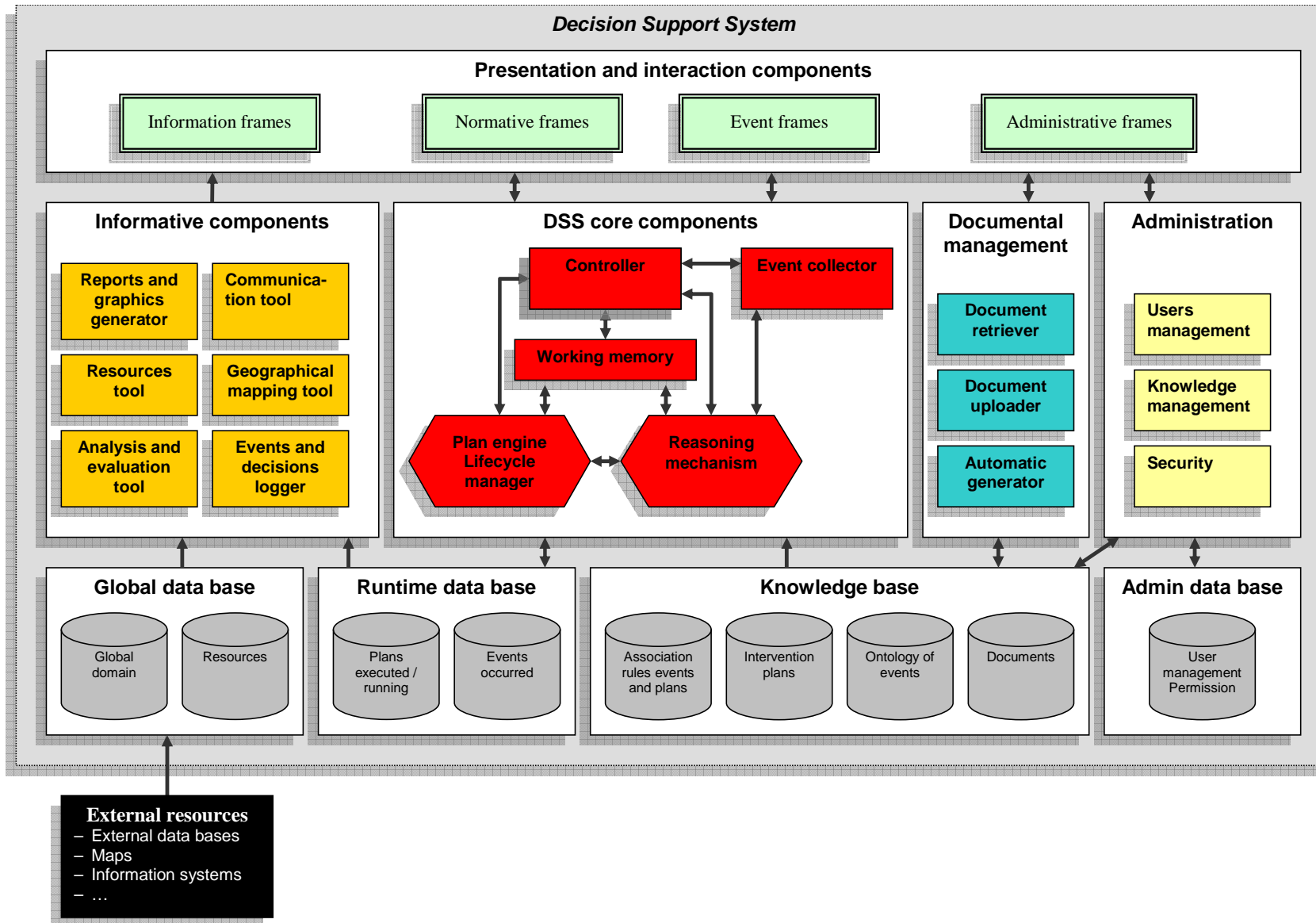
The architecture is described at conceptual level defining the structure of the DSS in term of macro components, interrelationship and design solution to satisfy the requirements.

To a first approximation the DSS is composed by:

- Presentation and interaction components: from the point of view of the user, the DSS can be viewed as a set of frames, each one devoted to a specific task.
 - Information frames are devoted to supply the information about the informative support, like information about emergency situation, reports and graphics, etc.
 - Normative frames support the crisis managers in all decision concerning the management of intervention plans; these frames allow to require plans and actions execution, to monitoring the undertaken actions and to inspect the plans.
 - Event frames are devoted to acquire all the information about primary, secondary and tertiary events. Through this frame the users communicate to the DSS the events occurring in the field, their consequences and the outcomes of the actions.

- Informative components: devoted to gather information from the global and runtime database and present the result of elaboration; especially these components allow to assess and evaluate the emergency scenario, to supply reports and graphics, to consult the event tracking and the resource availability. Informative components include also the geographical mapping tool and the tool to communicate through mail and SMS.
 - DSS core components:
 - The reasoning mechanism that, taking into account the occurred events, exploits the knowledge and information available in order to suggest the intervention plans that can be executed.
 - The plan engine that manages the plan lifecycle, determines the action to be done on the basis of events occurred and the structure of the plans, and stores the information about the execution in the runtime data bases
 - The working memory that contains and shares the information supplied by the other component at runtime
 - The event collector that collects and validates the incoming data about events occurred; it allow to produce a structured, reliable, and complete specification of all events types.
 - The controller, that handles, process and responds to the inputs invoking the suitable components functions.
 - Documental management: these component provide the functions to upload, search, classify and download the document related to the documental management. It permit to store the documents produced during the emergency.
 - Administration tools: devoted to the users administration, security management, and knowledge administration
 - Data bases:
 - Global data bases, which store information characterizing the domain considered (emergency situation, patients, resources, outbreaks, etc.)
 - Runtime data bases, which store information about the running or completed plan, the undertaken actions, and the events occurred
 - Knowledge data bases, which embody the knowledge available to face emergency situations, such as possible event types, available intervention plans, association between events and plans. These data bases include also the document useful in emergency, like norms, regulation, fill in forms, minutes, etc
 - Admin data base, that stores the information about users, group, roles and permission
- The internal data bases of the DSS will be updated by the external resources.

The DSS architecture can be represented as shown in the following figure.



From the technological point of view the DSS will be designed to run in a distributed environment and features a multitier architecture.

The application logic is divided into components according to the functions provided; components can be physically distributed over different machines depending on which tier the component belongs.

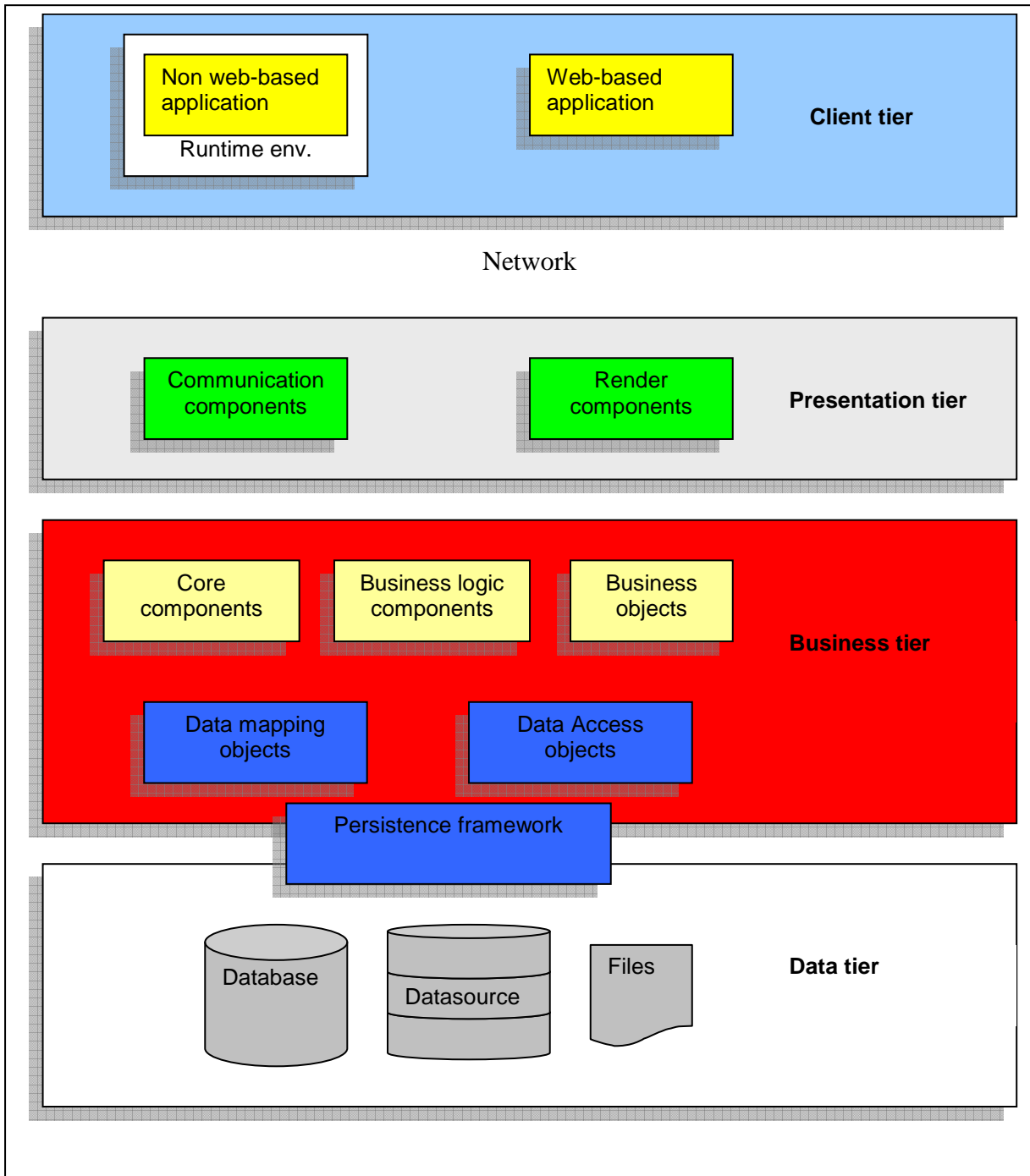
A suitable multitier architecture has the following logical tier:

- Client tier: constituted by web-based and non web-based client applications. In the first case the users interact with a web browser through web pages (and eventually with web components); in the second case users interact with a proper client application. In deciding which one to use, will be considered the type of interaction required and the type on information supplied. A mixed approach will be possible to provide informative and normative support.
- Presentation tier: in charge of receiving the requests and constructing the responses. It communicates with the client tier outputting the result of business activities of the lower tiers. It can include web component to compose web pages, or components to maintain the communications with clients application.
- Business tier: constituted by the components that solve the needs of the business domain. This tier controls all the DSS functionalities by performing the required business logic. This tier is responsible for accessing, retrieving and processing the data from the data tier and send the result to the presentation tier. The business tier includes the data access tier devoted to access the data tier.
- Data tier: is the tier where data are stored and retrieved; it includes data bases, data sources, files, etc.

The communication between the client-side and the server-side will be implemented dependently from the type of client applications. In case of non web-based client application the communication will be realized through appropriate protocols and standard, as webservice or RMI (Remote method Invocation – only for applications set in a intranet). The DSS client applications must be accessible over a computer network based on the Internet model.

The DSS will provide an authentication mechanism to securely identify valid users, on the basis of username and password credential. The DSS must allow the access only to authenticated users. The DSS will provide, after the authentication procedure, an authorization mechanism to verify that the user is allowed to access a specific set of stated resources and to perform a specific set of stated operations. The DSS must provide access to the functions of the DSS and views on the available information on the basis of user permission.

A suitable enterprise architecture to implement the DSS is Java EE (Java platform, Enterprise Edition), an enterprise platform to develop, deploy and manage multitier server-centric applications. Java EE is one of the leading industry standard, “free for all”, for building portable, scalable and secure server-side applications. Furthermore the Java EE applications may be deployed on different open source application servers and container. Java EE is open to integrate and use a large number of open source software components, frameworks and libraries.



Multitier architecture

13. User interface requirements

No specific user interface requirements have emerged from the interviews. Only the following two aspects have to be mentioned:

- The plans will be represented as flow-chart diagrams
- The human and material resources will be represented through tabular view

Therefore, it has been decided to base the design of the DSS on accepted principles and “best practice” in the area of human-computer interaction (HCI), as illustrated in the following.

The DSS will have a user interface that encourages an easy, natural, and engaging interaction between a user and the system, and allows users to carry out their required tasks. To this aim, the real concern is to design a good user interface in relation to its *usability*. Therefore, user interface requirements of the DSS are defined in terms of usability requirements.

Usability is defined in Part 11 of the ISO 9241 standard (International Organization for Standardization, ISO 9241 “Ergonomics of Human System Interaction”) as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.” The two key aspects of this definition that will be considered as general requirements are: 1) the system will be used by specified users, therefore the interface must be designed and developed by taking into consideration users’ needs, culture, background, preferences, and skills; 2) the scope of focus for the design of the interface must be extended by looking beyond the users’ immediate work environment and looking at the wider context or situation within which the system is expected to operate.

More precisely, usability requirements are established with respect to the well-known five dimensions of usability (J. Nielsen, “Usability Engineering”, Academic Press, 1993 - A. Dix, J. Finlay, G. D. Abowd, R. Beale, “Human-Computer Interaction”, Third Edition, Pearson-Prentice Hall, 2004):

- *Learnability*: the system should be easy to learn so that the user can rapidly start getting some work done with the system. Ease of learning refers to the novice user’s experience on the initial part of the learning curve. Highly learnable systems have a steep incline for the first part of the learning curve and allow users to reach a reasonable level of usage proficiency within a short time.
- *Efficiency*: the system should be efficient to use, so that once the user has learned the system, a high level of productivity is possible. Efficiency refers to the expert’s user steady-state level of performance at the time when the learning curve flattens out. Unfortunately, this steady-state level of performance may not be optimal for the users who, by learning a few additional advanced features, sometimes would save more time over the course of their use of the system than the time it took to learn them.
- *Memorability*: the system should be easy to remember, so that the casual user is able to return to the system after some period of not having used it, without having to learn everything all over again. To a great extent, improvements in learnability often also make an interface easy to remember, but in principle, the usability of returning to a system is different from that of facing it for the first time.
- *Robustness*: the system should have a low error rate, so that users make few errors during the use of the system, and so that if they do make errors they can easily recover from them. Further, catastrophic errors leading to a faulty work or destroying the user’s work, must not occur.
- *Satisfaction*: the system should be pleasant to use, so that users are subjectively satisfied when using it.

Generally, establishing usability requirements is a process of compromise between different

constraints and tradeoffs. For example, there is often a tradeoff between learnability for novice users and efficiency of use for expert users. The typical way to cope with this problem is to include accelerators in the user interface. Accelerators are user interface elements that allow the user to perform tasks quickly, even though the same tasks can also be performed in a more general, and possibly slower, way. Typical examples of accelerators include function keys, command name abbreviations, and the use of double-clicking to activate an object. Descriptive field labels and default values will also be used to support novices, without hurting expert users (e.g. DSS administrators and knowledge administrators) . However, giving the specific circumstances of the project, efficiency will be considered as a more important attribute with respect to learnability, also due to the fact that learning sessions will be organized for the users.

A tradeoff often exists also between efficiency and robustness: for example, the desire to avoid catastrophic errors may lead to the decision to design a user interface that is less efficient to use than otherwise possible: typically, extra questions are asked to assure the user is certain about wanting a particular action. As far as the DSS requirements, we will give priority to robustness rather than efficiency, also by considering the criticality of the system.

Memorability should also be satisfied in the DSS interface, by considering that some classes of users – e.g. local and central crisis managers - are mainly casual users, i.e. people who are using the system intermittently rather than having the fairly frequent use assumed for expert users. Therefore, the importance of this attribute is considered high, but lesser than the one of robustness.

Finally, we do not consider as much important, in the domain at hand, the satisfaction dimension.

In summary, from the analysis of user characteristics and the tasks the DSS must support. A ranking of importance emerges for usability attributes, as shown in the following table.

Usability requirements	Priorities			
	Very High	High	Medium	Low
Learnability			X	
Efficiency		X		
Robustness	X			
Memorability		X		
Satisfaction				X

The above attributes are suggested in literature as gauges for testing the usability of the system. For each attribute, a *measuring method* can be defined to state how the attribute will be measured. In the case at hand, the following measuring methods are established.

The efficiency measure will be obtained by measuring: 1) the time to complete a task; 2) the per cent of task completed; 3) the per cent of task completed per unit time.

Robustness will be measured through these variables: 1) the ratio of successes to failures; 2) the time spent on errors; 3) the number of errors.

Learnability will be measured by: 1) the frequency of help and documentation used; 2) the number of repetitions of failed commands.

Memorability will be measured through the following variables: 1) the number of good and bad features recalled by the users.

Measuring satisfaction is not regarded as necessary, given its low priority.

User tests will be performed to evaluate usability requirements by defining realistic tasks to be

carried out by the target users in their own work environment. Furthermore, post-questionnaires will be submitted to users, in order to obtain the memorability measure.

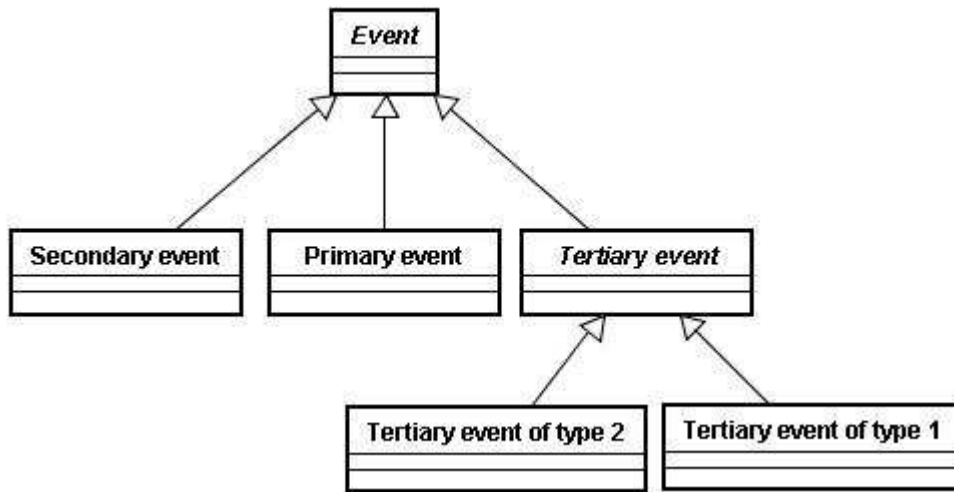
To achieve usability, the principles proposed in the human-computer interaction area will be taken into account during design and development (D. Stone, C. Jarret, M. Woodroffe, S. Minocha, "User Interface Design and Evaluation", Morgan Kaufmann, 2005). Among them, the *principle of consistency* suggests that colors should be used in a consistent manner, as well as screen layout and interface behaviour should be consistent during the interaction. Moreover, it is important to *exploit users' prior knowledge*, because this provides the opportunity to draw on their experience. The *principle of perceptual organization* suggests that if things that go together are grouped together, it is easier for the user to pay attention to the appropriate group. To this aim, data and tools can be organized on the screen on the basis of gestalt laws, which determine the way in which we perceive the world. The *principle of importance* says that if something is important for the user, it should be placed in a prominent position. For example, alarm and warning messages should be always placed in the centre of the screen, blocking the work that the user is carrying out. The *principle of recognition* suggests that where possible, users should be allowed to recognize what they want rather than making them recall it. As with all principles, there are exceptions. For example, expert users often prefer key combinations because they are faster. The effort of learning and recalling is worth it for the extra speed. Similarly, users who operate a computer system all day will be irritated by having to read the same information repeatedly. The design phase will identify also such exceptions. The *principle of visibility* says that it should be obvious what an interface object is used for. While the *principle of affordance* suggests that the design of an interface object should suggest (that is, afford) how it is to be operated; for example, buttons afford pressing. Finally, the *principle of feedback* says that information should be always sent back to the user about what action has been accomplished upon the use of an interface object.

Finally, for the sake of the project, the *localization* of the DSS is a further requirement to be considered (A. Dix, J. Finlay, G. D. Abowd, R. Beale, "Human-Computer Interaction", Third Edition, Pearson-Prentice Hall, 2004). This means that the system must be adapted to different languages and cultures. Words must be localized to the users' culture, as well as images and icons associated with interface controls. Localizing text can be achieved by using the so-called *resources*: when the program uses names of menu items, error messages and other text, it does not use the text directly but instead uses a resource identifier. A simple database must be constructed separately that binds these identifiers to particular words and phrases. A different resource database will be constructed for each language, and so the program can be customized to use in a particular country by simply choosing the appropriate resource database. However, changing the language is only the simplest part of localization. Much of the explicit guidance on alignment and layout is dependent on the left-to-right, top-to-bottom language such as English and most European languages. Furthermore, many icons and images are only meaningful within a restricted cultural context. It will be checked during the localization phase whether this kinds of adaptation is necessary.

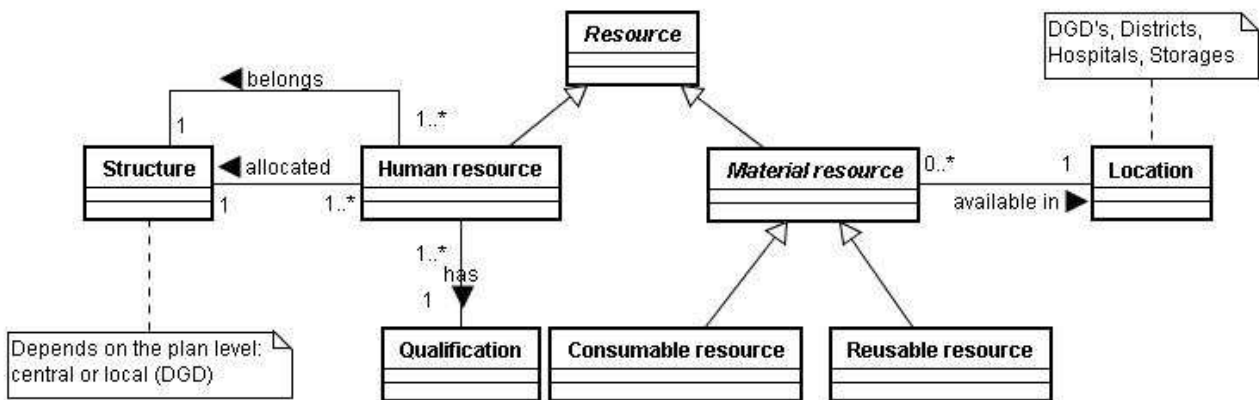
14. Main conceptual entities

In order to clarify the concepts involved in the decision making and crisis management process, and to establish a common framework between the domain experts and the developers of the DSS, a **conceptual model** of the domain has been developed and formalized using UML class diagrams.

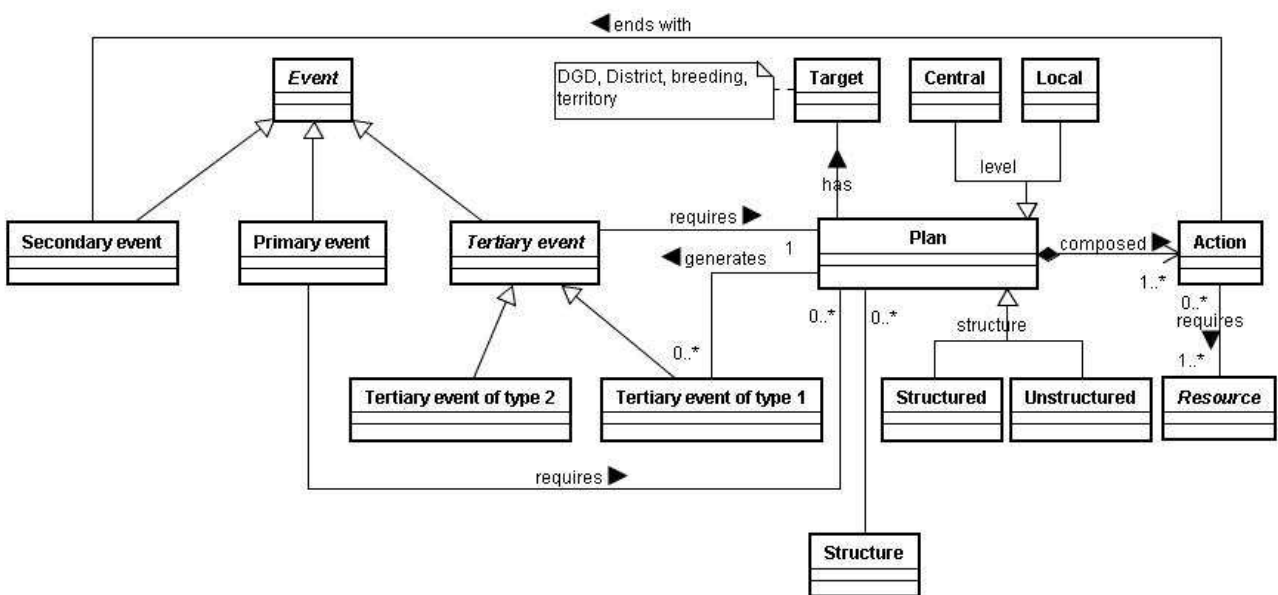
A bottom-up approach has been used to compose the final conceptual model. The UML class diagrams that describe the main conceptual entities identified in the previous chapters are reported below.



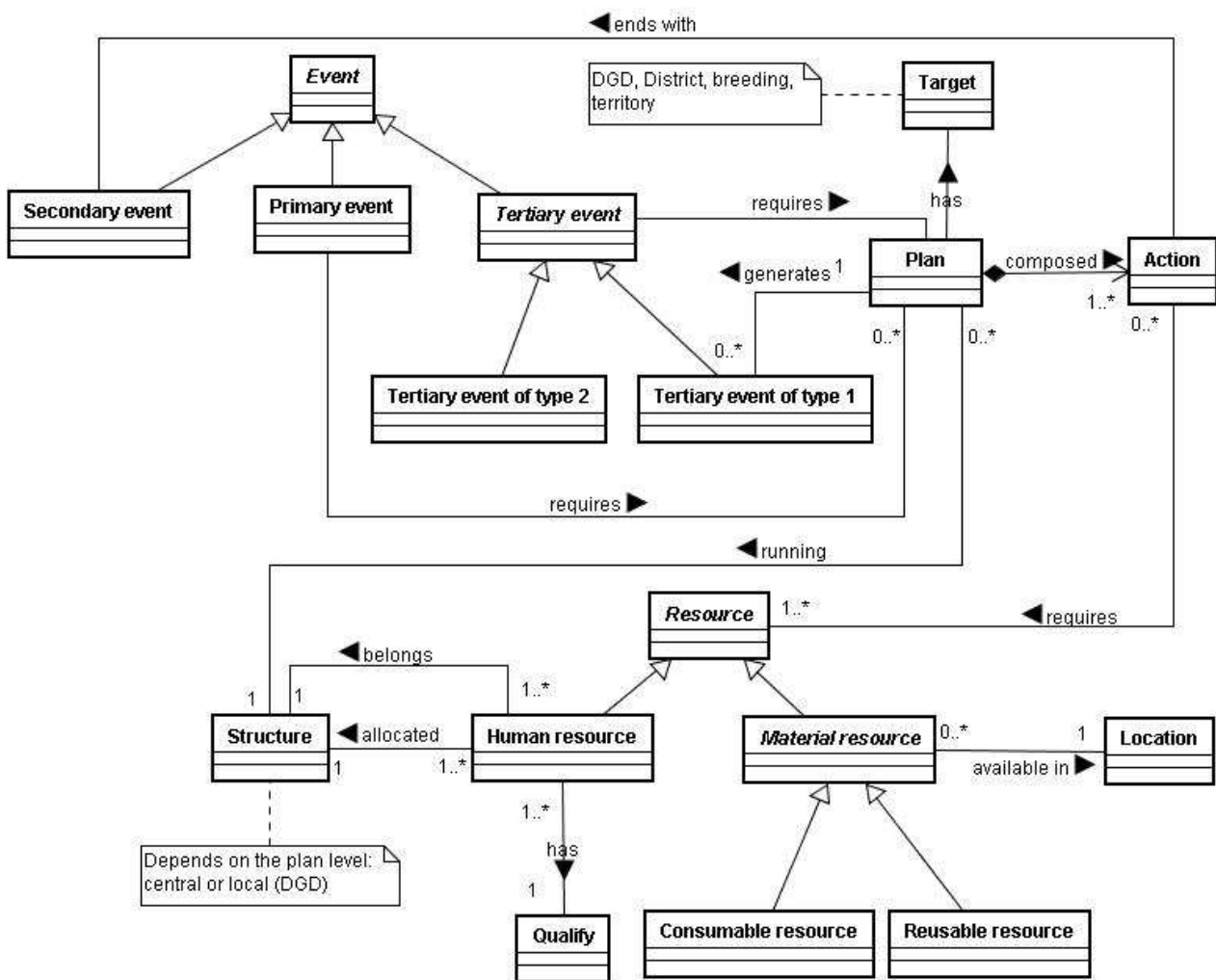
The hierarchy of events



The hierarchy of resources



Plans and actions, and relations with events and resources



Global conceptual class diagram: events, resources, plans and actions

15. Significant use cases

In order to specify functional requirements and to describe the interaction between actors and the DSS, use cases diagrams, use cases and scenarios have been developed. Use case diagrams, specified in UML language, present a graphical overview of the functionalities provided by the DSS in term of actors (accordingly to the DSS user classes), goals, and relationship between use cases. The following use cases diagrams, that groups several use cases, provide a global view of the DSS functionalities from a user point of view. Each use case diagram considers a subset of the functional requirements listed in chapter 11.

Not all the functionalities of the DSS have been specified by use cases: the selected use cases are those that expose the most significant and critical parts of the DSS and specify the core functionalities. One or more scenarios have been described for the significant use cases and correspond to the possible way of achieving the goal.

Two types of use cases have been identified according to the topic they refer to:

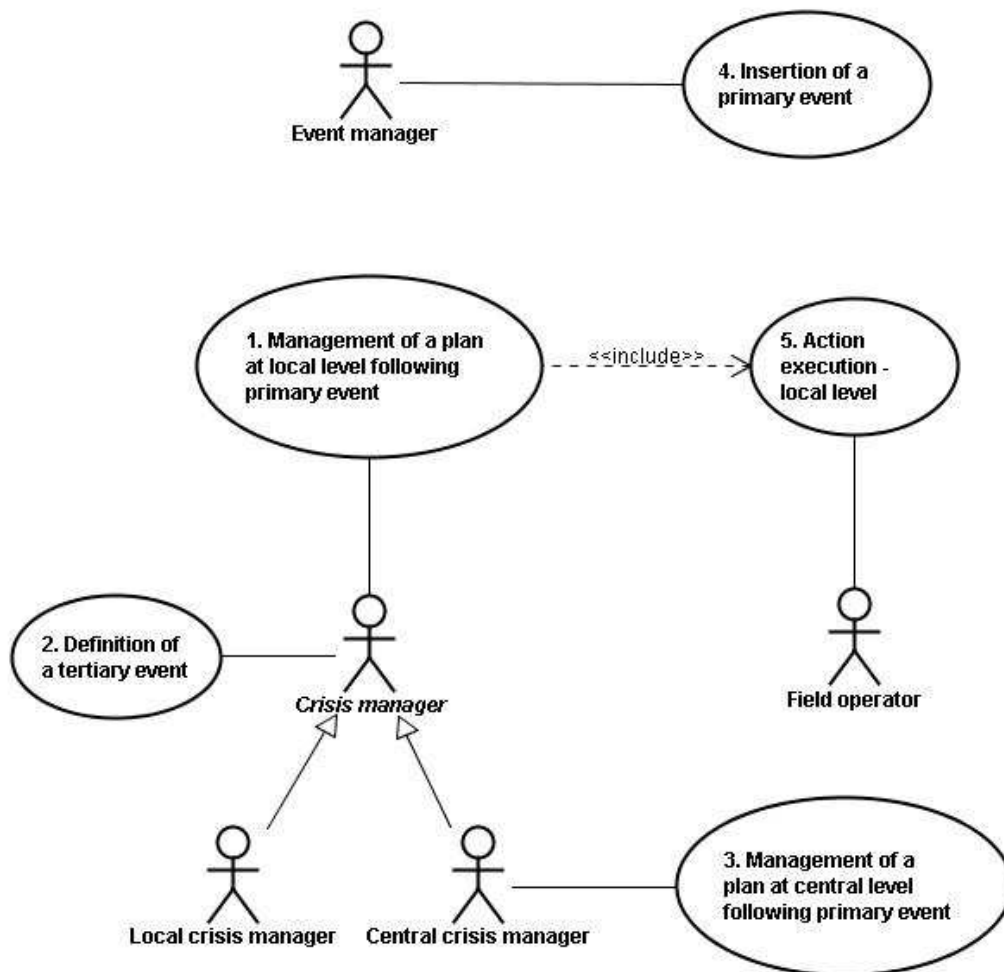
- normative use cases: these use cases specify the functionalities that provide normative support, in particular the management of plans, events and actions. Usually the interaction between user and the DSS causes a transition in the lifecycle of the plan, modifying the state of execution and requiring a new suggestion by the DSS.

- informative use cases: these use cases specify the functionalities that provide informative support. Users interact with the DSS through clear and structured views that show the information gathered from the DSS databases. In this regard generalized interaction design patterns have been developed with the aim to present the information in a common way on the basis of a general and repeatable solution.

The significant use cases, especially the use case scenarios referred to the normative support, will be used to derive the test cases necessary to verify successful and acceptable implementation of the DSS requirements. The test cases will cover the primary scenario that represents the basic course of events, and the alternative scenarios referred to an optional or exceptional behavior. Since the significant uses case do not cover all the functionalities of the DSS, additional test cases will be developed on the basis of the functional requirements specified in chapter 11.

15.1 Normative use cases

The use cases reported in the following diagram represent core functionalities of the DSS; due to their importance, each of them have been described with use case scenario.



Use case diagram derived from the functional requirements listed in chapter 11: Events, plans and actions (requirements 1 to 13 and 19 to 28)

USE CASE	1	NAME	Management of a plan at local level following primary event
Preconditions			<ul style="list-style-type: none"> – A primary event has been notified, by the event manager, and recorded by the DSS. e.g. health authority receives from the regional level the upscaling notification from phase 5 to phase 6 (primary event: “New Phase – Phase 6”); – The emergency task force is prompted to activate a suitable intervention plan – The DSS can suggest the intervention plan to face the event occurred – The plan must be executed in a territorial branch (e.g. in the Italian case DGD 1)
Actors			<ul style="list-style-type: none"> – Central crisis manager – Local crisis manager – Field operator
Primary scenario			
<p>1.1.The central crisis manager receives the notification about the primary event occurred</p> <p>1.2.The DSS suggests the plan to be carried out (state of plan: proposed)</p> <p>1.3.The central crisis manager inspects the flow chart of the intervention plan</p> <p>1.4.The central crisis manager may assess the availability of resources in the territorial branch (DGD 1); <i>go to use case n.6</i></p> <p>1.5.The central crisis manager defines notes, if necessary, and the target for plan execution</p> <p>1.6.The central crisis manager requires plan execution (state of plan: instantiated)</p> <p>1.7.The local crisis manager receives the plan execution request and may consult the flow chart of the plan</p> <p>1.8.The local crisis manager evaluates the availability of resources needed for plan execution; <i>go to use case n.6</i></p> <p>1.9.The local crisis manager starts the plan and the DSS suggests the actions to be carried out (state of plan: running)</p> <p>1.10. The local crisis manager requires the execution of the relevant action</p> <p>1.11. <i>Include use case n. 5</i></p> <p>1.12. If the DSS suggests new actions <i>go to step n. 1.10</i></p> <p>1.13. The plan terminates (state of plan: completed successfully)</p>			
1.2.1 Alternative scenario – Choice between alternative intervention plans			
The DSS suggests several intervention plans; the central crisis manager chooses the plan/plans to be carried out. <i>Go to step n. 1.3</i>			
1.2.2 Alternative scenario – No plan to face the event – Generation of tertiary event of type 2			
The DSS is unable to suggest any intervention plan or the central crisis manager decides to activate a plan not suggested by the DSS. The central crisis manager generates a tertiary event of type 2. <i>Go to use case n. 2.</i>			
1.5.1 Alternative scenario – Plan suggestion rejected			
The central crisis manager, in accordance with the emergency task force, rejects the suggestion of the DSS. The central crisis manager generates a tertiary event of type 2. <i>Go to use case n. 2.</i>			
1.9.1 Alternative scenario – Plan execution rejected			
The local crisis manager does not start the suggested plan and specifies the motivations. The central crisis manager receives the notification about the refusal (state of plan: refused).			

1.12.1 Alternative scenario – A running plan requires the execution of a linked plan

A running plan requires the execution of a linked plan: the local crisis manager may refuse or accept the request:

- The local crisis manager accepts the request: generation of a tertiary event of type 1. On the basis of the structure of the plan two cases are possible:
 - => *Go to use case n. 2* and the running plan proceeds in parallel with step 1.12
 - => *Go to use case n. 2* and the running plan terminates (step 1.13)
- The local crisis manager refuses: on the basis of the structure of the plan two cases are envisaged:
 - The running plan proceeds with step 1.12
 - The running plan terminates (step 1.13)

1.9.2, 1.11.1, 1.12.2 Alternative scenario – Interruption of a running plan

- The local crisis manager deems appropriate to stop plan execution (or receives the request by the central level);
- The local crisis manager specifies the motivations;
- The DSS verifies if there are actions in progress for the running plan and notify to the local crisis manager the actions to be terminated before stop the plan;
- The local crisis manager requires the interruption of the running actions (and waits for the interruption) ;
- The DSS stops the running plan (state of plan: stopped);
- The DSS notify the interruption of the running plan to the central crisis manager

USE CASE	2	NAME	Definition of a tertiary event
Preconditions			– A running plan generates a tertiary event of type 1 or the crisis manager (local or central) deems appropriate to require the execution on a plan
Actors			– Central crisis manager – Local crisis manager, if the plan is at local level
Remark			The request to execute a new plan must always be issued by a central crisis manager

Primary scenario

2.1. The crisis manager specifies the information (time, place, motivation) about the plan to be carried out

2.2. The DSS records the tertiary event and retrieves the appropriate plan (to be executed)

2.3. The DSS notifies the central crisis manager the tertiary event of type 1 occurred (state of plan: proposed)

2.4. *Go to step n. 1.3*

USE CASE	3	NAME	Management of a plan at central level following primary event
Preconditions			– A primary event has been notified, by the event manager, and recorded by the DSS, e.g. health authority receives from the regional level the upscaling notification from phase 5 to phase 6 (primary event: “New

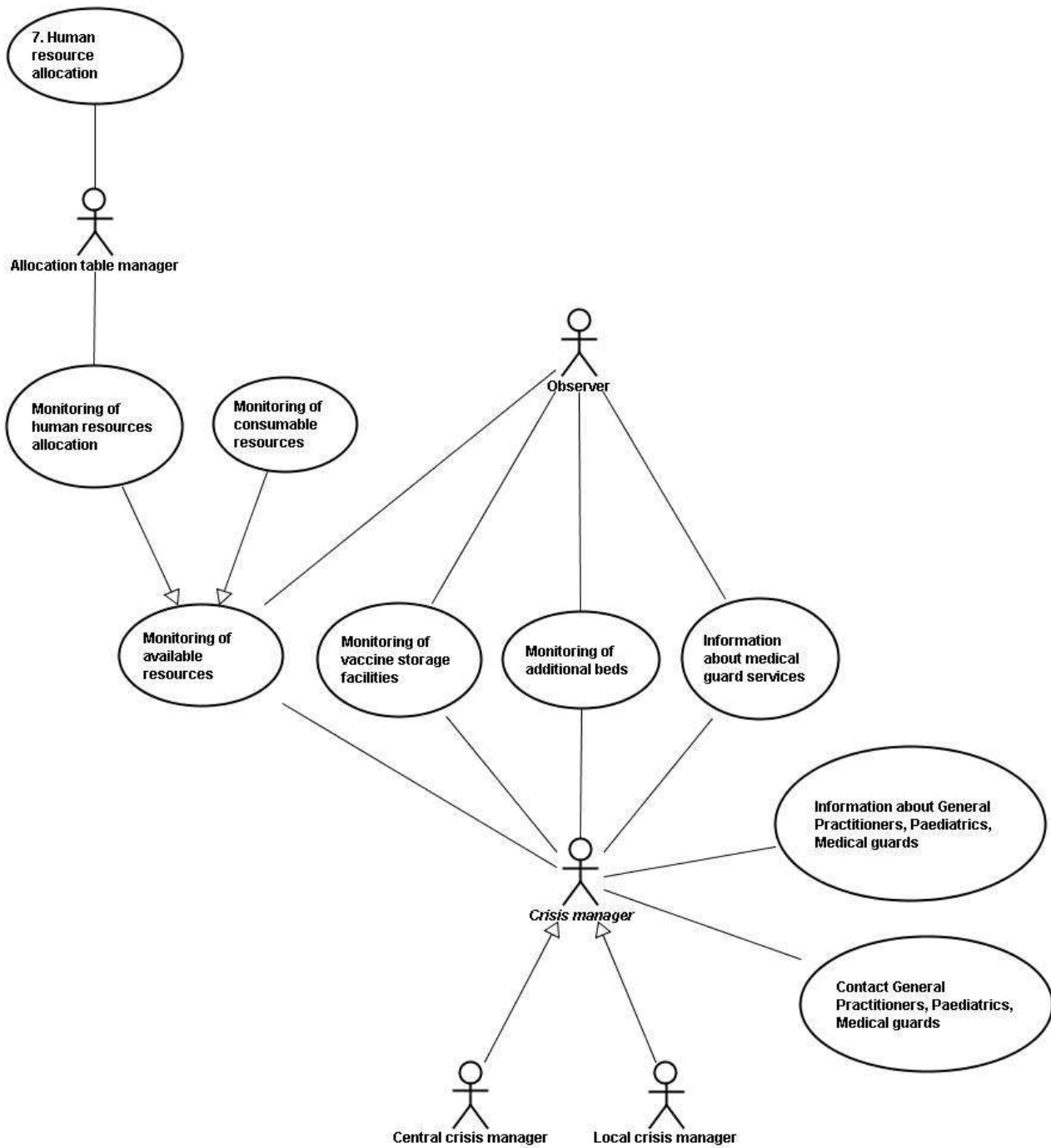
	<p>Phase – Phase 6”);</p> <ul style="list-style-type: none"> – The emergency task force is prompted to activate a suitable intervention plan – The DSS can suggest the intervention plan to face the event – The plan must be executed at central level
Actors	– Central crisis manager
Primary scenario	
<p>3.1. The central crisis manager receives the notification about the primary event occurred</p> <p>3.2. The DSS suggests the plan to be carried out (state of plan: proposed)</p> <p>3.3. The central crisis manager inspects the flow chart of the intervention plan</p> <p>3.4. The central crisis manager defines notes, if necessary, and starts the plan (state of plan: running)</p> <p>3.5. The DSS suggests the actions to be carried out</p> <p>3.6. The central crisis manager executes the required action or provides for their execution</p> <p>3.7. When an action is completed, the central crisis manager inserts the result obtained (secondary event) uploading, as appropriate, any relevant document</p> <p>3.8. If the DSS suggests a new actions <i>go to step n. 3.5</i></p> <p>3.9. The plan terminates (state of plan: completed successfully)</p>	
3.2.1 Alternative scenario – Choice between alternative intervention plans	
Go to alternative scenario n. 1.2.1	
3.2.2 Alternative scenario – No plan to face the event – Generation of tertiary event of type 2	
Go to alternative scenario n. 1.2.2	
3.5.1 Alternative scenario –Plan suggestion rejected	
Go to alternative scenario n. 1.5.1	
3.8.1 Alternative scenario – A running plan requires the execution of a linked plan	
<p>A running plan requires the execution of a linked plan: the central crisis manager may refuse or accept the request:</p> <ul style="list-style-type: none"> – The central crisis manager accepts: generation of a tertiary event of type 1. On the basis of the structure of the plan two cases are envisaged: <ul style="list-style-type: none"> • => <i>Go to use case n. 2</i> and the running plan proceeds in parallel with step 3.8 • => <i>Go to use case n. 2</i> and the running plan terminates (step 1.13) – The central crisis manager refuses: on the basis of the structure of the plan two cases are envisaged: <ul style="list-style-type: none"> • The running plan proceeds with step 3.8 • The running plan terminates (step 3.9) 	
3.6.1, 3.7.1, 3.8.2 Alternative scenario – Interruption of a running plan	
<ul style="list-style-type: none"> – The central crisis manager deems appropriate to stop the plan execution; – The central crisis manager specifies the motivations; – The DSS verifies if there are actions in progress for the running plan and notify to the central crisis manager the actions to be terminated before stop the plan; – The central crisis manager interrupts the running actions; – The DSS stops the running plan (state of plan: stopped) 	

USE CASE	4	NAME	Insertion of a primary event
Preconditions	<ul style="list-style-type: none"> – A primary event occurs – The primary event is classified in DSS 		
Actors	– Event manager		
Primary scenario			
4.1.The event manager selects from the list of primary events classified the type corresponding to the primary event occurred			
4.2.The event manager fills in the fields about the primary event and uploads, as appropriate, the relevant documents			
4.3.The DSS records the information specified by the event manager and creates the primary event			
4.4. <i>Go to use case n. 1 or n. 3</i> depending on the plan suggested			

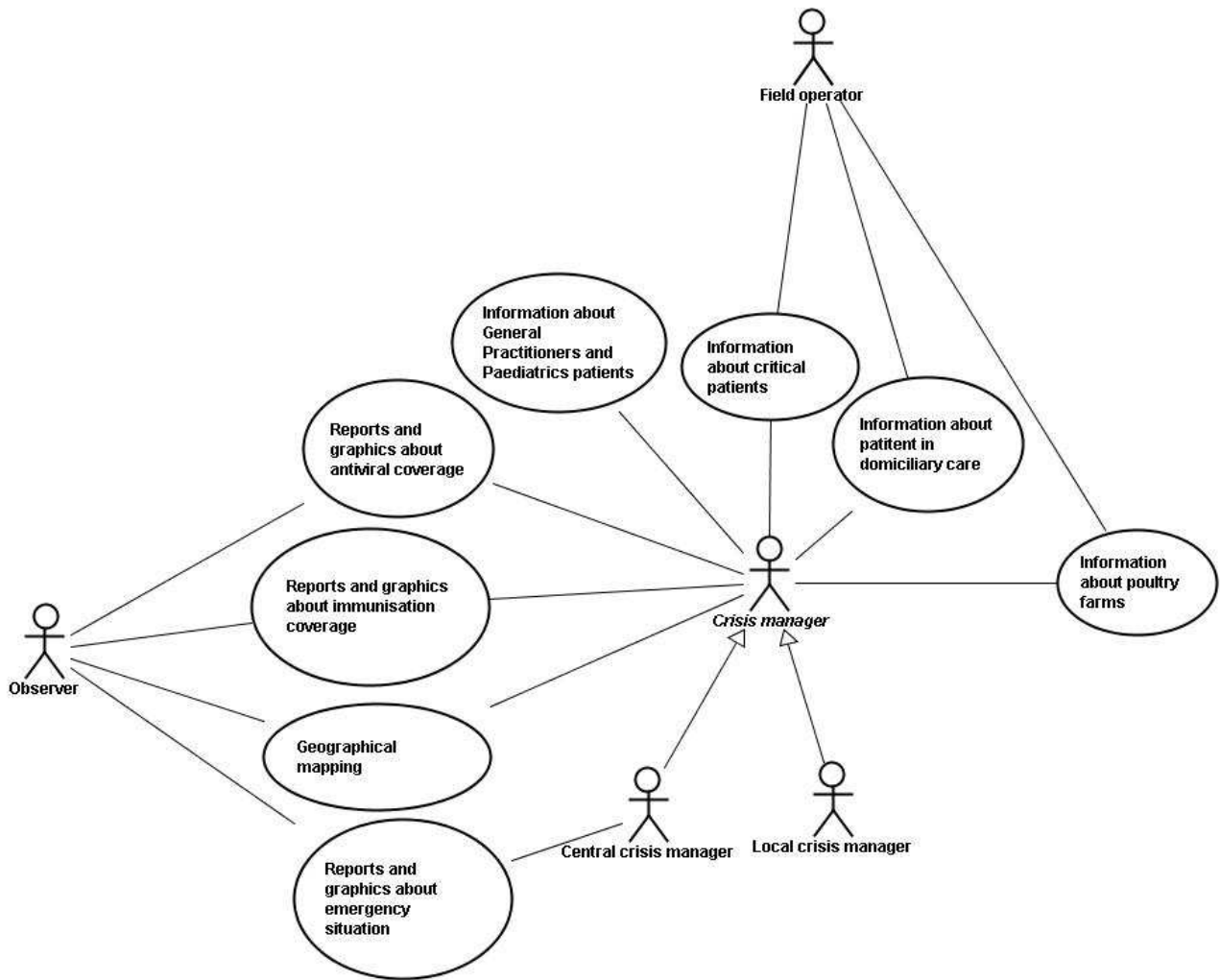
USE CASE	5	NAME	Action execution – local level
Preconditions	<ul style="list-style-type: none"> – Within a running plan, the DSS suggests an action to be carried out – The field operator is in charge of action execution 		
Actors	– Field operator		
Primary scenario			
5.1.The field operator selects the plan from the list of all running plans in his territorial branch			
5.2.The field operator selects the action to be carried out and executes it			
5.3.The field operator inserts the result of the undertaken action (secondary event) selecting the result from a predefined list			
5.4.The field operator specifies the necessary information and uploads, as appropriate, the relevant documentation			
5.5.The DSS marks the actions as completed and proceeds in plan execution with the next action			

15.2 Informative use cases

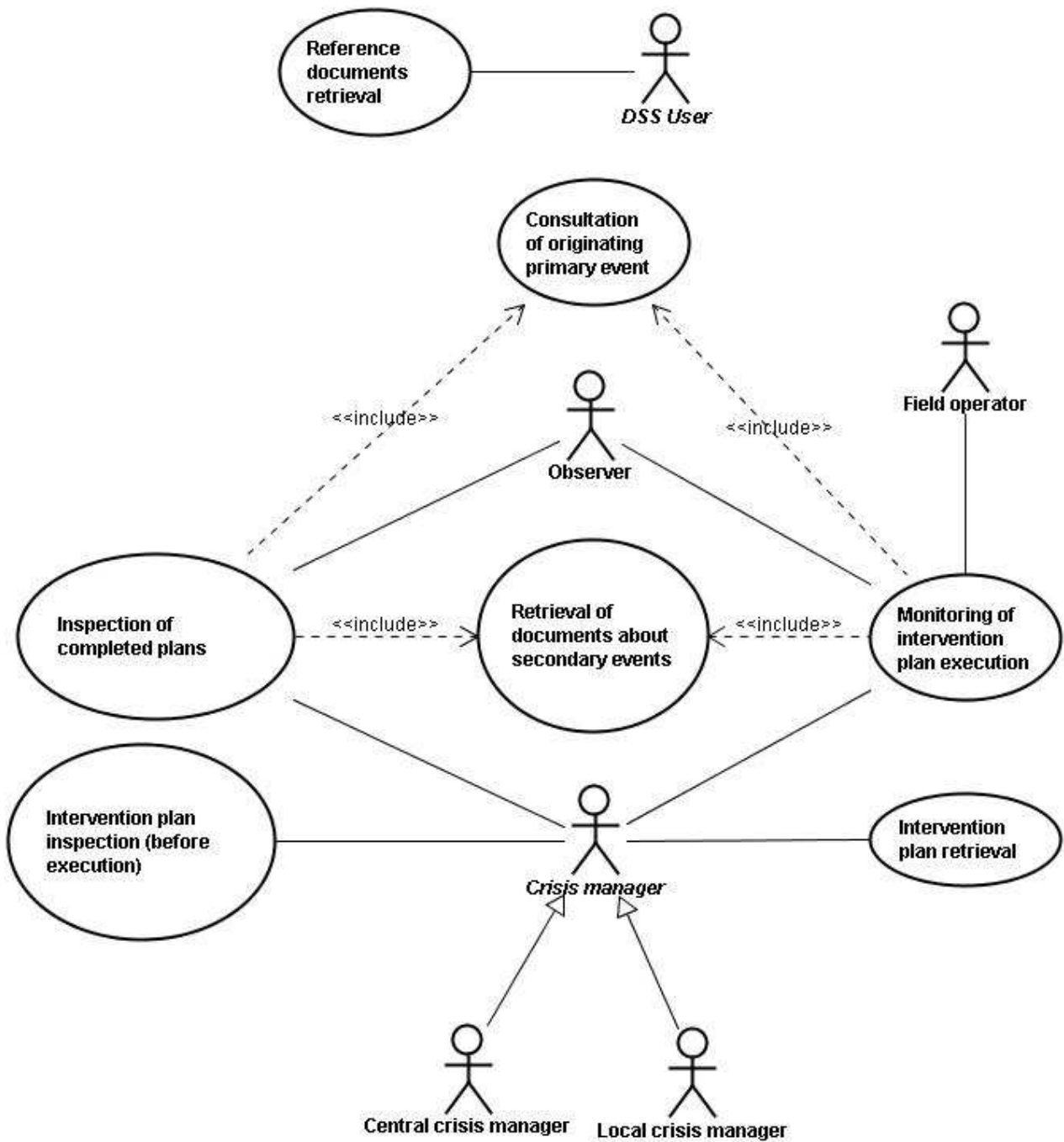
The following use cases diagrams represent a global view of the functionalities related to the informative support; only a subset of these use cases, the most significant, are described with use case scenarios.



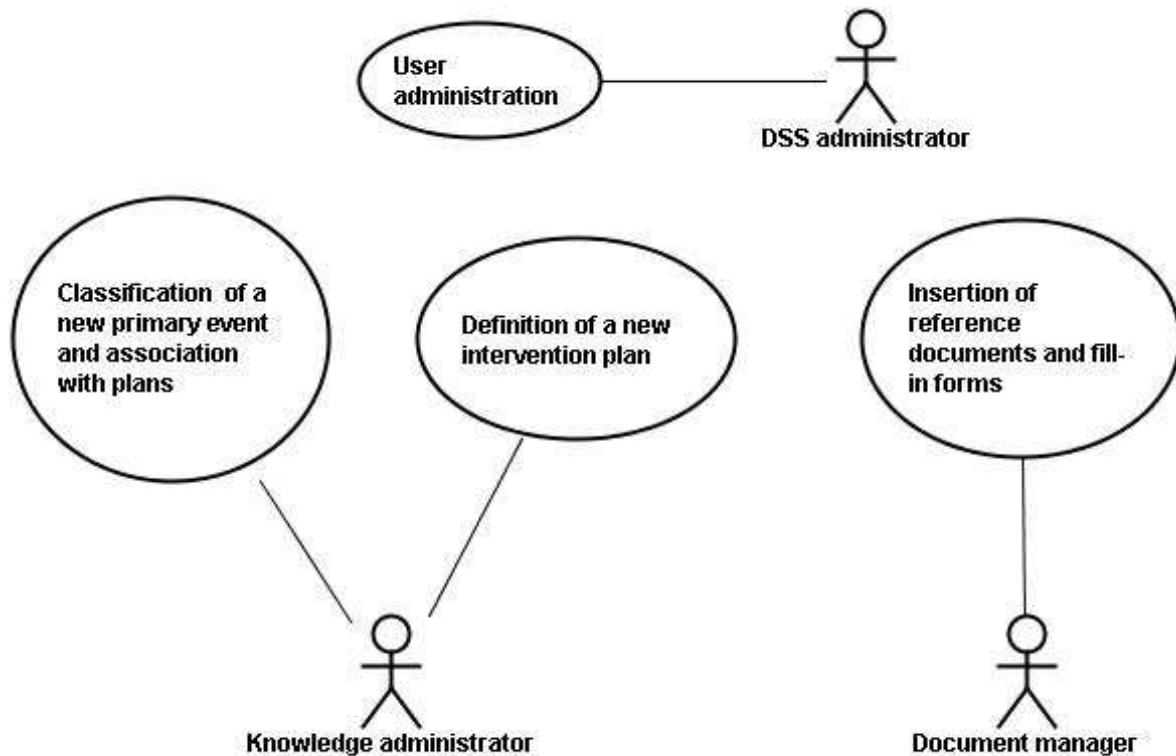
Use case diagram derived from the functional requirements listed in chapter 11: Material resource management (requirements 40 to 44) and Human resource management (requirements 45 to 54 and 56).



Use case diagram derived from the functional requirements listed in chapter 11: Information about the emergency situation (requirements 59 to 69), Antiviral management (requirement 55), Vaccine management (requirements 57 to 58), Geographical mapping (requirement 70 to 75)



Use case diagram derived from the functional requirements listed in chapter 11: Events, plans and actions (requirements 14 to 18), Document management (requirements 31 to 34)



Use case diagram derived from the functional requirements listed in chapter 10: Knowledge management (requirements 35 to 37), Users administration (requirements 38 to 39), Document management (requirements 29 to 30)

USE CASE	6	NAME	Monitoring of available resources
Preconditions	– Information is updated manually by the allocation table manager		
Actors	– Central crisis manager – Local crisis manager – Allocation table manager		
Primary scenario			
6.1.The DSS shows the allocation table of the desired territorial branch			
6.2.The DSS shows the type and number of resources available:			
– Human resources: the table possess two entries, qualification and area – Material resources: classified according to type			
6.3.The user may consult all the information available about a single human resource			

USE CASE	7	NAME	Human resource allocation
Actors	– Allocation table manager		
Primary scenario			
7.1.The allocation table manager searches the resource to be allocated using the search methods provided by the DSS (research by name, qualification and structure)			
7.2.The DSS searches the resources matching the stated criteria;			
7.3.The DSS provides the list of resources (if multiple results are present) matching the stated criteria			
7.4.The allocation table manager selects the resource to be allocated and may access all information			

<p>about it</p> <p>7.5.The allocation table manager defines the structure and the area where to the resource must be allocated</p> <p>7.6.The DSS receives the request for allocation update</p> <p>7.7.The DSS updates the resource allocation table</p>

USE CASE	8	NAME	Consultation of reports
Actors		<ul style="list-style-type: none"> – Central crisis manager – Local crisis manager – Observer 	
Primary scenario			
<p>8.8.The DSS presents a form with the following fields:</p> <ul style="list-style-type: none"> – All reports available (e.g. number of people infected, number of people healed, etc.) – Interval of dates (date from / date to) the report refers to <p>8.8.The user selects the report desired</p> <p>8.8.The DSS requires the completion of additional data if necessary (e.g. place, district, etc.); these additional data depend from the type of report selected</p> <p>8.8.The user completes the additional data</p> <p>8.8.The user specifies the interval of dates the report refers to</p> <p>8.8.The user requires the report generation</p> <p>8.8.The DSS provides the report showing data through tabular view (e.g. date of detection, number of elements detected, percentage, and other data dependently from the type of report).</p>			
Alternative scenario – Numerous data			
<p>8.8.1 In case of numerous data, the DSS provide a partial tabular view of data (e.g. first page) with the scope to present a subset of the full result; the DSS provides the functions to navigate the complete result through pagination or a scrollable table</p>			
Alternative scenario – Sorting of result set			
<p>8.8.2 The user selects the column desired to sort the result set (sorted by the column selected)</p> <p>8.8.The DSS provides the result set order by the column selected</p>			

USE CASE	9	NAME	Consultation of charts
Actors		<ul style="list-style-type: none"> – Central crisis manager – Local crisis manager – Observer 	
Primary scenario			
<p>9.1 The DSS presents a form with the following fields:</p> <ul style="list-style-type: none"> – All charts available (e.g. number of people infected, number of people healed, etc.) – Interval of dates (date from / date to) the report refers to <p>9.2 The user selects the chart desired</p> <p>9.3 The DSS requires the completion of additional data if necessary (e.g. place, district, etc.); these additional data depend from the chart selected</p>			

9.4 The user completes the additional data

9.5 The user specifies the interval of dates the chart refers to

9.6 The user requires the chart generation

9.7 The DSS shows the chart (e.g. abscissas: date of detection; ordinates: number of elements detected, percentage).

Alternative scenario – Chart type

9.5.1 The DSS proposes different type of charts available: column chart, line chart, pie chart

9.5.2 The uses select the type of charts desired

9.5.3 *Go to step 9.6*

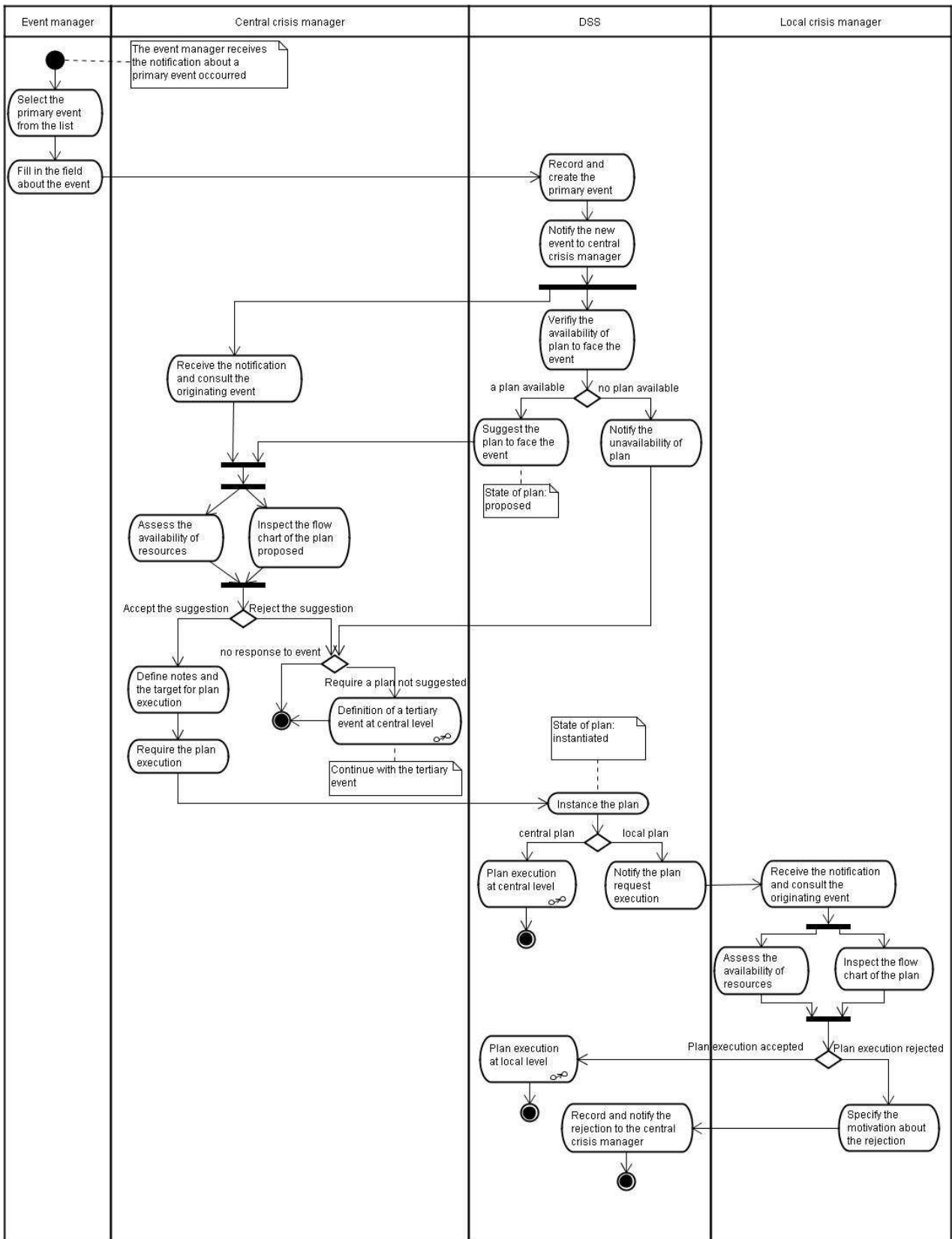
16. Activity diagrams – further analysis of use cases

The normative use cases defined in chapter 15, describe at high level the core functionalities of the DSS. A deep and further analysis has led to define in a clear way the interaction between the users and the DSS. These aspects have been represented through UML activity diagrams that are used to display the sequence of activities, parallel flow, the decision points and the overall control flow. An activity diagram may relate to a single use case or to several use cases.

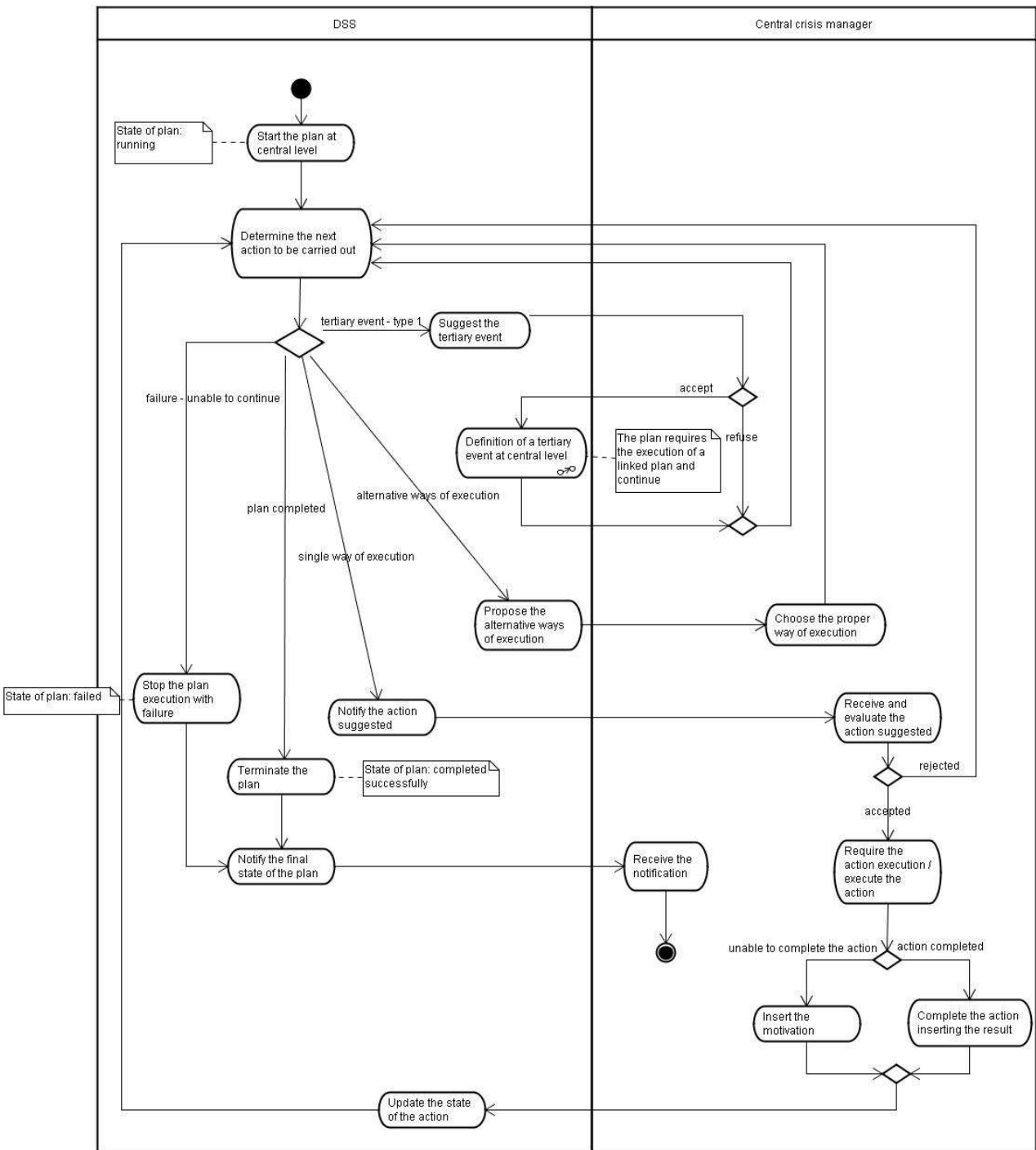
The following activity diagrams have been identified:

- Plan activation: describes the activation process of a plan following a primary event;
- Plan execution at central level: describes step-by-step the activities undertaken during the plan execution at central level;
- Plan execution at local level: same as above, for plans at local level;
- Definition of a tertiary event (type 1 and type 2) at central level: describes the decisional process activated by a tertiary event generated by:
 1. a running plan at central level that requires the execution of a linked plan;
 2. a central crisis manager that deems appropriate to execute a plan;
- Definition of a tertiary event (type 1 and type 2) at local level: describes the decisional process activated by a tertiary event generated by:
 1. a running plan at local level that requires the execution of a linked plan;
 2. a local crisis manager that deems appropriate to execute a plan;

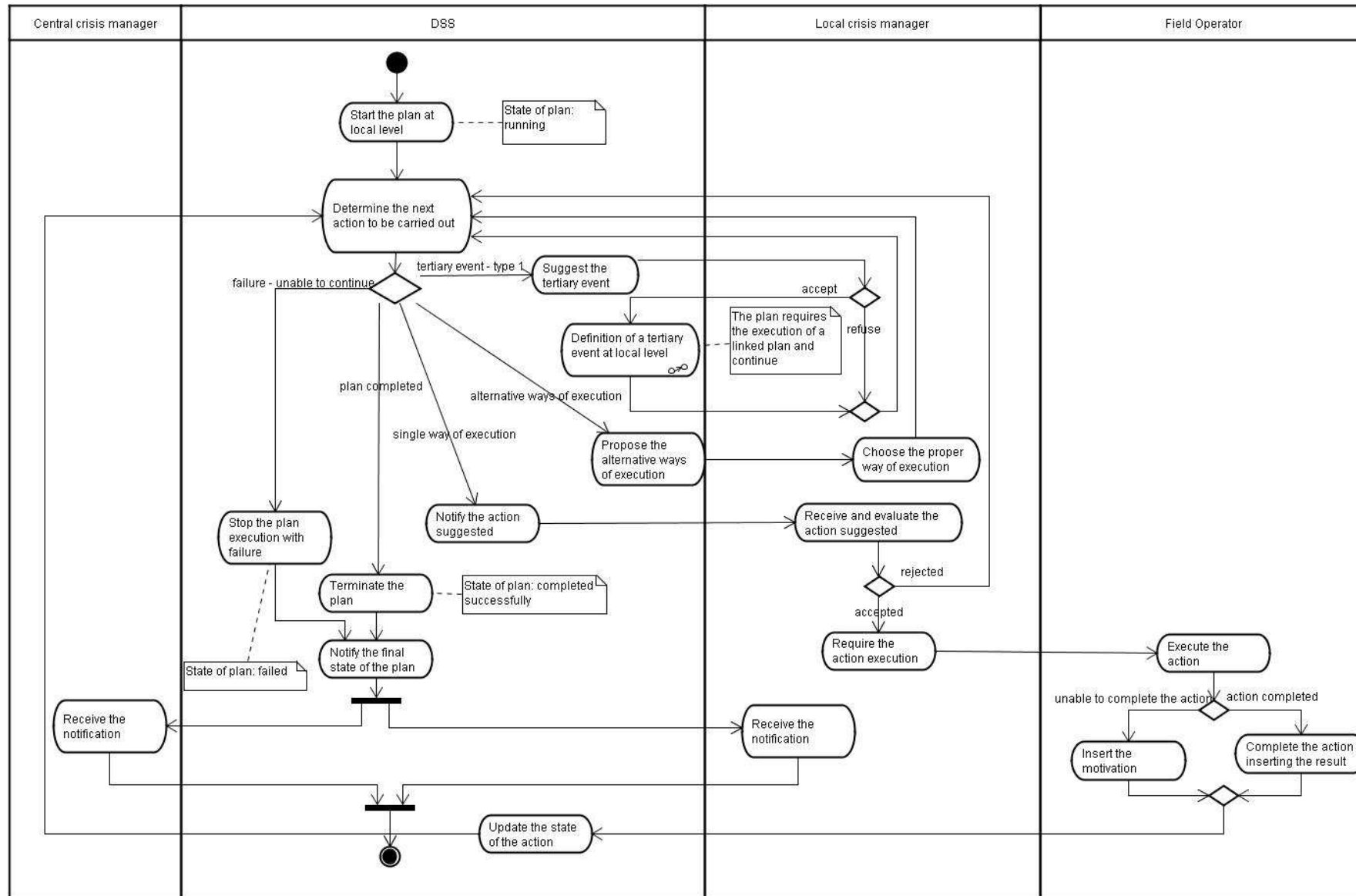
The diagram named “Plan activation” has been realized assuming that, following a primary event, the DSS suggests no more than one plan; in case of alternative or multiple plan the central crisis manager has to choose the desired plans and repeat the following steps for each plan selected.



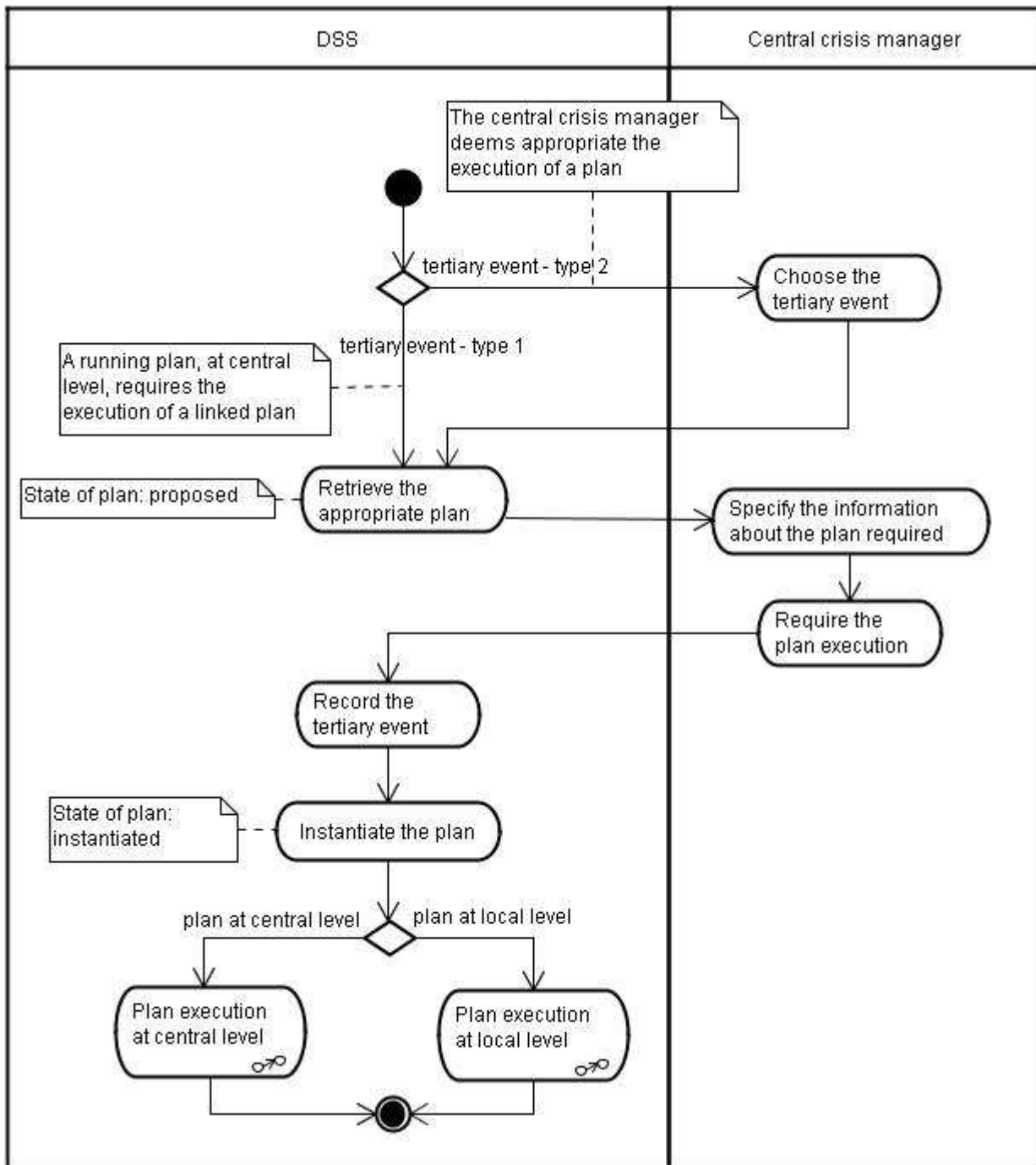
Activity diagram - Plan activation



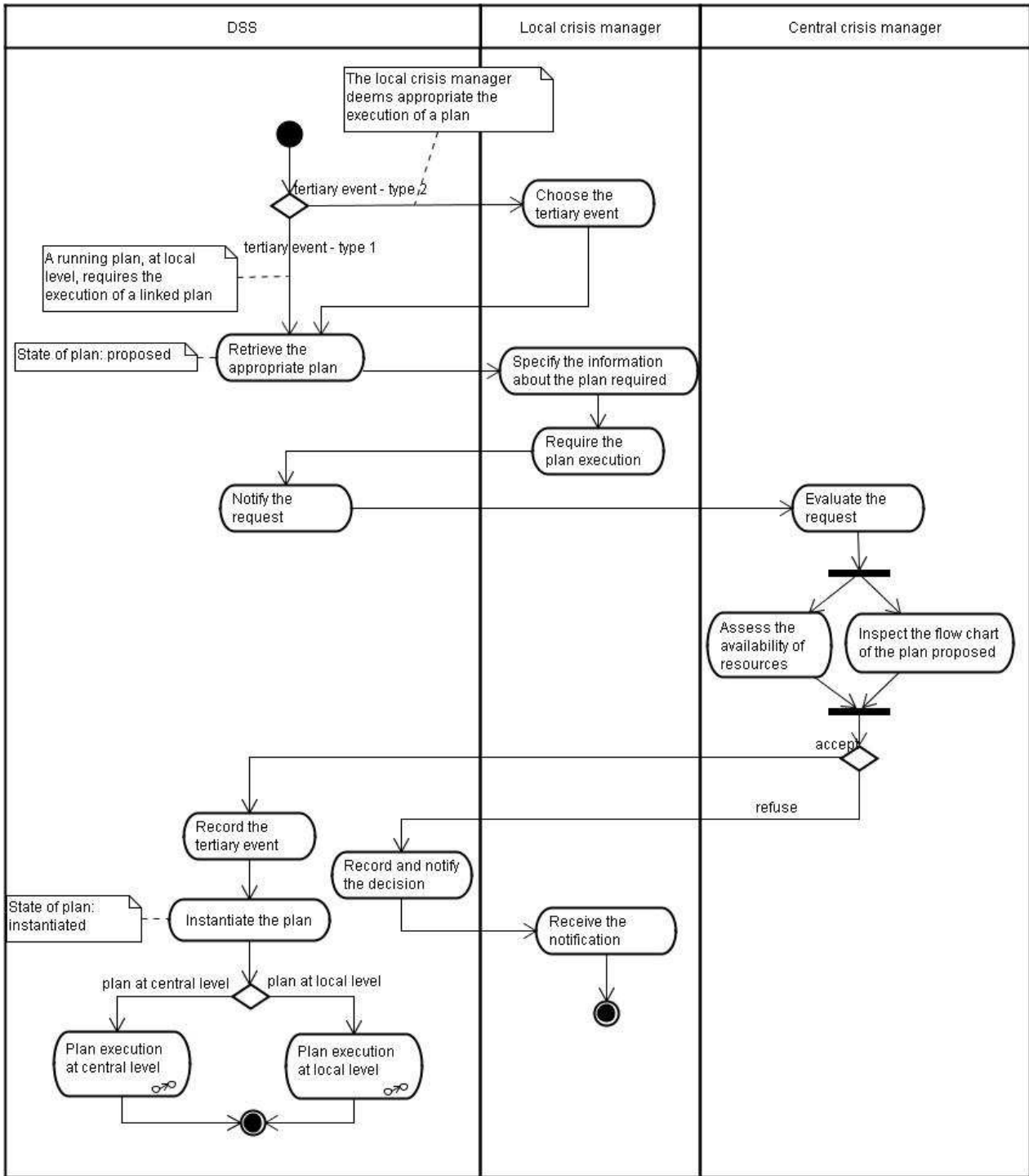
Activity diagram - Plan execution at central level



Activity diagram - Plan execution at local level



Activity diagram - Definition of a tertiary event (type 1 and type 2) at central level



Activity diagram - Definition of a tertiary event (type 1 and type 2) at local level

DSS Requirements Annexes

Annex A. Methodology

Annex B. Reference documents

Annex C. Domain experts

Annex D. Questionnaires

Annex E. Interview plan

Annex F. Context and expectations

Annex G. External data sets relevant to DSS operation

Annex H. Interviews

Annex I. Ranking of requirements

Annex A. Methodology

The methodology adopted for requirement analysis conforms to the outline stated in the Technical Annex without any major deviations. The best practices in the area knowledge and software engineering have been implemented, especially for what concerns knowledge elicitation (interviewing techniques) and requirement documentation (conceptual modelling and UML).

As a methodological principle it has been decided to proceed in two main steps:

- first collecting the requirements for the Italian case through direct requirement elicitation techniques applied to a selected group of domain experts (Phase I);
- then identifying the requirements for the Rumanian, Slovenian, and Spanish cases involved in the experimental activity through a differential analysis based on the Italian case (Phase II);
- finally, analyzing, generalizing and ranking the collected requirements in order to assure the applicability of the DSS to a variety of cases of practical interest and, at the same time, to scale requirements according to their expected complexity and impact (Phase III).

This decision to split requirements elicitation into the three Phases defined above is motivated by three goals:

- transferring to the Rumanian, Slovenian, and Spanish partners the experience and know-how in DSS design developed by the Italian partners through previous activity in the field;
- improving the efficiency of the global requirement analysis process;
- tuning requirements not only to the current needs of the application domain, but also to their expected growth in the next future.

Accordingly, the work has been organized according to the following main steps:

Phase I: Collection and documentation of basic user requirement (Italian case)

- A. Context analysis for the DSS: analysis of the general crisis management process (according to current regulations and best practices) in which the DSS will be included and identification of the macro-phases where it is supposed to be applied - the technical documents considered are listed in Annex B
- B. Identification of a group of domain experts from ASL Brescia, that will serve as main knowledge source for requirement elicitation - the group of domain experts is defined in Annex C
- C. Use of questionnaires to set up an initial knowledge elicitation context and, later, elicit specific knowledge about existing data sets – the questionnaires are illustrated in Annex D (Q1 and Q2) and the main information gathered through the questionnaires is reported in Annex F and G
- D. Extensive interviews of domain experts carried out by knowledge engineers and requirement analysis experts (direct requirement elicitation) and first identification of requirements; this action has focused on functional requirements, operative and technical requirements have also been considered as appropriate – the list of interviews carried

out is shown in Annex E and the main information gathered in each interview is reported in Annex H

- E. Validation (and refinement) of the information gathered in all interviews by the involved domain experts through group interview with domain experts (see Annex E, interview G2); the main information gathered in the interview is reported in Annex H
- F. Post-processing of materials collected through questionnaires and interviews
- G. Identification of requirements, focusing on functional requirements; operative and technical requirements have also be considered as appropriate
- H. Production of a partial, semi-formal representation of user requirements (conceptual diagrams and use cases) as appropriate
- I. Production of the final report of Phase I (REP-DSS 01) documenting the user requirements identified for the Italian case

Phase II: Collection and documentation of user requirement (Romanian, Slovenian and Spanish cases)

- A. Sharing of REP-DSS 01 with the consortium and, in particular, with Rumanian, Slovenian, and Spanish partners involved in the experimental phase, for further analysis and revision with respect to the relevant national contexts (differential requirement elicitation)

Phase III: Analysis, generalisation and ranking of requirements

- A. Analysis of collected requirements
- B. Generalization of stated requirements in order to assure the widest coverage and the highest level of applicability of the DSS
- C. Ranking of requirements into three classes (mandatory, advanced, nice to have) with the involvement of domain experts from ASL using a questionnaire - the questionnaire is illustrated in Annex D (Q3) and the main information gathered is reported in Annex I
- D. Definition of operative and technical requirements
- E. Definition of usability requirements
- F. Refinement and validation of user classes
- G. Refinement and extension of use cases
- H. Production of the interim report of Phase III (REP-DSS 02)
- I. Final validation and refinement of requirements through group interview with domain experts (see Annex E, interview G3); the main information gathered in the interview is reported in Annex H

- J. Sharing of REP-DSS 02 with the consortium and, in particular, with Rumanian, Slovenian, and Spanish partners involved in the experimental phase, and collection of feedback
- K. Production of the final report documenting the user requirements of the DSS (REP-DSS 03) to be included in deliverable D4.

The time line of the activities carried out are reported below.

Phase I		
Activity	Start	End
A. Context analysis	January, week 1	February, week 5
B. Identification of domain experts		
C. Questionnaires	February, week 3	March, week 3
D. Interviews with domain experts	February, week 2	May, week 3
E. Validation	March, week 2	May, week 4
F. Post processing	February, week 5	May, week 4
G. Identification of requirements	March, week 4	June, week 1
H. Representation of requirements		
I. Production of REP-DSS-01		

Phase II		
Activity	Start	End
A. Sharing of REP-DSS 01 with the consortium	June, week 2	July, week 4

Phase III		
Activity	Start	End
A. Analysis of collected requirements	July, week 4	July, week 5
B. Generalization	July, week 4	September, week 3
C. Ranking of requirements	September, week 3	October, week 2
D. Definition of operative and technical requirements	September, week 3	October, week 2
E. Definition of usability	September, week 3	October, week 2

requirements		
F. Refinement and validation of user classes	September, week 3	October, week 2
G. Refinement and extension of use cases	September, week 3	October, week 2
H. Production of REP-DSS 02	September, week 2	October, week 2
I. Final validation of requirements through group interview	October, week 4	October, week 4
J. Sharing of REP-DSS 02 with the consortium	October, week 2	October, week 4
K. Production of the final report DSS (REP-DSS 03)	October, week 2	October, week 4

Annex B. Reference documents

B.1 Official international and national documents

- *WHO global influenza preparedness plan*; Geneva, World Health Organization, 2005 [Document WHO/CDS/CRS/GIP/2005.5]

http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/

- *Piano nazionale di preparazione e risposta ad una pandemia influenzale - Allegato al Piano nazionale di preparazione e risposta ad una pandemia influenzale – Linee guida per la stesura dei Piani Pandemici Regionali*; Ministero della Salute, 2006

<http://www.who.int/csr/disease/influenza/italianpandemicplan.pdf>

- *Piano pandemico regionale di preparazione e risposta ad una pandemia influenzale secondo le direttive del Ministero della Salute*; Deliberazione consiglio regionale 2 ottobre 2006 – n. VIII/216 – Bollettino ufficiale Regione Lombardia – 1° supplemento straordinario; Regione Lombardia, 3.2.0 Servizi Sociali / Sanità, 2006

http://www.sanita.regione.lombardia.it/delibere/DCR2006_216.pdf

B.2 Documents released by ASL Brescia

- *Documento locale per l'attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale*; ASL Brescia, Direzione Sanitaria, dicembre 2007; Draft

- *Piano di organizzazione e funzionamento aziendale (P.O.F.A.)- delibera n. 557 del 27/09/2007*; ASL Brescia, 2007

http://www.aslbrescia.it/asl/media/pdf/Pofa_24_4_07.pdf

- *Il piano di continuità assistenziale (PCA) dell'ASL di Brescia - slides*; ASL Brescia
- *Manuale MAINF Operatore. Sistema di gestione delle malattie infettive*; versione 1.0, Lombardia servizi, 2006
- *Procedura malattie infettive*; Dipartimento di prevenzione medico - servizio igiene e sanità pubblica, Settembre 2006; revisione 00, PO SISP 7.04
- *Protocollo Operativo. Segnalazione e controllo malattie infettive. Sorveglianza delle malattie infettive*; Dipartimento di prevenzione medico - servizio igiene e sanità pubblica; revisione 00, PO SISP 7.14.
- *Piano di emergenza pandemia per RSA (Residenza Sanitario Assistenziale) e RSD (Residenza Sanitaria Disabili)*; ASL Brescia, Servizio Anziani-Cure Domiciliari, Aprile 2007

Annex C. Domain experts

The following domain experts have contributed to the requirement analysis task:

ASL DOMAIN EXPERTS		
Name	Department Phone number Mail address	Position
Dr. Guglielmino Baitelli	Dipartimento di Prevenzione Medica - Unità Operativa di Prevenzione delle Malattie Infettive 030/38.38.545 guglielmino.baitelli@aslbrescia.it	Head of unit
Dr. Fulvio Lonati	Dipartimento Cure Primarie 030/38.39.244 fulvio.lonati@aslbrescia.it	Head of department
Dr. Giuseppe Boschi	Dipartimento Cure primarie - Servizio Assistenza Protesica e Servizi Sanitari Complementari 030/38.39.246 giuseppe.boschi@aslbrescia.it	
Dr. Simona De Filippo	Dipartimento PAC 030/38.39.398 simona.defilippo@aslbrescia.it	
Dr. Simonetta Di Meo	Direzione sanitaria – Servizio infermieristico, tecnico e riabilitativo aziendale 030/38.38.433 servizio.sitra@aslbrescia.it	Head of service
Dr. Daniela Feltrinelli	Dipartimento di prevenzione veterinaria Distretto Veterinario n°1 030/38.39.008 daniela.feltrinelli@aslbrescia.it	Head of department Head of district
Dr. Tarcisio Marinoni	Dipartimento Cure Domiciliari – Servizio anziani e cure domiciliari 030/38.39.057 tarcisio.marinoni@aslbrescia.it	Head of service

ACB AND SPEDALI CIVILI DOMAIN EXPERTS		
Name	Department Phone number Mail address	Position
Dr. Paolo Marzollo	Dipartimento Emergenza Accettazione – Spedali Civili of Brescia 030/39.95.818 pmarzol@tin.it	Head of department
Dr. Domenico Alberti	ACB 030/38.39.244	Director

Annex D. Questionnaires

The following questionnaires have been utilized in the requirement analysis task:

QUESTIONNAIRES			
No.	Title	date out / returned	Goal
Q1	Context and expectations	18/02/08 25/02/08	List of primary needs and functional requirements; type of support required; DSS user groups
Q2	External data sets relevant to DSS operation	07/03/08 14/03/08	List of existing databases useful in pandemic emergency
Q3	Ranking and validation of DSS functional requirements	24/10/08 29/10/08	Ranking of DSS functional requirements - priorities

All questionnaires have been distributed and filled out individually by each domain experts. The text of the questionnaires is reported in the following.

Questionnaire Q1: Context and expectations

da compilare individualmente - tempo richiesto 2 ore

- predisporre un elenco dei 15 bisogni fondamentali che potreste avere nella gestione di un'emergenza pandemia (indipendentemente dall'esistenza di un DSS)
- quale metafora vi sembra la più appropriata per il DSS?
 - un assistente che vi aiuta nelle operazioni più semplici?
 - un grande esperto che vi fornisce consigli nelle situazioni più complesse?
 - un riferimento certo che vi detta le mosse più appropriate?
 - un collaboratore con il quale discutere gli aspetti critici e vagliare le alternative?
 - un informatore che fornisce ogni possibile dato utile al vostro lavoro?
 - altro
- predisporre un elenco delle 15 principali funzioni/servizi che secondo voi il DSS dovrebbe fornire (definire ogni funzione/servizio in 1-2 righe)
- predisporre un elenco delle 15 cose che il DSS non dovrebbe fare perché inutili, dispersive, possibili cause di errori, inaccettabili da parte degli utenti, non legali
- chi dovrebbero essere secondo voi gli utenti del DSS? potete suggerirne una suddivisione in classi a seconda della professionalità e dei compiti ad essi assegnati?
- pensate che serva un DSS unico per tutte le classi di utenti o più DSS con funzioni diverse per ogni specifica classe di utenti?
- il DSS dovrebbe stare in un ufficio in cui ha sede il comitato di crisi? oppure dove dovrebbe essere localizzato? o dovrebbe essere distribuito in più sedi (in questo caso quali e perché)?
- il DSS dovrebbe parlare italiano o inglese? che cosa è preferibile per l' ASL di Brescia?

Questionnaire Q2: External data sets relevant to DSS operation

Obiettivo

Elencare in modo esaustivo gli insiemi di dati (basi dati, archivi, ecc.) esistenti che risultano essere utilizzati in caso di emergenza pandemica e che necessitano di essere collegati al DSS. Si richiede una fotografia dello stato attuale della situazione e non delle possibili evoluzioni future o delle necessità ancora non soddisfatte.

Istruzioni per la compilazione

Si richiede di effettuare copia incolla della tabella sotto riportata per ogni base dati da considerare.

Si richiede di compilare tutti i dati richiesti secondo quanto specificato:

- Nome: specificare il nome con il quale la base di dati è conosciuta (se esistente)
- Oggetto: specificare una parola o una breve frase che identifichi l'oggetto della base dati (es. pazienti critici, allevamenti ovini, ecc)
- Gestore dei dati: specificare la/e unità organizzativa/e (e le relative persone di riferimento) incaricate di alimentare le basi dati effettuando le operazioni di inserimento, aggiornamento, ed eliminazione.
- Utilizzatore: specificare l'elenco delle unità organizzative che accedono in consultazione alla base dati
- Gestore dell'infrastruttura informatica: specificare l'unità organizzativa/ente (e le relative persone di riferimento) che si occupa dell'operatività tecnica della base dati (es.: esercizio, evoluzione, connessione alla rete aziendale, backup, ecc)
- Tecnologia realizzativa: specificare la tecnologia o il programma (DBMS) utilizzato per la gestione dei dati (DB2, MS-SQL server, Oracle, Access, Excel, ecc) se conosciuti
- Localizzazione: luogo nel quale è fisicamente situato il database (CED – centro elaborazione dati, unità organizzativa specifica, ecc);
- Frequenza di aggiornamento: intervallo temporale entro il quale i dati sono aggiornati (inseriti, modificati ed eliminati) rispetto alla situazione reale
- Qualità del dato: esprimere un giudizio soggettivo relativo alla qualità dei dati contenuti nella base di dati (considerando ad esempio che potrebbero essere presenti dati non corretti, incompleti, non aggiornati, ecc.)
- Elementi informativi disponibili: definire i principali elementi informativi disponibili nella base dati; ad esempio per il database “pazienti critici”: nome, cognome, data di nascita, patologie, medico curante, ecc
- Note: ogni altra informazione ritenuta utile.

Nome	
Argomento/Oggetto	
Gestore dei dati	
Utilizzatore	
Gestore informatico	
Tecnologia realizzativa	
Localizzazione	
Frequenza di aggiornamento	<ul style="list-style-type: none"> • Tempo reale • Giornaliera • Settimanale • Mensile • Trimestrale • Altro
Qualità del dato	<ul style="list-style-type: none"> • Bassa • Media • Alta • Non nota
Elementi informativi disponibili	
Note	

Questionnaire Q3: ranking and validation of DSS functional requirements

Scopo del questionario

1. Verificare e validare la completezza dei requisiti del DSS
2. Assegnare un livello di priorità realizzativa ad ogni requisito; sono stati individuati 3 livelli di priorità (in ordine di importanza decrescente):
 - Mandatory: requisito che dovrà essere implementato dal DSS poiché di fondamentale importanza
 - Advanced: requisito desiderabile, che si ritiene opportuno implementare nel DSS
 - Nice to have: requisito opzionale

Il questionari verranno utilizzati come supporto all'intervista di gruppo.

Istruzione per la compilazione

1. Compilare individualmente il questionario, apponendo una croce nella colonna corrispondente al livello di priorità desiderato;
2. Consegnarlo via mail (rossi.michele@gmail.com) in formato elettronico;
3. Compilare l'ultima sezione apponendo eventuali osservazioni o richieste

Grazie per la collaborazione!

Annex E. Interview plan

The following interviews have been carried out:

GROUP INTERVIEWS – ASL			
No.	Participants	Date	Goal
G1	All experts	08.02.08	Familiarization and context analysis
G2	All experts	25.02.08	General expectation about DSS; analysis of needs.
G3	Baitelli Boschi De Filippo Feltrinelli Di Meo	02.07.08	Validation of DSS requirements
G4	Baitelli Boschi De Filippo Marinoni Di Meo	29.10.08	Validation of DSS requirements following further analysis and generalization

INDIVIDUAL INTERVIEWS – ASL		
No.	Participant	Date
I1	Baitelli	20.03.08
I2	Marinoni	27.03.08
I3	Feltrinelli	27.03.08
I4	Boschi / Lonati	03.04.08
I5	De Filippo	03.04.08
I6	Di Meo	08.04.08
I7	Baitelli	11.04.08

INDIVIDUAL INTERVIEWS – ACB AND SPEDALI CIVILI		
No.	Participant	Date
I8	Marzollo	29.04.08
I9	Alberti	20.05.08

Annex F. Context and expectations

The contents of the questionnaires filled-out by ASL domain experts have been summarized according to specific topics, as reported below:

Bisogni fondamentali nella gestione di un'emergenza pandemia, indipendentemente dall'esistenza del DSS

– Anagrafiche ed elenchi

- Anagrafe della popolazione a rischio (pazienti critici e fragili) di gravi complicanze della malattia pandemia
- Anagrafe della popolazione sanitaria strategica per la gestione della pandemia
- Anagrafe del personale ASL dei distretti disponibile per le attività di prevenzione e gestione della pandemia
- Elenco dei MMG/PLS/MCA operanti nei distretti con indicazione della distribuzione della popolazione a rischio tra i loro assistiti
- Recapiti telefonici, fax, e-mail dei Distretti Socio Sanitari
 - Direttori di Distretto
 - Referenti Area Cure Primarie
 - MMG/PLS/CA
- Riferimenti telefonici, fax, e-mail dei Comuni della provincia
- Riferimenti relativi alle strutture ospitanti (RSA, RSD, CDI, Enti voucher, ecc.) e numerosità dei pazienti assistiti
- Elenco e riferimenti delle ditte per l'abbattimento degli animali e smaltimento carcasse

– Elementi da monitorare in emergenza

- Personale ASL disponibile per fronteggiare l'emergenza
- Personale a disposizione per le cure domiciliari
- MMG/PLS/MCA a disposizione dei propri assistiti
- Mantenimento dei servizi erogati dalle sedi ASL territoriali (igiene pubblica, assistenza domiciliare, assistenza primaria)
- Andamento della situazione epidemiologica della malattia pandemia: soggetti ammalati, focolai, cluster
- Disponibilità di vaccini, farmaci antivirali, farmaci utili in pandemia; dato da monitorare a livello di o comune, mediante connessione al sistema informativo delle farmacie
- Disponibilità dei D.P.I. nelle strutture ASL di stoccaggio
- Disponibilità di posti letto (ordinari e straordinari) ospedalieri (ospedali, RSA, ecc)

– Misure preventive e attività da effettuare durante l'emergenza:

- Definizione di quadri clinici spia della possibile malattia pandemica con informazione e formazione dei MMG/PLS/MCA riguardo alla loro gestione clinica e procedura di segnalazione.

- Definizione di informazioni univoche ed ufficiali da diffondere alla popolazione tramite materiali informativi, anche cartacei, da stoccare e distribuire a livello decentrato. Informazione sanitaria alla popolazione per promuovere l'adozione di adeguate norme igieniche
- Definizione dei D.P.I. necessari per la tutela dalla malattia pandemica e dei loro protocolli di utilizzo per dipendenti ASL e MMG/PLS/MCA
- Approvvigionamento e stoccaggio decentrato dei D.P.I. utili al caso specifico
- Definizione delle strategie di impiego di eventuali farmaci utili ad una eventuale profilassi farmacologica della malattia pandemica
- Approvvigionamento e stoccaggio centralizzato/decentrato dei farmaci utili ad una eventuale profilassi farmacologica della malattia pandemica
- Definizione della procedura d'emergenza per l'approvvigionamento dei vaccini stagionali e/o pandemici
- Distribuzione presso i presidi distrettuali ed MMG/PLS/MCA dei vaccini stagionali e/o pandemici
- Definizione delle attività istituzionali non prioritarie che in caso di emergenza pandemica potranno essere sospese per ottimizzare la disponibilità di personale e spazi da destinare alla prevenzione/gestione della pandemia
- Definizione di procedure codificate per salvaguardare i servizi essenziali attraverso la definizione di quali sono i servizi essenziali e le modalità di gestione delle risorse umane in servizio
- Definizione di procedure codificate per la collaborazione con le istituzioni che intervengono nella gestione dell'emergenza
- Definizioni circa le modalità e i luoghi per la gestione delle salme eccedenti le capacità di gestione delle singole RSA
- Possibilità di consultare a livello informatico i principali aspetti dei piani di emergenza, di emergenza pandemia, piani collegati.
- Mantenimento dei collegamenti con le strutture sul territorio (ospedali RSA, RSD)
- Pianificazione e pubblicizzazione delle sedute ambulatoriali per la somministrazione delle profilassi (farmacologiche/vacciniche) alla popolazione
- Gestione della comunicazione interaziendale
- Possibilità di archiviare e consultare gli atti amministrativi (ordinanze, verbali sequestro, verbali distruzione carcasse, certificati, disinfezioni) relativi alle varie azioni intraprese durante l'emergenza

Metafora più appropriata per il DSS

Gli esperti ritengono che le migliori metafore che si addicono al DSS sono:

- un collaboratore con il quale discutere gli aspetti critici e vagliare le alternative (2 preferenze)
- un informatore che fornisce ogni possibile dato utile al proprio lavoro (2 preferenze)
- un riferimento certo che detta le mosse più appropriate (1 preferenza)
- una guida certa che aiuta ad evitare omissioni nell'applicazione delle procedure prestabilite (1 preferenza)

Principali funzionalità e servizi che devono essere offerti dal DSS

- Anagrafiche ed elenchi
 - Anagrafica della popolazione a rischio in funzione della condizione o patologia di rischio con rilievo della avvenuta copertura farmacologica/vaccinale
 - Anagrafica della popolazione sanitaria strategica in funzione della sua copertura vaccinale
 - Anagrafica del personale dipendente ASL in funzione della sua copertura vaccinale, e relative informazioni di contatto (telefono, fax , mail)
 - Anagrafica dei MMG/PLS/MCA in funzione della loro copertura vaccinale e relative informazioni di contatto (telefono, fax , mail)

- Elementi da monitorare
 - Andamento della situazione epidemiologica della malattia pandemia;
 - Distribuzione dei D.P.I. nelle sedi decentrate e rilievo dei relativi fabbisogni e disponibilità;
 - Gestione delle scorte di D.P.I. e materiale sanitario con indicazione delle sedi di stoccaggio
 - Distribuzione e utilizzo dei farmaci e dei vaccini da impiegare in emergenza pandemica;
 - Gestione delle scorte di vaccini e farmaci antivirali in tempo reale (a livello locale, provinciale, nazionale) con l'indicazione delle sedi di stoccaggio, delle modalità di approvvigionamento; identificazione dei fabbisogni e delle criticità nei presidi distrettuali
 - Feedback in tempo reale di informazioni relative all'efficacia delle misure preventive (vaccini, farmaci antivirali, utilizzo di DPI, ecc)
 - Disponibilità in tempo reale dei posti letto nelle strutture ospedaliere
 - Disponibilità del personale ASL dipendente ad operare
 - Disponibilità di MMG/PLS/MCA ad operare
 - Elenco aggiornato in tempo reale delle risorse disponibili nell'ambito di collaborazioni già strutturate (convenzioni con cooperative, con enti accreditati per le cure domiciliari, con altre organizzazioni presenti nel territorio)

- Attività da effettuare prima dell'emergenza pandemia
 - gerarchizzazione delle priorità per la copertura dei servizi essenziali
 - definizione delle istruzioni operative per la divulgazione delle informazioni sanitarie alla popolazione finalizzate al contenimento della pandemia influenzale

- Attività da effettuare durante l'emergenza:
 - Coordinamento della raccolta dei dati epidemiologici e relative informazioni, con aggiornamento giornaliero
 - Favorire la comunicazione interna
 - Fornire dati aggiornati direttamente collegati con i sistemi di funzionamento aziendale

- Mantenimento della comunicazione e collaborazione con le strutture del territorio, e con le istituzioni coinvolte nella gestione dell'emergenza (in particolare con il servizio 118, la Protezione Civile e l'Autorità Sanitaria Locale)
- Gestione della copertura dei servizi essenziali per mancanza di personale e/o materiale; eventuale sospensione delle attività meno prioritarie
- Prevedere tutti i possibili scenari che si possano verificare in caso di pandemia secondo un ordine di maggior probabilità; prevedere tutte le possibili problematiche connesse a ciascun scenario secondo un ordine di maggior probabilità e/o maggior gravità
- Fornire le possibili soluzioni ragionate a ciascuna problematicità, secondo un ordine di priorità basato su appropriatezza e percorribilità della soluzione. Il DSS dovrebbe inoltre evidenziare le principali variazioni di scenario a seguito dell'adozione dell'una o dell'altra soluzione, fornendo l'elenco delle risorse necessarie per applicare la singola soluzione
- Fornire le basi per l'elaborazione di una gestione razionale e critica della situazione, al fine di vagliare le possibili alternative sulla quali discutere, supportando e indirizzando il management nelle varie fasi di evoluzione della situazione
- Permettere la consultazione dei piani di emergenza e della normativa vigente in materia
- Mostrare e permettere l'inserimento dell'esecuzione dei compiti previsti, delle azioni intraprese e dei risultati ottenuti

Aspetti che il DSS non deve trattare poiché ritenuti inutili, dispersivi, causa di possibili errori, inaccettabili, non legali

- Definizione di quadri clinici spia della possibile malattia pandemica
- Gestione della informazione e formazione dei MMG/PLS/MCA
- Definizione di informazioni univoche ed ufficiali da diffondere alla popolazione tramite materiali informativi
- Gestione dello stoccaggio e distribuzione a livello decentrato dei materiali informativi
- Definizione dei D.P.I. necessari per la tutela dalla malattia pandemica e dei loro protocolli di utilizzo
- Definizione delle strategie di impiego di eventuali farmaci utili ad una eventuale profilassi farmacologica della malattia pandemica
- Definizione della procedura d'urgenza per l'espletamento della gara di approvvigionamento dei vaccini stagionali e/o pandemici
- Definizione delle attività istituzionali non prioritarie in caso di emergenza pandemica che possono essere sospese per ottimizzare la disponibilità di personale e spazi da destinare alla prevenzione/gestione dell'emergenza pandemica
- Pianificazione e pubblicizzazione delle sedute ambulatoriali per la somministrazione delle profilassi (farmacologiche/vacciniche) alla popolazione.
- Fornire soluzioni “preconfezionate” senza la possibilità per l'operatore di scegliere e decidere in maniera flessibile e secondo la propria professionalità
- Fornire dati obsoleti
- Fornire informazioni imprecise o incomplete

- Fornire deduzioni troppo lineari per la gestione delle condizioni critiche
- Fornire soluzione unica delle problematiche emergenti senza permettere cambi di programma
- Essere accessibile a personale esterno che non ha competenza e influenza sulla gestione dell'evento pandemica
- Il DSS dovrà essere congruo rispetto alla catena del comando, e dovrà rispettare i passaggi decisionali necessari

Definizione delle classi di utenti del DSS

Si ritiene opportuno che il supporto decisionale fornito dal DSS abbia come destinatari i componenti e delegati dell'unità di crisi (SACE), cioè i gestori decisionali dell'emergenza; nel caso in cui il DSS fornisca un supporto informativo relativo alle risorse operanti sul territorio o fornisca indicazioni ai livelli operativi guidandone l'operato, si ritiene opportuno che esso sia utilizzabile anche dal personale decentrato, presente nelle DGD o distretti.

Si elencano di seguito le classi di utenti coinvolte

- Unità di crisi (da intendersi SACE)
- Direzione aziendale strategica: effettua il coordinamento e le scelte strategiche in funzione dei rapporti con altre istituzioni e i livelli superiori della Sanità Pubblica.
- Direzione dei Dipartimenti: coordinamento delle attività organizzative tipiche delle singole funzioni aziendali attribuite ai servizi di competenza;
- Direzioni Gestionali distrettuali: organizzazione delle attività decentrate; dirigenti che gestiscono la traduzione operativa delle strategie di intervento
- Operatori coordinatori che, in funzione della specifica competenza, indirizzano e garantiscono il coordinamento degli operatori
- Operatori

Classi d'utenti e funzionalità del DSS

Il DSS riguarda sia l'ambito umano (predominante) che l'ambito veterinario; i due ambiti hanno esigenze operative e organizzative differenti.

Si ritiene opportuno un unico DSS per tutte le classi di utenti (per ambito), ognuna delle quali deve possedere le proprie funzionalità e informazioni in base al profilo utente. Gli utenti devono possedere dei livelli di accesso diversificati in base al proprio livello operativo e dalle relative responsabilità, che permettano l'inserimento e la modifica dei dati solo da parte delle persone autorizzate. Potrebbe essere opportuno avere anche degli utenti senza restrizioni con accesso a tutte le funzionalità e informazioni.

Localizzazione ed accesso al DSS

Il DSS deve essere localizzato dove ha sede il comitato di crisi (SACE), ma deve essere accessibile da tutte le altre sedi collegate (almeno alle direzioni dei dipartimenti e dei distretti) in cui sono presenti dirigenti, gestori, supervisori o operatori coinvolti nella gestione dell'emergenza pandemica. E' opportuno che oltre la sede della SACE possa essere ricollocato in sedi più idonee per gestire l'emergenza.

Lingua parlata dal DSS

Il DSS dovrebbe parlare entrambe le lingue. L'italiano per la gestione locale e decentrata dell'emergenza, l'inglese per la pianificazione e la condivisione a livello sovra nazionale. A livello locale è preferibile l'italiano per evitare errori e fraintendimenti; per l'ASL di Brescia è certamente preferibile l'italiano a causa della situazione eterogenea, nonostante che il contesto internazionale suggerisca la lingua inglese.

Annex G. External data sets relevant to DSS operation

The following databases relevant to DSS operation have been identified:

Nome	RIFERIMENTI RSA
Argomento/Oggetto	Dati di riferimento RSA
Gestore dei dati	Servizio Anziani-Cure Domiciliari
Utilizzatore	Servizio Anziani-Cure Domiciliari
Gestore informatico	Servizio Anziani-Cure Domiciliari
Tecnologia realizzativa	Excel
Localizzazione	Servizio Anziani-Cure Domiciliari
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	DGD e DSS di appartenenza, ragione sociale, indirizzo, telefono, fax, e-mail, n. posti autorizzati, n. posti accreditati
Note	Data base con dati simili sono a gestiti dall'U.O. Autorizzazione ed Accreditamento Strutture Socio-Sanitarie (aggiornati dalla stessa U.O. – dott. Benedetti) e sono pubblicati sul sito ASL (aggiornati direttamente da ciascuna RSA ma disponibili a foglio per singola RSA)

Nome	RIFERIMENTI ENTI VOUCHER
Argomento/Oggetto	Dati di riferimento Enti voucher
Gestore dei dati	Servizio Anziani-Cure Domiciliari
Utilizzatore	Servizio Anziani-Cure Domiciliari
Gestore informatico	Servizio Anziani-Cure Domiciliari
Tecnologia realizzativa	Excel
Localizzazione	Servizio Anziani-Cure Domiciliari
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	DGD e DSS di attività, ragione sociale, referenti, indirizzo, telefono, fax, e-mail, alcuni cellulari
Note	Altri riferimenti, di singoli operatori, possono essere a disposizione delle DGD e delle UCAM

Nome	RIFERIMENTI TELESOCORSO SRL
Argomento/Oggetto	Dati di riferimento Telesoccorso srl
Gestore dei dati	Servizio Anziani-Cure Domiciliari
Utilizzatore	Servizio Anziani-Cure Domiciliari
Gestore informatico	Servizio Anziani-Cure Domiciliari
Tecnologia realizzativa	Excel
Localizzazione	Servizio Anziani-Cure Domiciliari
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Comuni deleganti, ragione sociale, referenti, indirizzo, telefono, fax, e-mail, alcuni cellulari
Note	

Nome	SISA pazienti domiciliari
Argomento/Oggetto	Dati di riferimento utenti assistiti a domicilio
Gestore dei dati	UCAM delle DGD; per la gestione generale del sistema SISA
Utilizzatore	UCAM delle DGD (per il solo territorio di competenza) Servizio Anziani-Cure Domiciliari e Dipartimento PAC (per tutto il territorio ASL); Dipartimento delle Cure Primarie per O2-ventiloterapia
Gestore informatico	PAC
Tecnologia realizzativa	MS-SQL server
Localizzazione	CED – centro elaborazione dati
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica, dati di valutazione, dati di assistenza, patologie, tipologie di assistenza, di interventi e di forniture (O2-ventiloterapia, NAD, materiale sanitario)
Note	

Nome	SISA pazienti in lista per RSA e ospiti di RSA
Argomento/Oggetto	Dati di riferimento pazienti in lista d'accesso per RSA e ospiti di RSA
Gestore dei dati	UCAM delle DGD; per la gestione generale del sistema SISA:
Utilizzatore	UCAM delle DGD (per il solo territorio di competenza) Servizio Anziani-Cure Domiciliari e Dipartimento PAC (per il territorio di n. 8 DSS dell'ASL); Dipartimento delle Cure Primarie per O2-ventiloterapia
Gestore informatico	PAC
Tecnologia realizzativa	MS-SQL server
Localizzazione	CED – centro elaborazione dati
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica, dati di valutazione, classe SOSIA iniziale proposta, patologie, tipologie di interventi e di forniture (O2-ventiloterapia, NAD, materiale sanitario)
Note	

Nome	SISA operatori addetti all'assistenza domiciliare
Argomento/Oggetto	Dati operatori addetti all'assistenza domiciliare
Gestore dei dati	UCAM/Strutture erogatrici distrettuali; Enti erogatori voucher; per la gestione generale del sistema SISA
Utilizzatore	Strutture erogatrici distrettuali ed Enti erogatori voucher per il personale di competenza; UCAM delle DGD (per il solo territorio di competenza); Servizio Anziani-Cure Domiciliari e Dipartimento PAC (per tutto il territorio ASL)
Gestore informatico	PAC
Tecnologia realizzativa	MS-SQL server
Localizzazione	CED – centro elaborazione dati
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica (cognome e nome, codice fiscale), figura professionale, tipo di rapporto di lavoro, situazione di non incompatibilità, dati di attività
Note	

Nome	SISA riferimenti MMG/PLS
Argomento/Oggetto	Dati MMG/PLD
Gestore dei dati	UCAM distrettuali/Area distrettuale Cure Primarie; per la gestione generale del sistema SISA
Utilizzatore	Strutture erogatrici distrettuali ed Enti erogatori voucher per il personale di competenza (?); UCAM/Area distrettuale Cure Primarie delle DGD (per il solo territorio di competenza); Servizio Anziani-Cure Domiciliari (per tutto il territorio ASL)
Gestore informatico	PAC
Tecnologia realizzativa	MS-SQL server
Localizzazione	CED – centro elaborazione dati
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica (cognome e nome, codice fiscale), telefoni, fax, e-mail
Note	

Nome	Flusso personale RSA
Argomento/Oggetto	Dati personale RSA
Gestore dei dati	U.O. Acquisto e controllo prestazioni socio-sanitarie
Utilizzatore	U.O. Acquisto e controllo prestazioni socio-sanitarie
Gestore informatico	U.O. Acquisto e controllo prestazioni socio-sanitarie
Tecnologia realizzativa	Excel (?)
Localizzazione	U.O. Acquisto e controllo prestazioni socio-sanitarie
Frequenza di aggiornamento	Mensile
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica (cognome e nome, codice fiscale), figura professionale, tipo di rapporto di lavoro (?)
Note	

Nome	Scheda Struttura RSA
Argomento/Oggetto	Dati strutturali e personale RSA
Gestore dei dati	RSA
Utilizzatore	UCAM delle DGD (per il solo territorio di competenza); Servizio Anziani-Cure Domiciliari (per tutto il territorio ASL)
Gestore informatico	Servizio Anziani-Cure Domiciliari (per tutto il territorio ASL)
Tecnologia realizzativa	Access
Localizzazione	Servizio Anziani-Cure Domiciliari (per tutto il territorio ASL)
Frequenza di aggiornamento	Annuale
Qualità del dato	Media
Elementi informativi disponibili	Anagrafica (cognome e nome, codice fiscale), figura professionale, tipo di rapporto di lavoro, ore annuali
Note	Poco adatto ad utilizzo per emergenza pandemia considerata la frequenza di aggiornamento

Nome	MAINF
Argomento/Oggetto	Gestione indagini malattie infettive Validazione di quelle notificabili secondo i criteri nazionali
Gestore dei dati	<ul style="list-style-type: none"> • Dodici presidi distrettuali per l'inserimento/aggiornamento • Sei Aree di Igiene delle DGD per i trasferimenti di competenza ad altre ASL e per la chiusura forzata: • Dip.Prev.Medico U.O. Prev. Mal. Inf. per i trasferimenti di competenza ad altre ASL, la chiusura forzata e estrazioni e reportistiche periodiche • Regione Lombardia/Lombardia informatica per riapertura forzata pratiche, verifica della qualità dei dati e reportistica regionale periodica.
Utilizzatore	Gli stessi: la Regione ha attribuito ai 12 operatori distrettuali un accesso da operatore ed ai referenti delle DGD e del Dip.Prev.Med. un accesso da supervisor. Non esistono utenze per la consultazione ma obiettivo per il 2008 è creare reportistiche trimestrali per MMG e Comunicazione.
Gestore informatico	Regione Lombardia U.O. di Prev. della Dir.Gen.Sanità Lombarda
Tecnologia realizzativa	Le estrazioni sono in formato access
Localizzazione	Regione Lombardia : la gestione è via web su server regionale
Frequenza di	Giornaliera

aggiornamento	
Qualità del dato	Media
Elementi informativi disponibili	Programma guidato e decisionale con anagrafica completa dei cittadini, delle strutture sanitarie e dei laboratori, elenco degli accertamenti eseguibili per ogni patologia, Indagini svolte divise in notificabili sulla base dei criteri nazionali ed europei ecc.
Note	Avviato nel 2006. Gli obiettivi per il 2008 sono la produzione di una reportistica locale trimestrale ed alla verifica regionale di fine anno il 90% di pratiche completate correttamente

Nome	VACCINAZIONI ASL
Argomento/Oggetto	Gestione sedute vaccinali vaccinazioni
Gestore dei dati	<ul style="list-style-type: none"> • Dodici presidi distrettuali per inserimento, aggiornamento, eliminazione e chiusura • Dip.Prev.Medico U.O. Prev. Mal. Inf. per coordinamento generale ed estrazioni e reportistiche periodiche
Utilizzatore	Gli stessi
Gestore informatico	Dip.Prev.Medico U.O. Prev. Mal. Inf. tramite il supporto tecnico del creatore del programma in access
Tecnologia realizzativa	formato access
Localizzazione	Server c/o PAC
Frequenza di aggiornamento	Giornaliera
Qualità del dato	Alta
Elementi informativi disponibili	Anagrafica nuovi nati caricata da Enti Locali, Vaccinazioni eseguite, generazione inviti e piani sedute vaccinali
Note	<p>E' già stata appaltata la fornitura di un nuovo programma informatico in grado di dialogare via web con il S.I.S.S. regionale. In primavera dovrebbe esserci fornita la prima versione già con caricati i dati di un nostro distretto per verificare che tutte le funzionalità richieste siano realmente operative.</p> <p>Gli obiettivi per il 2008 sono la operatività di un programma in grado di dialogare via web con il S.I.S.S regionale e quindi con i vari attori della sanità</p>

Nome	CARICO VACCINI
Argomento/Oggetto	Gestione scorte vaccinali
Gestore dei dati	<ul style="list-style-type: none"> • Dodici presidi distrettuali per inserimento, aggiornamento, eliminazione e chiusura • Dip.Prev.Medico U.O. Prev. Mal. Inf. per coordinamento generale ed estrazioni e reportistiche periodiche
Utilizzatore	Gli stessi
Gestore informatico	Dip.Prev.Medico U.O. Prev. Mal. Inf. tramite il supporto tecnico del creatore del programma in access
Tecnologia realizzativa	Formato access
Localizzazione	Server CITRIX c/o PAC
Frequenza di aggiornamento	Giornaliera
Qualità del dato	Alta
Elementi informativi disponibili	Elenco vaccini in dotazione con quantitativi in giacenza da confrontare con bisogni vaccinali
Note	<p>E' già stata appaltata la fornitura di un nuovo programma informatico in grado di dialogare via web con il S.I.S.S. regionale. In primavera dovrebbe esserci fornita la prima versione già con caricati i dati di un nostro distretto per verificare che tutte le funzionalità richieste siano realmente operative, compreso il carico e scarico dei vaccini ordinati e somministrati.</p> <p>Gli obiettivi per il 2008 sono la operatività di un programma in grado di dialogare via web con il S.I.S.S regionale e quindi con i vari attori della sanità</p>

Nome	ANAGRAFE ASSISTITI
Argomento/Oggetto	Elenco assistiti dell'ASL di Brescia iscritti al S.S.R.
Gestore dei dati	Uffici Scelta/Revoca ASL di Brescia, database fornito periodicamente da SANTER
Utilizzatore	Dipartimento Cure Primarie (Bussi, Saleri, Magoni)
Gestore informatico	Dipartimento Cure Primarie (Bussi, Saleri, Magoni)
Tecnologia realizzativa	(Microsoft Access / Stata)
Localizzazione	PC c/o Dipartimento Cure Primarie
Frequenza di aggiornamento	Mensile

Qualità del dato	Alta
Elementi informativi disponibili	Dati anagrafici e dati di assistenza medica
Note	Il medesimo database è caricato sul DATAWAREHOUSE aziendale

Nome	ANAGRAFE MEDICI
Argomento/Oggetto	Anagrafe Medici di Medicina Generale e Pediatri di Libera Scelta operanti nell'ASL di Brescia
Gestore dei dati	Uffici aree cure primarie distrettuali
Utilizzatore	Dipartimento Cure Primarie; Servizio Assistenza Medica Primaria
Gestore informatico	Dipartimento Cure Primarie
Tecnologia realizzativa	(Microsoft Access / Excel)
Localizzazione	PC c/o Dipartimento Cure Primarie
Frequenza di aggiornamento	Mensile
Qualità del dato	Alta
Elementi informativi disponibili	Dati anagrafici di residenza e di attività dei medici, dati bancari fiscali, sindacali e di carico assistiti
Note	Il medesimo database è caricato sul DATAWAREHOUSE aziendale

Nome	ELENCO PAZIENTI CRITICI
Argomento/Oggetto	Elenco degli utenti che utilizzano macchinari per la respirazione artificiale o in dialisi domiciliare
Gestore dei dati	Uffici aree cure primarie distrettuali
Utilizzatore	Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Gestore informatico	Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Tecnologia realizzativa	(Microsoft Excel)
Localizzazione	PC c/o Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Frequenza di aggiornamento	Trimestrale

Qualità del dato	Alta
Elementi informativi disponibili	Dati anagrafici assistiti, numero di telefono di riferimento, macchinari in dotazione
Note	Elenco inviato trimestralmente agli Enti erogatori di energia elettrica (ENEL/A2A) previo acquisizione del consenso da parte dell'assistito

Nome	REGISTRO IPOSSIEMICI
Argomento/Oggetto	Elenco degli assistiti ipossiemicici dell'ASL di Brescia con fornitura di ossigeno liquido, gassoso o concentratore
Gestore dei dati	Dipartimento Cure Primarie
Utilizzatore	Dipartimento Cure Primarie
Gestore informatico	Dipartimento Cure Primarie
Tecnologia realizzativa	(Microsoft Excel)
Localizzazione	PC c/o Dipartimento Cure Primarie
Frequenza di aggiornamento	Trimestrale
Qualità del dato	Media
Elementi informativi disponibili	Dati anagrafici degli assistiti, dati sulla terapia, durata della terapia, struttura che prescrive la terapia
Note	Il database viene alimentato tramite l'inserimento dati manuale

Nome	BANCA DATI ESENZIONI
Argomento/Oggetto	Elenco degli assistiti dell'ASL di Brescia iscritti al S.S.R. con esenzione per patologia cronica, rara o invalidità
Gestore dei dati	Uffici Scelta/Revoca ASL di Brescia, database fornito periodicamente da SANTER
Utilizzatore	Dipartimento Cure Primarie
Gestore informatico	Dipartimento Cure Primarie
Tecnologia realizzativa	(Microsoft Access / Stata)
Localizzazione	PC c/o Dipartimento Cure Primarie
Frequenza di aggiornamento	Mensile

Qualità del dato	Alta
Elementi informativi disponibili	Dati anagrafici, dati di assistenza medica e di esenzione degli assistiti interessati
Note	Il medesimo database è caricato sul DATAWAREHOUSE aziendale

Nome	POSTAZIONI DI CONTINUITA' ASSISTENZIALE
Argomento/Oggetto	Elenco delle postazioni dei medici di continuità assistenziale
Gestore dei dati	Servizio Assistenza Medica Primaria Dipartimento Cure Primarie
Utilizzatore	Dipartimento Cure Primarie Servizio Assistenza Medica Primaria Utenza (tramite WEB)
Gestore informatico	Dipartimento Cure Primarie Servizio Assistenza Medica Primaria
Tecnologia realizzativa	(Microsoft Excel / Internet)
Localizzazione	PC c/o Servizio Assistenza Medica Primaria
Frequenza di aggiornamento	Trimestrale
Qualità del dato	Alta
Elementi informativi disponibili	Postazioni di Continuità Assistenziale divise per distretto, il domicilio fiscale del medico ed il numero di telefono di riferimento
Note	

Nome	ANAGRAFE FARMACIE
Argomento/Oggetto	Elenco delle farmacie ubicate nel territorio dell'ASL di Brescia
Gestore dei dati	Servizio Farmaceutico Convenzionate Dipartimento Cure Primarie
Utilizzatore	Servizio Farmaceutico
Gestore informatico	Servizio Farmaceutico
Tecnologia realizzativa	(Microsoft Excel)

Localizzazione	PC c/o Servizio Farmaceutico
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Denominazione della farmacia, il codice regionale assegnato alla farmacia, il distretto ASL di competenza, l'indirizzo e numero di telefono
Note	

Nome	ASSOCIAZIONI DI VOLONTARIATO CONVENZIONATE
Argomento/Oggetto	Elenco delle associazioni di volontariato convenzionate con l'ASL di Brescia per il trasporto dei pazienti dializzati
Gestore dei dati	Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Utilizzatore	Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Gestore informatico	Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Tecnologia realizzativi	(Microsoft Excel)
Localizzazione	PC c/o Servizio Assistenza Specialistica e Percorsi Sanitari Territoriali
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Denominazione dell'associazione, indirizzo e ubicazione, numero di telefono di riferimento
Note	Elenco pubblicato su WEB

Nome	Elenco ospedali/strutture per acuti e loro caratteristiche
Argomento/Oggetto	Elenco ospedali/strutture per acuti e loro caratteristiche
Gestore dei dati	PAC + Dipartimento Cure Primarie
Utilizzatore	PAC + Dipartimento Cure Primarie per la Direzione Sanitaria
Gestore informatico	CED
Tecnologia realizzativa	
Localizzazione	Via Padova, via Galilei
Frequenza di	

aggiornamento	
Qualità del dato	
Elementi informativi disponibili	
Note	

Nome	Elenco dipendenti ASL
Argomento/Oggetto	Anagrafica e sede di servizio dei dipendenti ASL
Gestore dei dati	Gestione risorse umane
Utilizzatore	Gestione risorse umane
Gestore informatico	
Tecnologia realizzativa	Programma che permette di salvare il file in excel
Localizzazione	Viale Duca degli Abruzzi 15 – padiglione 9
Frequenza di aggiornamento	
Qualità del dato	
Elementi informativi disponibili	
Note	

Nome	Elenco sedi ASL
Argomento/Oggetto	
Gestore dei dati	Dipartimento delle Attività amministrative, Servizio Economato
Utilizzatore	Servizio Economato, Servizio Tecnico, Servizio Prevenzione e Protezione
Gestore informatico	
Tecnologia realizzativa	
Localizzazione	Viale Duca Abruzzi
Frequenza di aggiornamento	
Qualità del dato	
Elementi informativi disponibili	
Note	

Nome	A.M. INFORMATICA – MEDEA Banca Dati Locale (BDL)
Argomento/Oggetto	<ul style="list-style-type: none"> • Anagrafica allevamenti: • Bovidi; • Ovi-caprini; • Suidi; • Equidi; • Avicunicoli; • Apistici
Gestore dei dati	Distretti veterinari ASL di Brescia
Utilizzatore	<ul style="list-style-type: none"> • Distretti veterinari asl di brescia: • Dipartimento di prevenzione veterinario asl di brescia;
Gestore informatico	Asl di brescia per a.m. Informatica – medea;
Tecnologia realizzativa	MS-SQL 2005 (per MEDEA)
Localizzazione	Medea: ASL DI BRESCIA Centro Elaborazioni Dati Via Padova:
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Codice Aziendale Allevamento – Denominazione allevamento – Indirizzo – Identificativo Legale Rappresentante, Detentore animali e Proprietario animali; Tipologia animali; Veterinario Ufficiale, Consistenza allevamento.
Note	

Nome	SISTEMA INFORMATIVO DEI SERVIZI VETERINARI – Banca Dati Regionale (BDR) – REGIONE LOMBARDIA
Argomento/Oggetto	<ul style="list-style-type: none"> • Anagrafica allevamenti: • Bovidi; • Ovi-caprini; • Suidi; • Equidi; • Avicunicoli; • Apistici
Gestore dei dati	Distretti veterinari ASL di Brescia
Utilizzatore	<ul style="list-style-type: none"> • Distretti veterinari ASL di brescia:

	<ul style="list-style-type: none"> • Dipartimento di prevenzione veterinario asl di brescia; • Associazioni di categoria (apa – coldiretti)
Gestore informatico	Sistema informativo dei servizi veterinari – regione lombardia;
Tecnologia realizzativa	
Localizzazione	Regione Lombardia
Frequenza di aggiornamento	Tempo reale
Qualità del dato	Alta
Elementi informativi disponibili	Codice Aziendale Allevamento – Denominazione allevamento – Indirizzo – Identificativo Legale Rappresentante, Detentore animali e Proprietario animali; Tipologia animali; Consistenza allevamento.
Note	

Annex H. Interviews

List of use cases dealt with the experts during the individual interviews

Supporto informativo (interrogazioni)

2. Accesso alle informazioni relative al monitoraggio delle risorse umane e materiali ASL:
 - Criteri di suddivisione e classificazione (DGD, ditretto, comune, tipologia, ecc)
 - Modalità di formulazione delle interrogazioni (attributi di selezione) e presentazione dei risultati
 - Necessità di prevedere una versione stampabile
 - Necessità di marche temporali per valutare l'aggiornamento dei dati
3. Accesso alle informazioni relative al monitoraggio delle risorse esterne all'ASL (farmaci, vaccini, posto letto, ecc)
 - Criteri di suddivisione e classificazione (DGD, ditretto, comune, tipologia, ecc)
 - Modalità di formulazione delle interrogazioni (attributi di selezione) e presentazione dei risultati
 - Necessità di prevedere una versione stampabile
 - Necessità di marche temporali per valutare l'aggiornamento dei dati
4. Accesso alla documentazione "statica" fornita prima dell'emergenza pandemia (leggi, procedure, regolamenti)
 - Stima dell'ordine di grandezza
 - Necessità di un motore di ricerca o semplice selezione da elenco
 - Definizione dei criteri di classificazione
 - Utenti responsabili dell'indicizzazione e classificazione dei documenti
5. Accesso alle informazioni relative ad anagrafiche e contatti con gli attori coinvolti:
 - Rubrica personale ASL
 - Elenco MMG/PLS/MCA (informazioni disponibili)
 - Riferimenti ad altri attori coinvolti (RSA, CDI, ospedali, comuni, ecc.)
6. Monitoraggio della situazione epidemiologica
 - Inserimento e consultazione
 - Identificazione degli utenti addetti all'inserimento e aggiornamento
 - Necessità di georeferenziazione

Supporto normativo (come si dovrebbe agire)

7. Modalità di rappresentazione dei piani di intervento all'utente finale (visione grafica)
8. Tipologia di piani (piani con flusso d'esecuzione e controllo o piani con lista di azioni senza ordine d'esecuzione)
9. Utilizzo di meccanismi di ragionamento (rules based) al fine di:
 - far scattare i piani necessari a fronte di eventi
 - valutare il successo/fallimento di piani
 - far scattare altri piani collegati
10. modalità per l'avvio e l'approvazione del piano suggerito
11. modalità per l'esecuzione dei piani di intervento:
 - inserimento delle decisioni prese
 - avvio delle azioni
 - inserimento del feedback (identificare da parte di chi, come, memorizzando il risultato dove)
 - link alla documentazione statica e modelli predefiniti

12. Necessità o meno di un tracking dinamico del piano durante il suo svolgimento (i piani dovranno essere dei semplici documenti o il sistema dovrà fornire un supporto attivo tipo workflow)?
13. Consultazione dei piani di intervento intrapresi / in corso e delle relative attività (azioni in corso, esiti, log, documentazione comprovante le azioni effettuate, ecc)
14. Richiesta di esecuzione di piani nelle strutture operative territoriali ASL; gestione della comunicazione interna: decisioni prese e feedback delle azioni svolte

Supporto operativo

15. Utilizzo dei modelli predefiniti a supporto delle azioni formali (form da stampare e riempire a mano, form da completare online, da inviare via mail/fax/sms,). Da individuare l'ordine di grandezza di tali modelli

Interfaccia per le operazioni di amministratore (da effettuarsi prima dell'emergenza)

16. Creazione, modifica e cancellazione dei piani
17. Definizione di nuovi eventi
18. Associazione di piani ed eventi

Reports of interviews

Interview No. G1	Date: 08.02.2008 Place: ASL Brescia – Italy	Time: 15.00 pm – 18.00 pm
Knowledge engineers	M. Rossi – G. Guida	
Interview technique	Focus group / Brainstorming	
Experts	All experts	
Main topics	<ul style="list-style-type: none"> • The requirement specification task • Specific objectives to be achieved with the interview program • Brief summary of working method • Discussion of the concepts of pandemic flu and emergency • Aim of the DSS 	
Remarks	<ul style="list-style-type: none"> • The interview was useful to focus the basic concepts of the domain and to identify materials for further analysis 	
Results	<p><u>Definition of pandemic flu</u> A pandemic flu is defined by:</p> <ul style="list-style-type: none"> • Detection of a new unknown flu virus that has changed profoundly, and for which, actually, there is no defence in the population; potentially all the entire world population might be affected because no one is immune; • The new virus infects humans and spreads easily and quickly among them. <p><u>Receptive population</u> Receptive population, which in pandemic corresponds to the world population, can be divided into two groups, based on the resulting consequences (complications) of infection:</p> <ul style="list-style-type: none"> • High-risk population • Low-risk population. <p>The receptive population includes also the strategic population, composed</p>	

of people who contribute to emergency management (e.g.: physicians, nurses, technical and healthcare staff, crisis managers), limiting and preventing the diffusion of pandemic flu. This strategic population is an important way of diffusion for the new virus.

Goals

The characteristics of the new pandemic virus and the consequences cannot be predicted and so, the primary aim of ASL is the prevention of pandemic flu, and the eventually containment of the related effects.

Knowledge involved

Different types of knowledge are necessary to deal with the problem of pandemic flu management:

- Scientific and technical knowledge: applied to isolate the virus, recognise the mutation and to create the new vaccine;
- Clinical and epidemiological knowledge: number of people infected, the virus's virulence and related implicit characteristics, vulnerability of the receptive population over the effectiveness of preventive measures.

Pandemic flu countermeasures

After the isolation of the virus, a few months are needed to develop a vaccine. In the meantime, it is possible to apply preventive measures with the aim of limiting the spread and gain time; although there is no cure for pandemic flu, there are drugs, prescriptions and other treatments that can help slow the spread and reduce symptoms and complications. The administration of drugs should be targeted to a specific population, to a cluster or focus of infection, in order to confine the infection as far as possible to a limited area.

When the vaccine is available, it is necessary to implement a plan for mass vaccination, tuned according to the quantities available and the dimension of receptive population.

In case of infection different health care strategies can be applied:

- Domiciliary care
- Primary care (MMG medici medicina generale – General practitioners, PLS Pediatri libera scelta, MCA – Medici di continuità assistenziale)
- Hospital care.

Resources

The main resources involved in the emergency are:

- Human resources:
 - Medical and healthcare staff (also including pharmacies and veterinary)
 - Technical staff
 - Administrative staff
- Material resources:
 - Medical equipment and instruments for the treatment and

- prevention of the disease
- Pharmaceuticals
 - Vaccines
 - Drugs
- Spaces:
 - Hospital beds
 - Warehouses for equipment
 - Spaces for healthcare operation
 - Refrigerators

Communication

During the emergency is necessary to ensure communications:

- Internal to the organisation (ASL): directions, departments, districts and their divisions or organizational units
- External: health authorities (national and international), government agencies and departments, local and regional authorities, healthcare partner, media, public.

International and national plans

WHO (World Health Organization) prepared the “WHO global influenza preparedness plan” with the aim of assisting the WHO member states to respond to threats of pandemic flu.

The document defines the six phases of the pandemic, describing for each phase the measures and actions to be taken by national authorities and by WHO. It also provides guidance to the development of the national preparedness plan, according to the six phases.

DSS goals

The main goal of the DSS is to avoid the crisis resulting from a pandemic situation. The DSS should provide all functions useful to control those risk factors, that if not managed properly might lead to crisis.

The expert group will identify the critical point and risk factor in relation to each phase.

The DSS will help local health authorities to prevent a pandemic flu, facilitating the monitoring and control of critical points. The DSS may help to reduce infection and transmission of pandemic virus, reducing hospitalization, death toll, and the enormous social and economical consequences.

The DSS will help local health authorities to manage demand on health systems, and to ensure health and social services to population; in a pandemic situation human resources are limited due to illness, death or incapacity of the strategic population.

The DSS should operate according to the “WHO global influenza preparedness plan”. It is necessary to identify the phases in which the DSS will be activated. For each phase, the DSS will then provide specific decisional support.

Intervista n. G2	Data: 25.02.08 Luogo: ASL Brescia - Italy	Ora: 14:30-17:00
Ingegneri della conoscenza	M. Rossi – G. Guida	
Tecnica d'intervista	Focus group / Brainstorming	
Esperti	<ul style="list-style-type: none"> – Dott. Guglielmino Baitelli – Dott. Giuseppe Boschi – Dott.ssa Simona de Filippo – Dott. Tarcisio Marinoni – Dott.ssa Simonetta di Meo 	
Temi principali	<ul style="list-style-type: none"> – Bisogni primari da soddisfare nella la gestione dell'emergenza, indipendentemente dal DSS – Funzionalità e di servizi che dovranno essere offerti dal DSS 	
Risultati	<p><u>Preparazione ed esecuzione dell'intervista</u></p> <p>La riunione plenaria è stata divisa in due parti</p> <ul style="list-style-type: none"> – La prima parte dedicata ad elencare i bisogni fondamentali che è necessario soddisfare per una corretta gestione dell'emergenza pandemia e della relativa prevenzione, indipendentemente dall'esistenza del DSS – La seconda parte dedicata ad elencare i servizi e le funzionalità che devono essere offerte dal DSS nelle varie fasi di evoluzione e prevenzione dell'emergenza pandemica <p>Gli esperti si sono presentati alla riunione plenaria avendo già effettuato un lavoro personale di elencazione sia delle necessità primarie, indipendentemente dall'esistenza del DSS che delle funzionalità che esso dovrà fornire; il lavoro preliminare si è concretizzato nella compilazione dei questionari, riportati in allegato, le cui risposte sono state riassunte nel relativo paragrafo.</p> <p>La riunione si è svolta con l'intento di raccogliere il maggior numero di informazioni, toccando tutti gli argomenti ritenuti importanti dagli esperti; è stata effettuata un'indagine in</p>	

ampiezza senza indagare a fondo ogni singolo aspetto, poiché i vari argomenti saranno approfonditi mediante interviste singole con gli esperti di riferimento.

La riunione ha fatto emergere numerosi requisiti non ben esplicitati nei questionari grazie al confronto aperto tra gli esperti, moderato dall'ingegnere della conoscenza.

Supporto informativo

Gli utenti ritengono che il DSS debba facilitare l'accesso a tutte quelle informazioni che potrebbero essere utili durante la gestione o la prevenzione dell'emergenza pandemica; la possibilità di consultare dei quadri informativi che descrivono la situazione in tempo reale permette di prendere delle decisioni ponderate ma anche realmente fattibili; è inutile prendere decisioni che poi non possono essere attuate per mancanza di risorse. In tal senso si rende necessaria una visione dello stato attuale delle risorse umane e materiali che vengono impiegate nelle varie fasi dell'evoluzione pandemica. Sia le risorse materiali (farmaci, vaccini, DPI, ecc) che quelle umane necessitano di essere monitorate in modo da permettere ai decisori di pianificare le azioni da intraprendere.

Il supporto informativo del DSS non si limita al monitoraggio delle risorse umane e strumentali, ma deve comprendere anche una visione del mondo esterno ristretta agli aspetti inerenti la gestione e la prevenzione della pandemia; alcune informazioni da monitorare sono l'evoluzione della situazione epidemiologica, i pazienti critici, la popolazione a rischio, l'assistenza domiciliare e il mantenimento dei servizi essenziali erogati dall'ASL.

Decisori

I decisori sono i soggetti che sulla base di piani, procedure predefinite e sulle proprie conoscenze decidono le azioni da intraprendere per fronteggiare e prevenire l'emergenza pandemica. ASL nei casi di necessità prevede un'apposita struttura denominata SACE (Struttura aziendale comando emergenza) che è incaricata di prendere le decisioni necessarie a garantire una corretta gestione degli eventi di emergenza. Gli esperti ritengono opportuno che la SACE utilizzi il DSS sia a scopo informativo che a scopo decisionale; l'aspetto informativo permette di prendere le decisioni sulla base delle risorse disponibili ed in base all'evoluzione del mondo esterno

(situazione epidemiologica, ecc).

Piani ed azioni

Il DSS deve suggerire, a seguito di determinate informazioni in ingresso le possibili azioni da mettere in campo; tali azioni possono essere determinate da: piano locale per l'attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale (che recepisce il piano dell'OMS, il piano nazionale e regionale), procedure operative predefinite sia per situazioni di emergenza che per attività routinarie (ma intensificandone l'attuazione), altre conoscenze e best practices definite prima dell'insorgere dell'emergenza pandemica.

Gli esperti ritengono necessario che il DSS sia in grado di proporre, in base agli input ricevuti e al trascorrere del tempo, le azioni da effettuare, sulla base dei piani previsti; nel caso in cui sia necessario scegliere tra diverse vie d'esecuzione del piano i decisori dovranno prendere la decisione più appropriata, sfruttando gli strumenti informativi forniti dal DSS; di fatto risulta essere un suggeritore di piani d'intervento che permette di visualizzare i piani intrapresi, le azioni effettuate e da effettuare, lo stato attuale d'esecuzione e gli eventuali piani da attivare. Sarà quindi necessario catalogare e formalizzare i possibili piani di intervento utilizzati nella gestione dell'emergenza pandemia.

Gli esperti ritengono opportuno che il DSS preveda un meccanismo di ragionamento che sulla base di input e di regole prestabilite fornisca in output delle informazioni utili; in questo caso è necessario che vengano forniti gli input, le loro relazioni, i vincoli e le condizioni che permettono di generare l'output desiderato, sulla base di precise regole predefinite anch'esse da censire.

Eventi

Gli input in ingresso al DSS possono provenire da differenti fonti, sia interne all'ASL di Brescia che esterne, di tipo locale o regionale. Gli input provenienti da agenti interni all'ASL sono costituiti da nuovi eventi generati dall'evoluzione della situazione pandemica, evoluzione della situazione epidemiologica, esiti delle azioni intraprese, feedback delle misure adottate; la maggior parte di tali input vengono riportati dalle strutture territoriali ASL presenti nel territorio bresciano (distretti gestionali). Gli input esterni sono

rappresentati dalle indicazioni o decisioni prese a livello nazionale o regionale, informazioni provenienti dalle strutture ospedaliere, laboratori di analisi, altri enti partecipanti alla gestione dell'emergenza, autorità sanitarie locali.

Responsabilità

Le azioni suggerite dal DSS potrebbero possedere un intervallo di confidenza e per tale motivo si ritiene opportuno che le azioni suggerite dal DSS debbano essere approvate e validate dalla SACE. In ogni caso le operazioni e i suggerimenti del DSS devono essere sempre validati dai decisori che si assumono la responsabilità di quanto fatto.

Documenti

Tra le azioni di risposta previste dai piani si necessita spesso volte di redigere dei documenti ufficiali, di compilare dei moduli, di allegare documentazione a supporto di quanto fatto; il DSS dovrà prevedere un collegamento a tale modulistica, predisposta prima del verificarsi dell'evento, proponendola all'utente quando necessario.

Il ruolo del decisore è di fondamentale importanza ma di altrettanto peso è quello di coloro che effettuano l'inserimento degli input; sia per l'esecuzione delle azioni intraprese, che per le decisioni adottate che per l'inserimento degli eventi/input, si rende necessario che il DSS ne tenga una traccia stabile e consultabile (log). In molti casi gli eventi e gli input vengono confermati con la necessaria documentazione scritta che sarebbe utile allegare all'inserimento del dato stesso, comprovando la correttezza di quanto effettuato. Tali documenti dovranno essere consultabili ove richiesto.

Comunicazione

Durante l'emergenza e la prevenzione della pandemia è di fondamentale importanza la comunicazione sia interna all'ASL che esterna verso gli altri attori coinvolti. I piani di prevenzione e intervento contengono numerose azioni di comunicazione interna ed esterna, di coordinamento e condivisione; il DSS dovrà favorire le tipologie di comunicazione mettendo a disposizione un collegamento agli elenchi dei riferimenti istituzionali coinvolti, alle autorità sanitarie locali, agli enti esterni cooperanti, alle strutture e ai presidi ASL sul territorio, alle sedi decentrate e al personale medico sanitario coinvolto nella gestione dell'emergenza. Il DSS permetterà quindi di accedere rapidamente alle

informazioni necessarie a contattare gli attori coinvolti nella gestione della situazione verificatasi. Nel caso in cui la comunicazione si configuri come ufficiale è necessario prevedere un meccanismo per tenere traccia degli eventuali elementi trasmessi, principalmente via fax o mezzo posta.

ASL deve dialogare e rapportarsi con diverse altre entità esterne; per tale motivo si ritiene opportuno che, previa autorizzazione, tali entità possano consultare alcuni dati relativi all'andamento della situazione.

Utenti

Il DSS verrà quindi utilizzato da diversi soggetti: attori che si occupano di inserire le decisioni prese dai decisori, attori che inseriscono i dati relativi all'evoluzione della situazione e degli input esterni, attori che ricevono istruzioni operative e attori che si limitano a consultare le informazioni fornite dal DSS a scopo di monitoraggio. E' necessario che ogni attore possa usufruire dei soli servizi ad esso dedicati e possa effettuare le sole operazioni permesse al gruppo di appartenenza.

Accesso al DSS

Vista sia la divisione dei compiti che la dislocazione geografica dei presidi ASL sul territorio si ritiene opportuno che il DSS sia accessibile da diverse postazioni.

Intervista n. I1	Data: 20.03.08 Luogo: ASL Brescia - Italy	Ora: 14:00-16:00
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Guglielmino Baitelli	
Temi principali	Monitoraggio della situazione epidemiologica Necessità di georeferenziazione Accesso ai documenti normativi Supporto informativo – risorse umane e strumentali Piano vaccinale: giacenza e fabbisogno	
Risultati	<p><u>Monitoraggio della situazione epidemiologica</u></p> <p>Allo stato attuale la gestione della situazione epidemiologica (per tutte le cinquanta patologie infettive per cui è prevista dalla normativa statale la segnalazione di tutti i casi riscontrati da tutti i sanitari) viene effettuata con il supporto del programma MAINF delle Regione Lombardia (realizzato da Lombardia Informatica): i medici libero professionisti, i medici di medicina generale, pediatri di libera scelta e le strutture ospedaliere segnalano i casi agli operatori distrettuali di ASL che provvedono ad inserirli in MAINF; i dati di MAINF (livello regionale) vengono poi inviati al Ministero della salute. L'influenza viene invece segnalata tramite INFLUNET, sistema dedicato alla sorveglianza epidemiologica e virologica dell'influenza: una rete di medici sentinella (medici di medicina generale e di pediatri di libera scelta) segnalano con periodicità prestabilite, tramite il sistema INFLUNET (livello nazionale), i casi di influenza osservati tra i loro assistiti, che vengono poi elaborati dai centri di riferimento nazionale.</p> <p>A livello nazionale le patologie infettive da segnalare sono divise in 5 gruppi. La Regione Lombardia le ha suddivise in due gruppi: patologie da segnalare con procedura immediata o con procedura differibile. La tipologia di segnalazione non dipende solo dalla gravità della malattia ma in particolare dalle azioni che devono essere intraprese e dalle relative strategie. La segnalazione (si veda il documento “Scheda segnalazione di malattia infettiva”) viene inviata dal medico che effettua la</p>	

segnalazione via telefono o fax, secondo una procedura predefinita alle articolazioni territoriali del Dipartimento di prevenzione medico dell'ASL. Nel caso di patologie soggette a segnalazione immediata è previsto un intervento tempestivo e immediato da parte degli operatori dell'ASL, che provvedono a mettere in campo le misure di contenimento e prevenzione necessarie. Nel caso di segnalazione differibile le segnalazioni vengono utilizzate a scopo esclusivamente statistico ed epidemiologico, e non sono disponibili e/o previste particolari misure di controllo da attuare.

Gli operatori di ASL presenti nei dodici presidi distrettuali, gestiti da sei Direzioni Gestionali di distretto, provvedono ad inserire in MAINF le segnalazioni ricevute. Le segnalazioni possono anche provenire dagli ospedali. La segnalazione di un sospetto non fa scattare automaticamente una notifica agli organi istituzionali superiori poiché sono necessarie le fasi di indagine epidemiologica e validazione del sospetto. MAINF permette di importare i dati anagrafici dall'anagrafe centralizzata dei cittadini lombardi (NAR – nuova anagrafe regionale).

Esistono dei criteri oggettivi che permettono il passaggio dal sospetto alla notifica; per ogni patologia sono definiti dal Ministero della Salute dei criteri da verificare prima di procedere alla notifica; è un sistema basato su regole (vedi allegato “Criteri di validazione nazionale: notificabile, non notificabile”), con l'intento di oggettivare e rendere omogenee le segnalazioni. Il sistema deve evitare la notifica di situazioni che non rispondono ai criteri predefiniti. Nel caso di contagio da influenza pandemica i criteri da rispettare sono due.

Nella fase di emergenza pandemica è necessario che la rete dei medici sentinella segnalino tempestivamente i casi di infezione con lo scopo di arginare e circoscrivere i focolai di infezione. Tali segnalazioni si effettuano solo quando è stata dichiarata con certezza l'esistenza del virus influenzale pandemico.

MAINF permette l'inserimento e la gestione delle seguenti informazioni (si rimanda al documento “Manuale operativo di Mainf” per informazioni dettagliate):

- Scheda anagrafica del paziente
- Scheda dei dati generali della patologia

- Scheda del contagio
- Scheda della diagnosi
- Scheda della profilassi
- Scheda dei fattori di rischio
- Scheda della sorveglianza ed esiti terapia
- Scheda dell'esito della malattia
- Scheda del focolaio epidemico
- Scheda amministrativa

Nella fase pandemica è importante monitorare il/i focolaio/i: evoluzione della situazione dei pazienti, e indagine dei luoghi in cui è stato e dove è avvenuto il contagio verso altri soggetti.

Ai fini epidemiologici sono importanti i report e i grafici che permettono una visione aggregata dei singoli casi: visualizzazione della curva epidemiologica del contagio, a livello di ogni singolo focolaio, di più focolai (per comprenderne le relazioni), di DGD o distretto; confronto tra i casi di ASL (o di un distretto) rispetto a quelli della regione. La curva epidemiologica mostra l'evoluzione della situazione, i massimi e i minimi della situazione e le fasi, consentendo di prevedere scenari futuri con i relativi fabbisogni.

Georeferenziazione

Per la gestione della pandemia non si ritiene indispensabile l'utilizzo di un sistema di georeferenziazione dei casi umani; allo stato attuale quando viene identificato un possibile focolaio di una malattia infettiva, viene direttamente identificato dagli operatori presenti nei presidi distrettuali. E' importante avere i recapiti dei contagiati per contattare le persone infette, ma vederne sulla cartina la dislocazione geografica pare poco utile. L'utilizzo della georeferenziazione può essere utilizzata a scopo descrittivo.

Accesso ai documenti normativi

Per gestione e prevenzione della pandemia è utile avere un accesso rapido alla normativa relative ai piani e ai protocolli correlati. Deve essere permesso un accesso rapido e guidato ai documenti da parte di tutti gli attori coinvolti, a partire dai livelli decisionali fino a quelli operativi. La documentazione deve poter essere aggiornata ed integrata con nuovi documenti che verranno prodotti dalle autorità competenti; l'inserimento

dei documenti e della loro classificazione deve essere permessa solo a livello centrale da utenti abilitati. L'ordine di grandezza di tali documenti, al momento, è di qualche decina.

Supporto informativo – risorse umane e strumentali

E' necessario avere una visione delle risorse sia umane (personale disponibile sul campo) che strumentali sia in modo aggregato che suddivise per DGD e presidio distrettuale. La visione delle risorse è fondamentale a livello decisionale. I due criteri di interrogazione del sistema sono per presidio distrettuale e per servizio nel caso di risorse umane. I due criteri possono essere applicati sia singolarmente, che in modo combinato (oltre che ha una consultazione del dato aggregato). Per le risorse strumentali è importante vederne la giacenza a livello distrettuale.

Piano vaccinale: giacenze e fabbisogno

Nello stato attuale le scorte di vaccino per varie malattie infettive vengono gestite richiedendo mensilmente, ad ogni presidio distrettuale le quantità consumate; il fabbisogno è individuato a livello distrettuale e sulla base dei dati raccolti, sui dati storici e sull'andamento demografico si determina il fabbisogno totale; successivamente viene effettuata un'unica gara di approvvigionamento a livello di intera ASL. Sarebbe utile possedere uno strumento in grado di determinare gli ordini di vaccini in base ai piani vaccinali da intraprendere; considerando le scorte presenti e il numero di individui da vaccinare.

Intervista n. I2	Data: 27.03.08 Luogo: ASL Brescia – Italy	Ora: 8:30-9:45
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Tarcisio Marinoni	
Temi principali	Accesso ai documenti normativi Supporto informativo – risorse umane e strumentali Supporto normativo: piani ed azioni Comunicazione Supporto operativo – modulistica e tracce amministrative	
Risultati	<p><u>Supporto informativo: risorse umane e strumentali</u></p> <p>Il DSS deve permettere la gestione ed il monitoraggio delle risorse umane a livello distrettuale, in base al servizio svolto; oggi esiste un sistema (del servizio anziani e cure domiciliari realizzato in accordo con il PAC) per rilevare la situazione del personale ASL (servizio anziani e cure domiciliari) che permette di considerare le lunghe assenze; tali situazioni non sono visibili per periodi brevi di assenza; solo il distretto ha la possibilità di rilevare la situazione in tempo reale. E' d'interesse vedere le risorse anche a livello centrale ma è importante avere un quadro completo della situazione a livello decentrato.</p> <p>L'assistenza domiciliare viene erogata sia da risorse interne ad ASL che da enti esterni accreditati; tali enti sono tenuti a inserire nel sistema informatico l'elenco completo del personale adibito alle cure domiciliari, dichiarando le informazioni di ogni singolo operatore. Non è uno strumento di rilevazione giornaliero delle presenze, ma di misura delle risorse messe in campo dall'ente stesso.</p> <p>Durante l'emergenza pandemica è necessario mettere in pratica il piano di iperafflusso alle strutture ospedaliere; in tale situazione verrà richiesto alle RSA di trattenere il più possibile i proprio ospiti evitando il sovraffollamento delle strutture ospedaliere; è importante monitorare il numero di posti letto liberi nelle singole strutture , considerando due aspetti fondamentali:</p>	

- È oggi possibile vedere per ogni RSA il numero di posti letto autorizzati e, per quelle dove ASL gestisce la lista unica d'accesso, è possibile consultare, via web, il numero di posti letto liberi; attualmente la saturazione di queste strutture è tra il 98-100%
- È invece molto più rilevante monitorare il numero di posti letto aggiuntivi e la loro disponibilità; è infatti possibile incrementare, entro certi limiti previsti, la ricettività delle strutture, come previsto dal piano; è possibile che in futuro si possano effettuare dei ricoveri di sollievo presso i CDI (solitamente attigui e gestiti da una RSA) che perdono la propria funzione: gli spazi e il personale vengono impiegati nelle attività della RSA.

E' opportuno che i posti letto aggiuntivi disponibili vengano aggiornati autonomamente dalle RSA accedendo al sistema. Attualmente sono presenti nel territorio di ASL 86 RSA e 44 CDI (indicativamente).

Si ritiene necessario poter consultare la disponibilità delle risorse (umane e strumentali) per distretto, per DGD, per singola RSA o ente gestore. Il miglior modo di rappresentare i dati è quello tabellare e non è necessario prevedere uno storico dell'andamento delle risorse poiché in emergenza è importante il dato in tempo reale. Non sono necessarie funzionalità di stampa.

Il servizio anziani e cure domiciliari non si occupa dell'approvvigionamento e distribuzione farmaci e vaccini, ma il piano pandemico prevede che le strutture gestiscano l'elenco e le modalità di vaccinazione dei propri operatori. E' interessante avere una stima degli operatori da vaccinare poiché rappresentano la popolazione strategica.

Supporto operativo: piani ed azioni

Per quanto riguarda l'area di competenza dell'esperto si ritiene che per le RSA sia importante avere a disposizione (ed aggiornare secondo le tempistiche prestabilite) il proprio piano pandemico; essendo il piano locale ed applicato alla singola non si ritiene necessario un sistema che suggerisca i piani da attivare e le azioni da intraprendere.

Anche per l'assistenza non è indispensabile un supporto attivo da parte del DSS; in caso di pandemia si richiede ai CDI di sospendere la propria attività routinaria e di rendersi

disponibili sia come spazi che come personale alle necessità delle RSA attigue; per quanto riguarda gli enti addetti all'ADI, sia interni che esterni all'ASL, si richiederà di mettere in campo il numero maggiore di personale disponibile, intensificando l'assistenza; alla ditta di telesoccorso si richiederà di intensificare l'attività di monitoraggio e contatto verso i soggetti più bisognosi.

E' invece molto importante definire prima dell'emergenza i piani di ogni singola RSA e le attività sospendibili, attività non dipendenti dal DSS.

Per quanto riguarda le RSA, i CDI e gli enti che provvedono all'ADI il distretto è la figura ad essi più vicina.

Nell'area di competenza dell'esperto non sono presenti situazioni nelle quali sia richiesto un sistema di ragionamento.

Comunicazione

Si ritiene necessario avere a disposizione, durante l'emergenza, i riferimenti del personale ASL; ad oggi esiste già una rubrica di ASL (intranet) con i riferimenti del personale, consultabile per nominativo e per assegnazione di sede. Sarebbe utile effettuare ricerche in base alla funzione assegnata e possedere i numeri telefonici dei cellulari aziendali.

Si ritiene necessario avere a disposizione gli elenchi, con le informazioni di contatto, degli enti coinvolti nelle cure domiciliari e dell'assistenza anziani (dati già presenti nel sistema informativo servizio anziani, ad esempio RSA, CDI, enti voucher). Sarebbe interessante avere a disposizione una tecnologia di comunicazione che permetta di parlare in contemporanea con più interlocutori, ad esempio per fornire informazioni o direttive a più direttori di RSA contemporaneamente.

Accesso ai documenti normativi

Si ritiene importante mantenere un elenco strutturato dei documenti che possono risultare utili nella gestione e prevenzione dell'emergenza pandemica; è utile avere un unico repository centralizzato al quale accedere, sia a livello centrale che decentrato; tale documentazione è utile anche al personale operativo delle strutture distrettuali e degli enti esterni. Nel caso in cui fossero presenti dei dati sensibili è necessario limitare l'accesso ai documenti in base al profilo. L'ordine di

grandezza di tali documenti è di qualche decina; deve essere possibile inserire i documenti mediante una o più categorizzazioni e permettere una ricerca dei documenti in base all'oggetto trattato.

Supporto operativo – modulistica e tracce amministrative

Si ritiene opportuno avere a disposizione un unico repository di modulistica preconfezionata, pronta per essere stampata e compilata; per quanto riguarda il servizio anziani e cure domiciliari la modulistica è nell'ordine di grandezza di una decina.

Oltre alla gestione della modulistica il sistema deve permettere di mantenere una traccia informatica degli elementi amministrativi utilizzati durante l'emergenza; sono una prova delle azioni messe in campo, delle decisioni prese e giustificano determinate situazioni (ad esempio l'ordine di sospensione delle l'attività dei CDI, ordine di divieto di accesso a determinate strutture o zone).

Intervista n. I3	Data: 27.03.08 Luogo: ASL Brescia – Italy	Ora: 14:45-16:00
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott.ssa Daniela Feltrinelli	
Temi principali	Descrizione del contesto Supporto normativo: piani ed azioni Supporto operativo – modulistica e tracce amministrative Accesso ai documenti normativi Georeferenziazione Supporto informativo – risorse umane e strumentali Contatti	
Risultati	<p><u>Descrizione del contesto</u></p> <p>Il mondo veterinario si è spesso trovato a dover fronteggiare emergenze; esiste una normativa stringente e ben definita sia dal punto di vista delle procedure operative che dagli attori coinvolti. Al verificarsi di un focolaio di malattia infettiva, in base a quanto prescritto dalla normativa, vengono attivati gli interventi che si riassumono nell'abbattimento e la distruzione degli animali (estinzione del un focolaio); non è prevista terapia e cura se non per casi isolati. Quando si verifica un sospetto di focolaio vengono messe in campo delle misure precauzionali quali il vincolo sanitario o il sequestro d'allevamento; mentre si effettuano i campionamenti idonei per identificare la malattia si attuano le misure per limitare l'eventuale contagio. Si prelevano gli animali o gli organi infetti e li si porta al laboratorio di riferimento. Nel caso in cui il sospetto sia confermato si prendono specifiche misure sul focolaio (estinzione) e sulle aree circostanti (zona di protezione e zona di sorveglianza), effettuando prove diagnostiche e monitoraggio della specie sensibile.</p> <p><u>Supporto normativo: piani ed azioni</u></p> <p>Essendo le procedure veterinarie ben definite è utile che il DSS permetta l'esecuzione dei piani d'intervento, suggerendo le azioni corrette da mettere in campo; è richiesto un supporto capace di controllare e guidare gli operatori con l'obiettivo di non dimenticare azioni importanti da svolgere; il DSS deve essere una guida per rispettare i passaggi obbligati. Ad</p>	

esempio, per l'estinzione del focolaio si procede all'abbattimento e allo smaltimento delle carcasse producendo apposita documentazione; in seguito si attuano le operazioni di disinfezione; infine si rimuove l'atto restrittivo sull'allevamento; il DSS dovrebbe bloccare la rimozione del provvedimento nel caso in cui non sia state completate tutte le procedure previste.

Si ritiene importante poter consultare il piano prima e durante l'esecuzione, sia come documento statico che come diagramma di flusso con evidenziato lo stato d'esecuzione attuale; il diagramma di flusso è il modo più intuitivo di rappresentazione. La prospettiva più consona del piano è il singolo focolaio; è utile potere vedere lo stato d'avanzamento dei piani per focolai d'infezione.

Gli interventi d'emergenza sono dei percorsi obbligati e definiti, e non si ritiene utile un meccanismo di ragionamento; non ci sono incertezze diagnostiche, effettuate esternamente all'ASL dal laboratorio dell'istituto zoo-profilattico di riferimento che emette un rapporto di prova ufficiale.

I piani d'intervento possono essere tra loro collegati ed attivati; potrebbe essere utile poter inserire nuove azioni estemporanee (non previste dal piano) da inserire rispetto a quelle già previste dai piani.

Le attività vengono erogate a livello distrettuale; gli esiti delle azioni vengono riportate direttamente dal distretto; gli esiti delle analisi vengono inviate dall'istituto zooprofilattico al distretto ma in caso di sospetto focolaio anche al dipartimento centrale, che è il primo destinatario dell'esito; anche per il DSS si ritiene utile che gli esiti delle azioni vengano inseriti dal distretto e poi resi visibili a livello centrale, insieme ai documenti prodotti a livello distrettuale.

Supporto operativo – modulistica e tracce amministrative

E' necessario che il DSS mantenga traccia di tutta la documentazione prodotta (numerata) nelle varie fasi dell'emergenza; i documenti giustificano piani, azioni ed esiti (prova delle responsabilità). L'archivio documentale potrebbe poi venire usato per la liquidazione e gli indennizzi agli allevatori. I documenti prodotti dovrebbero essere suddivisi per focolaio e aggregati per distretto. E' quindi necessario aver sempre disponibile la modulistica da compilare e stampare

(modelli presenti nel manuale operativo). Tale modulistica è nell'ordine di qualche decina.

Accesso ai documenti normativi

Il DSS deve fornire un archivio documentale organico di tutti i documenti relativi all'emergenza organizzati per area di appartenenza. Deve essere possibile inserire e classificare la documentazione a livello di dipartimento. Se alcuni documenti possiedono dati sensibili o strategici è necessario prevedere un accesso controllato.

Georeferenziazione

Tutte gli allevamenti sono georeferenziati; nel caso di un focolaio è obbligatorio l'utilizzo di mappe per la delimitazione delle zone di protezione e di sorveglianza; l'attività di creazione delle mappe delimitazione delle aree viene effettuata dall'osservatorio epidemiologico regionale (presso l'istituto zoo-profilattico di Brescia) che dato il codice aziendale dell'allevamento provvede a creare la cartina; alla nascita di una nuova azienda il distretto provvede a rilevare ed inviare i dati di georeferenziazione.

Supporto informativo – risorse umane e strumentali

Le risorse umane e materiali per fronteggiare l'emergenza sono disponibili nei distretti che, dato il numero ristretto delle risorse umane presenti, sono l'unico attore in grado di monitorare costantemente la situazione; è d'interesse del dipartimento vedere la presenza delle risorse nei distretti per poterle spostare da un distretto ad un altro in caso di necessità; i distretti veterinari sono 4. Nelle proprie attività il dipartimento si può avvalere, come avvenuto di recente, di risorse umane esterne, quali i veterinari liberi professionisti convenzionati; i due criteri d'accesso al monitoraggio delle risorse è per distretto e per servizio. La miglior forma per mostrare le informazione è quella tabellare. Non ha alcun senso vedere lo storico delle risorse ma interessa solo la rilevazione nell'istante considerato.

Le risorse materiali utili nell'emergenza pandemia sono i kit di emergenza, attualmente presenti nei distretti ed i DPI per i quali i distretti si approvvigionano facendo riferimento al dipartimento, che stima poi il fabbisogno totale. La rilevazione delle scorte di magazzino dei distretti è invece effettuata trimestralmente dal provveditorato con una procedura

	<p>informatica.</p> <p><u>Contatti</u> Ad oggi sono presenti tutti gli elenchi degli allevamenti che devono essere disponibili durante l'emergenza; sono inoltre necessari i riferimenti alle ditte di abbattimento e smaltimento degli animali</p>
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Intervista n. I4	Data: 03.04.08	Ora: 9:00-10:00
	Luogo: ASL Brescia – Italy	
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Fulvio Lonati / Dott. Giuseppe Boschi	
Temi principali	<p>Supporto informativo – risorse umane e strumentali</p> <p>Accesso ai documenti</p> <p>Contatti ed accesso alle informazioni dei servizi disponibili</p> <p>Supporto normativo: piani ed azioni</p>	
Risultati	<p><u>Supporto informativo – risorse umane e strumentali</u></p> <p>Gli esperti ritengono che le risorse umane debbano essere suddivise a livello territoriale in base al distretto di appartenenza; la classificazione in base alla DGD risulta essere troppo ampia, per il settore di competenza degli esperti. Il secondo criterio di classificazione è in base al servizio svolto, ad esempio, consultorio, MMG (medico di medicina generale ed eventuali assistenti di studio visti come un'unica risorsa adibita al servizio), MCA, ADI. Al momento non è disponibile uno strumento per rilevare le presenze in tempo reale o giornaliero, ma l'aggiornamento più frequente è quello trimestrale.</p> <p>In caso di pandemia conclamata è interessante tenere sottocontrollo i farmaci potenzialmente utili; non si ritiene opportuno monitorare il dato della singola farmacia ma quelli direttamente aggiornati dal soggetto che si occupa del rifornimento e approvvigionamento (CEF) delle farmacie sul territorio; le farmacie effettuano gli ordini che vengono ricevuto dal CEF che provvede più volte al giorno alla distribuzione. Sono inoltre importanti le scorte di farmaci presenti negli ospedali.</p> <p><u>Accesso ai documenti</u></p>	

Piuttosto che rilevare le singole risorse umane con cadenza giornaliera si ritiene più opportuno rendere disponibili tramite il DSS i piani (ad oggi già operativi) per garantire la continuità dei servizi alla popolazione. Sono inoltre disponibili ed operativi dei protocolli per la gestione di eventi inattesi (ad esempio indisponibilità di una postazione di continuità assistenziale).

E' utile definire per ogni servizio, in un documento da rendere disponibile tramite il DSS, la capacità di espansione per fronteggiare l'emergenza e le procedure da applicare per intensificarlo.

Contatti ed accesso alle informazioni dei servizi disponibili

Oltre ai piani per il mantenimento della continuità del servizio, è utile avere a disposizione i riferimenti dei soggetti che operano sul territorio quali le postazioni di continuità assistenziale (completo dell'elenco dei MCA e relativi riferimenti) e gli studi medici dei MMG. La frequenza di aggiornamento ipotizzabile è trimestrale. E' necessario poter accedere ai i servizi offerti dai MMG, MCA e farmacie consultando i giorni e gli orari di esercizio.

Supporto normativo: piani ed azioni

Il supporto richiesto dal DSS è di tipo attivo: i piani vengono attivati dal livello decisionale centrale (SACE) e il DSS deve suggerire le azioni da effettuare secondo quanto previsto dai piani; si prevedono sia azioni da svolgere in modo sequenziale o parallelo ma anche checklist.

Le azioni vengono rese operative a livello distrettuale, mentre i piani sono avviati dalla SACE che decide i distretti in cui avviarli; l'esito delle azioni viene riportato al distretto dal soggetto che effettua l'azione; il distretto è il punto di raccolta del feedback dal campo.

I piani svolti o in corso di svolgimento (e le relative azioni) devono essere consultabili; il criterio di consultazione è in base al luogo (distretto) di applicazione e al giorno di svolgimento.

In ogni momento deve essere possibile vedere lo stato d'avanzamento del piano; a livello distrettuale deve essere possibile vedere i piani avviati nel distretto stesso mentre a livello centrale deve essere permessa una visione globale. Il miglior modo di rappresentazione dei piani è il diagramma di

	<p>flusso, con indicato lo stato d'avanzamento.</p> <p>Esistono relazioni di attivazione tra piani; si ritiene opportuno adottare dei piani di dimensioni ridotte, in modo che il sistema complessivo risulti essere modulare e permetta l'applicazione dei piani in contesti differenti.</p> <p>I piani possono essere attivati in base ad eventi occorsi, ad altri piani correlati che ne richiedono l'esecuzione o a decisioni della SACE.</p>
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Intervista n. I5	Data: 03.04.08 Luogo: ASL Brescia – Italy	Ora: 10:00-11:15
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott.ssa Simona De Filippo	
Temi principali	Supporto informativo – risorse umane e strumentali Supporto normativo: piani ed azioni Consultazione dei piani svolti Accesso alla modulistica Accesso ai documenti	
Risultati	<p><u>Supporto informativo – risorse umane e strumentali</u> Una prima classificazione delle risorse umane è in base al ruolo professionale e all'area di appartenenza; la suddivisione secondo il solo ruolo professionale non permette di vedere quali risorse sono disponibili per un dato servizio da attivare o mantenere; la struttura ASL permette di spostare le risorse tra un distretto ad un altro in modo semplice se la risorsa continua ad operare nella stessa area. È più semplice, anche dal punto di vista dell'immediata operatività, spostare un'infermiere addetto alle vaccinazioni da un distretto ad un altro per il medesimo compito piuttosto che mantenere la risorsa nel proprio distretto e adibirla all'assistenza domiciliare; attualmente le risorse vengono sostituite da risorse appartenenti alla stessa area, di un differente distretto, ma della stessa DGD.</p> <p>Oltre al criterio ruolo ed area di appartenenza le risorse devono essere classificate in base alla DGD di appartenenza; il territorio di ASL è suddiviso in DGD in base alla popolazione. Il direttore di DGD può decidere, secondo le necessità del caso (anche in condizioni routinarie), di muovere le proprie risorse tra i distretti della DGD: se manca una persona in un distretto, invia una persona di pari qualifica ed area, da un distretto della stessa DGD; gli operatori sono formati per poter operare in tutti i distretti della propria DGD.</p> <ul style="list-style-type: none"> – DGD 1: distretto 1 – Brescia – DGD 2: distretti 2, 3 - Gussago, Rezzato – DGD 3: distretto 4 - Valle Trompia 	

- DGD 4: distretti 5, 6, 7 - Iseo, Palazzolo, Chiari
- DGD 5: distretti 8, 9, 10 - Orzinuovi, Leno, Montichiari
- DGD 6: distretti 11, 12 - Garda e Valle Sabbia

In emergenza potrebbe capitare di spostare le risorse anche tra differenti DGD, ma è più complicato sia dal punto di vista gestionale che operativo.

Si ritiene che il raggruppamento in DGD sia fondamentale, quello in distretti opzionale.

Il miglior modo per la presentazione dei dati è quella tabellare, sulla base dei 3 criteri individuati (ruolo professionale, area, DGD). Non è interessante lo storico delle risorse se non per vedere l'eventuale spostamento da un distretto all'altro; in emergenza interessa solo la situazione istantanea.

Attualmente le farmacie sono in collegamento con ASL solo per un numero ristretto di prodotti; per quanto riguarda l'approvvigionamento le farmacie sono in diretto contatto con il CEF (Cooperativa Esercenti Farmacia). ASL possiede un flusso informativo sia con le farmacie che con gli ospedali. Per approfondire l'argomento è necessario rivolgersi al servizio farmaceutico.

Supporto normativo: piani ed azioni

Si ritiene che la visualizzazione dei piani come diagrammi di flusso sia la modalità migliore di visualizzazione, poiché è un linguaggio chiaro e comprensibile; è necessario poter consultare i piani, prima, durante e dopo l'esecuzione; se il piano è in esecuzione deve esserne mostrato lo stato.

Il DSS deve suggerire le azioni da intraprendere: una guida certa che aiuta a seguire i protocolli prestabiliti; non è sufficiente visualizzare i piani come documenti e poterli consultare, serve un supporto attivo.

I piani sono tra loro collegati e possono essere attivati in cascata, ma deve essere possibile attivare uno o più piani a seguito di una decisione del livello centrale. I piani e le azioni devono poter essere interrotte; in tal caso il livello decisionale deciderà se e quali altri piani attivare.

La decisione di avviare i piani è ad alto livello, presa dalla SACE; gli operatori, presenti nei distretti, devono eseguire quanto prescritto; le DGD ricevono gli ordini dal livello centrale (SACE) e provvedono a metterli in campo

applicandoli alla propria realtà, attivando le misure tipiche per ogni caso.

I piani possono essere eseguiti sia a livello centrale ma anche a livello periferico. Nel caso del livello centrale essi sono direttamente gestiti dalla SACE.

Vista la composizione della SACE le decisioni prese sono già condivise dai livelli centrali; la SACE decide di operare in un determinato modo e le decisioni vengono trasmesse alle DGD nel caso in cui il piano interessi i livelli periferici; i direttori delle DGD riferiscono al direttore generale del proprio operato.

I piani, effettuati a livello di DGD dovranno essere visibili sia a livello periferico (distretti) ma anche a livello centrale per monitorare la situazione globale; l'esito delle azioni intraprese viene rilevato a livello di DGD o di distretto.

Non si ritiene necessario un meccanismo di ragionamento oltre a quello offerto dal DSS per dar vita ai piani: le azioni di risposta da mettere in campo si basano su piani e procedure predefiniti.

Consultazione dei piani svolti

I piani effettuati devono essere consultabili in base a:

- Tipo di piano
- Giorno di avvio ed giorni d'esecuzione
- Distretto / DGD di applicazione

Documentazione delle azioni svolte

Ove possibile deve essere richiesto di corredare l'esito di un'azione con dei documenti comprovanti quanto fatto; è necessario sempre tracciare delle azioni effettuate, di chi ha preso le decisioni e gli esiti delle azioni, al fine di definire le responsabilità.

Accesso alla modulistica

E' utile fornire ai livelli operativi l'accesso all'archivio della modulistica utile in caso di emergenza ad esempio i moduli dei verbali pronti per essere completati.

Accesso ai documenti

E' utile avere un archivio documentale integrato dove inserire tutti i documenti da condividere sia a livello centrale che a livello periferico; non tutti gli operatori hanno il libero accesso ad internet. L'inserimento di nuovi documenti o

	<p>aggiornamento dei precedenti deve essere riservato solo a livello centrale e dipartimentale; mentre la consultazione deve essere possibile a tutti; i documenti con dati sensibili sono localizzati a livello distrettuale e non sono documenti da condividere. Prima dell'inserimento di un documento è utile aver a disposizione le categorie utili al quale associarlo.</p>
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Intervista n. I6	Data: 08.04.08 Luogo: ASL Brescia – Italy	Ora: 11:45-13:00
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott.ssa Simonetta Di Meo; Milena Guarinoni	
Temi principali	<p>Introduzione</p> <p>Supporto informativo – risorse umane e strumentali</p> <p>Supporto normativo: piani ed azioni</p> <p>Accesso ai documenti</p> <p>Accesso alla modulistica</p>	
Risultati	<p><u>Introduzione</u></p> <p>Il servizio SITRA (Servizio Infermieristico, Tecnico, Riabilitativo Aziendale) si occupa dell'indirizzo e del coordinamento del personale infermieristico, ostetrico, tecnico-sanitario, riabilitativo, di prevenzione e degli operatori di supporto che operano in ASL.</p> <p><u>Profilo organizzativo</u></p> <p>Al SITRA fanno riferimento i Coordinatori del personale infermieristico/ostetrico, tecnici di prevenzione e di riabilitazione dei Distretti, della Comunità per Anziani e della Comunità per Disabili e dei Dipartimenti aziendali. I coordinatori infermieristici/tecnici dipendono gerarchicamente dal Direttore Gestionale Distrettuale/Comunità per Anziani/Comunità per Disabili/Dipartimento e, per gli aspetti funzionali e organizzativi, dal Responsabile del SITRA.</p> <p>Nessuna struttura dipartimentale o dei servizi in staff alle direzioni coordina il personale dei distretti poiché è direttamente coordinato dal direttore della DGD. Il SITRA dialoga con i coordinatori dell'attività infermieristica (risorsa della DGD).</p> <p><u>Supporto informativo: risorse umane e strumentali</u></p> <p>Il SITRA possiede i quadri di tutto il personale funzionalmente afferente con aggiornamento mensile o al massimo trimestrale; le informazioni vengono inviate dal coordinatore infermieristico verso il servizio centrale (sistema locale del SITRA); i quadri sono suddivisi per DGD e</p>	

mostrano i nominativi delle persone, l'orario di lavoro, la sede di servizio e la percentuale di orario dedicato alle varie aree nelle quali si articola la DGD; lo spostamento delle risorse tra distretti della stessa DGD è gestito dal direttore di DGD che opera in autonomia in base alle necessità; i servizi centrali (tra i quali è compreso il SITRA) intervengono nello spostamento delle risorse tra le strutture complesse, quali le DGD.

A livello centrale (decisionale) ha senso vedere il dato delle risorse aggregato per DGD; opzionalmente ogni DGD potrebbe essere interessata a vedere le proprie risorse suddivise per distretto.

Non tutte le risorse si trovano nelle DGD, ma anche nelle strutture sovradistrettuali che potrebbero essere utilizzate in emergenza; in tale situazione è possibile che si richieda a figure professionali di una certa area di operare in un'area differente. La sostituibilità delle risorse afferenti alla stessa area permette però un'operatività immediata.

E' necessario poter monitorare anche le risorse materiali, suddivise per DGD, in particolare: DPI e farmaci (principalmente antibiotici), antivirali e vaccini; i farmaci dipendono dal servizio farmaceutico in carico al dipartimento di cure primarie.

Supporto normativo: piani ed azioni

In relazione alla pandemia il lavoro del SITRA si colloca principalmente nella fasi precedenti l'emergenza, per la definizione a livello funzionale di procedure, protocolli, piani organizzativi, mentre in emergenza per lo spostamento del personale nelle DGD opportune. Più che un supporto attivo che suggerisca le azioni da mettere in campo si ritiene opportuno avere a disposizione le informazioni relative alle risorse disponibili (aggiornate tempestivamente). Nel caso in cui fosse disponibile un meccanismo di suggerimento delle azioni da effettuare esso dovrebbe essere flessibile, considerando che ci potrebbero essere delle azioni che non è possibile svolgere.

Accesso ai documenti

E' fondamentale avere a disposizione un archivio documentale condiviso per rendere disponibili, ad ogni livello (in particolare quello operativo) i protocolli e le procedure da attuare. I documenti dovrebbe essere inseriti in modo

controllato a livello centrale e classificati secondo categorie predefinite a priori; data la natura dei documenti si ritiene che debbano essere tutti pubblici. I documenti devono poter essere ricercati in base all'area, al tipo di documento (procedura, protocollo, linea guida, documento organizzativo, ecc) e all'argomento trattato. Nel caso in cui siano documenti di aggiornamento di altri documenti è necessario prevedere dei riferimenti ai documenti originali e le date di aggiornamento.

Accesso alla modulistica

Per alcune aree è presente della modulistica operativa; è pensabile di inserirla nell'archivio documentale, ma non indispensabile. Non si rileva la necessità di archiviare i moduli compilati; ad esempio le attività svolte a livello vaccinale o epidemiologico vengono gestite tramite appositi sistemi informatici.

Intervista n. I7	Data: 11.04.08 Luogo: ASL Brescia – Italy	Ora: 09:00-10:45
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Guglielmino Baitelli	
Temi principali	DGD, distretti e aree integrate Decisioni e piani Risorse umane	
Risultati	<p><u>DGD, distretti e aree integrate</u></p> <p>La presenza di ASL sul territorio si articola nei dodici distretti socio sanitari, corrispondenti alle 12 Assemblee dei Sindaci; i distretti non dispongono di autonomia dal punto di vista gestionale e decisionale; per motivi di economia di scala i distretti sono stati raggruppati fino a raggiungere una popolazione di almeno 100.000 abitanti in Direzioni Gestionali Distrettuali (DGD) ove operano un direttore gestionale (che è anche direttore del/i distretto/i gestito/i) ed i responsabili delle Aree Gestionali Integrate (cinque: Igiene e Medicina di Comunità, Cure primarie, Anziani e Cure domiciliari, Materno-infantile, Disabilità). Ogni distretto è, quindi, gestito dal direttore, che coincide con il direttore della DGD (nel caso in cui una DGD gestisca più distretti, il loro direttore è il direttore di DGD). La gestionalità (delle risorse) dei distretti spetta alla DGD, che opera in modo autonomo.</p> <p>I servizi offerti dalle DGD sono suddivise in 5 aree funzionali integrate:</p> <ul style="list-style-type: none"> - Cure Primarie - Igiene e Medicina di Comunità - Materno - Infantile - Anziani e Cure Domiciliari - Disabilità <p>Per ogni area il direttore di DGD nomina un Responsabile che ne coordina le funzioni; l'operatività sul territorio non viene direttamente coordinata dalla DGD ma dal Responsabile d'area funzionale integrata. La struttura che eroga i servizi ai cittadini è il distretto.</p>	

Nell'intervista si è fatto riferimento al documento ASL "Piano di organizzazione e funzionamento aziendale" con riferimento ai capitoli 9 ("Le articolazioni e le attività distrettuali") e 10 ("Rapporti fra dipartimenti, servizi e direzioni gestionali distrettuali").

Decisioni e piani

A livello centrale le decisioni sono coordinate dalla SACE (o dall'unità di crisi che verrà istituita in emergenza pandemica); non è pensabile che una decisione operativa, quale quella di avviare il piano venga inviata alla DGD senza alcun coordinamento o consultazione con essa; è necessario che (attività non gestibile tramite il DSS) ci sia integrazione e comunicazione verso le articolazioni territoriali.

La DGD riceve la richiesta di eseguire il piano, le aree coinvolte decidono il livello di risorse da impegnare nel distretto, forniscono delle indicazioni per l'esecuzione e il piano viene eseguito; il feedback delle azioni intraprese deve essere raccolto dagli operatori in modo continuo dal livello distrettuale tramite dialogo con la DGD; è invece richiesto un flusso di sintesi aggregato tra DGD e SACE; nel caso in cui si verificano dei problemi a livello di operatività l'area si interfaccia con il dipartimento (tutti i dipartimenti sono rappresentati nella SACE) di riferimento che fornisce la soluzione funzionale idonea.

Non solo la SACE deve poter vedere quanto accade sul territorio ma anche i dipartimenti, che svolgono un ruolo fondamentale per quanto riguarda le competenze messe in campo per fronteggiare l'emergenza.

Risorse umane

In condizioni di routinarietà, in caso di mancanza di risorse in un distretto, il direttore di DGD sposta le risorse tra i distretti di sua competenza effettuando sostituzioni con personale di pari area; in emergenza questo schema può non essere rispettato: il concetto di aree integrate si attua nella possibilità di far operare professionisti di un determinata area in un'area differente; ovviamente è richiesto di fornire istruzioni operative inerenti la nuova area o di affiancare il personale non esperto a persone con competenze specifiche. Oltre alle 5 aree integrate in emergenza è possibile contare anche su altre figure professionali, quali, direttore e personale

amministrativo.

La distribuzione delle risorse nei distretti è oggi rilevata in base ad un criterio di tipo gestionale, rilevato dal PAC; per ogni risorsa viene riportata la percentuale di operatività in un dato distretto ed in una data area, rispetto al monte ore lavorativo. I criteri certi di suddivisione delle risorse ASL sono:

- DGD
- Professione
- Area integrata

Da valutare l'utilità di un'ulteriore suddivisione in distretti.

Bisogna tener presente che in pandemia vengono sospesi i servizi non essenziali e le risorse vengono impiegate nei distretti con criticità.

Intervista n. I8	Data: 29.04.08 Luogo: Spedali Civili Brescia – Italy	Ora: 15:00-16:00
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Paolo Marzollo	
Temi principali	Emergenze infettivologiche	
Risultati	<p>Spedali Civili è dotato di appositi piani e procedure che permettono di affrontare le emergenze infettivologiche, tra le quali la pandemia influenzale. Anche il 118 (Servizio Sanitario di Urgenza ed Emergenza Medica) possiede le procedure per la gestione dell'emergenza, tra le quali quelle per il coinvolgimento delle associazioni di volontari.</p> <p>Entrambi i soggetti operano in autonomia; il rapporto con ASL è relativo alla segnalazione di malattia infettiva e di decesso, secondo i flussi già oggi in essere.</p>	

Intervista n. I9	Data: 20.05.08 Luogo: Associazione comuni bresciani – Brescia - Italy	Ora: 10:30-12:00
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Intervista individuale	
Esperto	Dott. Domenico Alberti	
Temi principali	Rapporti tra ASL ed enti locali (comuni) Rilevazione dell'assenteismo scolastico Rilevazione del tasso di mortalità	
Risultati	<p>Il progetto Healthtreats, rispetto all'ambito comunale, si può posizionare nel rapporto tra ASL e Comuni; in particolare si individuano i seguenti punti di contatto:</p> <ul style="list-style-type: none"> – la Conferenza dei Sindaci e il relativo organo di rappresentanza (Consiglio di Rappresentanza dei Sindaci) che si raccordano con la Direzione Generale e le Direzioni Aziendali dell'A.S.L – le assemblee Distrettuali dei sindaci che operano in stretta collaborazione con i distretti socio sanitari <p>I dodici distretti socio sanitari sono infatti coincidenti con le dodici Assemblee distrettuali dei sindaci, alle quali partecipano sempre i rappresentanti delle Direzioni Gestionali Distrettuali.</p> <p>Il DSS potrebbe considerare il dato relativo all'assenteismo scolastico che, ad oggi, dovrebbe essere rilevato dal Dirigente scolastico.</p> <p>La rilevazione del tasso di mortalità dovrebbe invece essere sempre gestito da ASL che è anche in grado di identificare la causa del decesso; il comune registra i decessi ma i dati comunali vengono utilizzati per finalità anagrafiche e civili.</p>	

Intervista No. G3	Date: 02.07.08 Luogo: ASL Brescia – Italy	Time: 14:30-16:30
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Focus group / Brainstorming	
Esperti	<ul style="list-style-type: none"> – Dott. Guglielmino Baitelli – Dott. Giuseppe Boschi – Dott.ssa Simona de Filippo – Dott.ssa Daniela Feltrinelli – Dott.ssa Simonetta di Meo 	
Temi principali	Verificare la completezza e correttezza dei requisiti del DSS	
Risultati	<p><u>Scopo dell'intervista</u></p> <ul style="list-style-type: none"> • Esporre il risultato dell'analisi dei requisiti del DSS • Illustrare il modello proposto di DSS • Verificare la completezza e la correttezza dei requisiti del DSS • Approvare il documento finale <p><u>Validazione</u></p> <p>A seguito della presentazione del documento finale e dei relativi contenuti gli esperti ritengono che l'insieme dei requisiti funzionali del DSS sia completo rispetto alle aspettative e alle necessità dell'ASL di Brescia. Il modello del DSS proposto si adatta alla struttura ASL di appartenenza. Si precisa che le necessità espresse sono strettamente dipendenti dalle attuali conoscenze rispetto al fenomeno pandemico e alla normativa vigente.</p>	

Intervista No. G4	Date: 29.10.08 Luogo: ASL Brescia – Italy	Time: 14:30-16:30
Ingegnere della conoscenza	M. Rossi	
Tecnica d'intervista	Focus group / Brainstorming	
Esperti	<ul style="list-style-type: none"> – Dott. Guglielmino Baitelli – Dott. Giuseppe Boschi – Dott.ssa Simona de Filippo – Dott. Tarcisio Marinoni – Dott.ssa Simonetta di Meo 	
Temi principali	Verificare la completezza e correttezza dei requisiti del DSS, a seguito di ulteriore analisi e generalizzazione	
Risultati	<p><u>Scopo dell'intervista</u></p> <ul style="list-style-type: none"> • verificare la completezza e la correttezza dei requisiti del DSS • esporre il risultato delle generalizzazioni e degli approfondimenti effettuati • illustrare il contenuto dei nuovi capitoli del documento del task 5.2 • raccogliere i questionari relativi al ranking dei requisiti funzionali del DSS e relativo feedback • approvare e validare i nuovi contenuti del documento <p><u>Risorse – Generalizzazione</u></p> <p>Al fine di proporre un modello esportabile anche ai partner stranieri, gli esperti concordano nel semplificare il modello di ASL che prevede, in linea teorica, una suddivisione delle risorse in base alla DGD e ai distretti di ogni DGD. Si ritiene opportuno classificare le risorse umane, e la relativa disponibilità, in base ai seguenti criteri:</p> <ul style="list-style-type: none"> • ruolo (medico, infermiere, ecc) • area (area igiene, area cure primarie, ecc) • DGD di appartenenza <p>Le risorse materiali/strumentali saranno classificate in base a:</p>	

- Tipologia di risorsa (vaccino, farmaco, ecc)
- DGD

Per le risorse materiali/strumentali non è necessario considerare i singoli punti di stoccaggio, ma solo la DGD alla quale esse appartengono.

Per l'ambito veterinario al posto della DGD si considereranno i distretto veterinari.

Ranking dei requisiti

Gli esperti hanno consegnato i questionari relativi al ranking dei requisiti precisando che le loro preferenze sono state individuate in base alla propria mansione svolta, competenza e necessità. L'ingegnere della conoscenza precisa che i risultati dei questionari verranno valutati al fine di individuare, sulla base di una stima costi/benefici, una priorità delle funzioni del DSS da implementare.

Processi

Il DSS sarà in grado di gestire i processi utili in caso di pandemia sottoforma di piani d'intervento. La maggior parte delle procedure finora raccolte si prestano ad essere formalizzate come documenti da rendere disponibili tramite il gestore documentale del DSS. Dovranno essere individuati i processi di medio livello da formalizzare tramite un apposito linguaggio di rappresentazione dei piani d'intervento del DSS

Validazione

Ai fini di validare i risultati ottenuti, gli esperti ritengono che

- l'insieme di requisiti funzionali del DSS sia completo rispetto alle aspettative e alle necessità individuate (allo stato attuale)
- siano stati colti gli aspetti emersi dalle varie riunioni individuali e di gruppo (le quali sono state tutte progressivamente validate)
- le generalizzazioni apportate ai requisiti del DSS siano congruenti rispetto alle necessità del DSS. Ovviamente gli esperti non possono esprimere alcun parere in merito alla congruenza rispetto alle necessità degli altri

	<p>partner stranieri</p> <ul style="list-style-type: none">• il modello di DSS proposto permetta di soddisfare le necessita della propria organizzazione. Gli esperti precisano che il DSS fa riferimento alla struttura ASL individuata dal POFA vigente.• se il DSS sarà realizzato così come individuato nel documento esso possa rivelarsi uno strumento utile per la gestione di un'emergenza pandemica
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Annex I. Ranking of requirements

The contents of the questionnaire Q3 filled-out by ASL domain experts have been summarized as reported below, specifying the number of preferences expressed for each requirement/priority. Questionnaires have been filled-out by 7 domain experts.

Function requirements	User classes	Priorities		
		Mandatory	Advanced	Nice to have
Events, plans, and actions				
76. The DSS must be able to propose and support the execution of plans for human and veterinarian aspects according to the events occurred		6	1	
77. The DSS must be able to support the execution of plans at central and local level		7		
78. The DSS must be able to support execution of both structured and unstructured plans		4	1	1
79. The DSS must allow users to specify any primary events occurred, specifying: <ul style="list-style-type: none"> – Common attributes – characterizing attributes – documentation attached (as appropriate) The DSS must keep a record of the event manager that inserts the event, date and time	Event manager	7		
80. The DSS must be able to accept at any time instant the specification of occurred events		5	1	
81. The DSS must allow users to consult the list of primary events occurred: <ul style="list-style-type: none"> – Common attributes – characterizing attributes – documentation attached (if any) – event manager notifying – date and time of insertion 	Event manager Central crisis manager Local crisis manager Observer	6	1	

82. The DSS must suggest the intervention plan to be applied to face a primary event. The DSS may suggest: <ul style="list-style-type: none"> – No plan (in case no plan has been defined for the type of event occurred) – A single plan – More plans to be carried out in parallel – Alternative plans. The central crisis manager may choose to start a plan not suggested by the DSS, generating a tertiary event of type 2	Central crisis manager	4	3	
83. The DSS must allow users to choose which plan to execute (in case alternative plans are suggested)	Central crisis manager	6		1
84. The DSS must allow users to require the execution of a specific plan (tertiary event of type 2); the request may be made both at local and central level	Central crisis manager Local crisis manager	3	4	
85. The DSS must manage the parallel execution of plans		5	2	
86. The DSS must allow users to stop a running plan	Central crisis manager Local crisis manager	6	1	
87. The DSS must allow to select among alternatives actions present inside a specific intervention plan, in case the DSS can not decide on the basis of the result of undertaken actions	Central crisis manager Local crisis manager	6	1	
88. The DSS must suggest the actions to be carried out on the basis of: <ul style="list-style-type: none"> – Plan control flow – Secondary events – Decisions taken by crisis managers Actions may have links to the documental repository (fill-in forms or documentation)		5	2	
89. The DSS must allow the continuous monitoring of the state of execution of the plan through a visual aid (a flow chart with execution trace)	Central crisis manager Local crisis manager Field operator Observer	5	2	

90. The DSS must allow to view all completed plans; the DSS must allow to inspect the actions undertaken, the decisions made and the results	Central crisis manager Local crisis manager Observer	7		
91. The DSS should provide search methods to retrieve plans on the basis of an originating event, a thematic area or a name	Central crisis manager Local crisis manager	5	2	
92. The DSS must allow to inspect an intervention plan before its execution through a visual aid (a flow chart)	Central crisis manager Local crisis manager	5	2	
93. The DSS must allow to inspect the originating event of an intervention plan, during its execution	Central crisis manager Local crisis manager Field operator Observer	5	2	
94. The DSS must allow to insert the result of any action undertaken (secondary event), attaching, as appropriate, documentary evidence	Central crisis manager Field operator	5	2	
<u>Plan management at central level</u>				
95. The DSS must allow users to require plan execution at central level.	Central crisis manager	7		
96. The DSS must notify the central level about the request of execution of a plan	Central crisis manager	6	1	
97. The DSS must notify the central level about the interruption or the failure of a central plan	Central crisis manager	7		
<u>Plan management at local level</u>				
98. The DSS must allow requiring plan execution in one or more territorial branches; any useful target information may be specified	Central crisis manager	6	1	
99. The DSS must notify the local level about	Local crisis manager	7		

the request of execution of a plan				
100. The DSS must allow a local crisis manager to refuse to execute a plan; the DSS must notify the central level about the refusal	Local crisis manager Central crisis manager	5	2	
101. The DSS must notify the central level about the interruption or the failure of a local plan	Central crisis manager	7		
Document management				
102. The DSS must allow to store documents about primary events (see item n. 4)	Event manager	7		
103. The DSS must allow to store documents about secondary events (see item n.19)	Field operator Central crisis manager	4	3	
104. The DSS must allow to insert a collection of reference documents useful to emergency operation	Document manager	6	1	
105. The DSS must allow to insert a collection of fill-in forms	Document manager	6	1	
106. The DSS must allow to download the fill-in forms related to specific actions	Field operator Central crisis manager	6	1	
107. The DSS must allow to retrieve documents about primary events occurred (see item n. 6)	Central crisis manager Local crisis manager Field operator Observer	5	2	
108. The DSS must allow to retrieve documents about secondary events (fill-in forms)	Central crisis manager Local crisis manager Field operator Observer	4	3	
109. The DSS must allow to retrieve reference documents by: – Direct link from the plans – Search methods	Central crisis manager Local crisis manager Field operator Observer	4	2	1

Knowledge management				
110. The DSS must allow to classify a new primary event, defining its attributes	Knowledge administrator	6	1	
111. The DSS must allow to associate to a primary event the relevant intervention plans: <ul style="list-style-type: none"> – A single plan – More plans to be carried out in parallel – Alternative plans 	Knowledge administrator	6	1	
112. The DSS must allow to define a new intervention plan, specifying: <ul style="list-style-type: none"> – Name – Thematic area – Structure – Level – Actions – Control flow – Decision points – Tertiary events 	Knowledge administrator	6	1	
Users administration				
113. The DSS must allow to create, modify and update user accounts; each user account must be associated (at least) to a user group	DSS administrator	6	1	
114. The DSS must allow to create, modify and update user groups; for each user group permissions and privileges must be defined	DSS administrator	6	1	
Material Resources management				
115. The DSS must provide the ordinary and extraordinary (additional beds) availability of: <ul style="list-style-type: none"> – hospitals – nursing homes – health-care structures – socio-assistance structures 	Central crisis manager Local crisis manager Observer	7		

<p>For each structure the following information must be specified:</p> <ul style="list-style-type: none"> – Contact information – Ordinary and extraordinary maximum availability – Ordinary and extraordinary actual availability 				
<p>116. For each structure listed at item 40 the DSS should specify:</p> <ul style="list-style-type: none"> – Number of operators exposed to risk of infection – Number of operators treated with antiviral prophylaxis – Number of operators vaccinated 	<p>Central crisis manager Local crisis manager Observer</p>	5	2	
<p>117. The DSS must provide the availability of:</p> <ul style="list-style-type: none"> – Anti-viral drugs – Vaccines – Individual Protection Equipments – Diagnostic kits – Material for disinfection – Useful drugs 	<p>Central crisis manager Local crisis manager Observer</p>	6	1	
<p>118. The DSS should provide the availability of vaccine storage facilities specifying:</p> <ul style="list-style-type: none"> – Facility information – Maximum availability – Actual availability 	<p>Central crisis manager Local crisis manager Observer</p>	7		
<p>119. The DSS must provide search facilities to obtain a list of available material resources according to a set of user-specified criteria</p>	<p>Central crisis manager Local crisis manager Observer</p>	7		
Human resources management				
<p>120. The DSS must provide the list of health authority staff, including doctors, specifying:</p> <ul style="list-style-type: none"> – Personal information – Contact information 	<p>Central crisis manager Local crisis manager Allocation table manager</p>	7		

<ul style="list-style-type: none"> – Company position – Qualification and role – Availability – Antiviral coverage – Vaccine coverage 				
<p>121. The DSS must provide the list of medical guard services specifying:</p> <ul style="list-style-type: none"> – Contact information – Number of available day shifts – Number of available night shifts – MCA’s allocated to services 	<p>Central crisis manager Local crisis manager</p>	7		
<p>122. The DSS must provide for each doctor the number of patients.</p>	<p>Central crisis manager Local crisis manager</p>	5	2	
<p>123. The DSS should provide for each doctor the subdivision of patients in risk classes (as defined in the regional plan)</p>	<p>Central crisis manager Local crisis manager</p>	3	4	
<p>124. The DSS should provide functions to contact health authority staff and doctors by email and SMS</p>	<p>Central crisis manager Local crisis manager</p>	6	1	
<p>125. The DSS must provide the allocation table of health authority staff in the territorial structure, specifying:</p> <ul style="list-style-type: none"> – Qualification – Area 	<p>Central crisis manager Local crisis manager Allocation table manager Observer</p>	6	1	
<p>126. The DSS must permit to obtain manually the allocation of health authority staff in the territorial structures; it must be possible to select a person from a list (item 45) and allocate him to the structure, specifying the area</p>	<p>Allocation table manager</p>	5	2	
<p>127. The DSS should provide search facilities to obtain a list of available human resources according to a set of user-specified criteria</p>	<p>Central crisis manager Local crisis manager Allocation table manager Observer</p>	6	1	
<u>Antiviral drugs management</u>				

128. The DSS may provide the list of individuals (staff not belonging to health authority) treated with antiviral drugs	Central crisis manager Local crisis manager	5	1	1
129. The DSS must provide the list of health authority staff treated with antiviral drugs	Central crisis manager Local crisis manager	5	1	1
130. The DSS should provide reports and graphics (time evolution) about the antiviral coverage of health authority staff and doctors	Central crisis manager Local crisis manager Observer	1	6	
<u>Pandemic vaccine management</u>				
131. The DSS must provide the list of health authority staff and doctors vaccinated (pandemic vaccine)	Central crisis manager Local crisis manager	5	1	1
132. The DSS must provide reports and graphics (time evolution) of immunisation coverage (pandemic vaccine) for health authority staff and doctors	Central crisis manager Local crisis manager Observer	2	5	
133. The DSS must provide reports and graphics (time evolution) of immunisation coverage (pandemic vaccine) of the population; a classification based on regional criteria must be taken into account: – Classes of subjects: – Health care and socio assistance staff – Essential services, security and emergency staff – Public utility services staff – People with high risk of serious complications – People who can probably became ill – Priority level – Prime level – to ensure immediately – Second level	Central crisis manager Local crisis manager Observer	4	3	

– Third level				
Information about the emergency situation				
134. The DSS must provide the list of critical patients specifying: – Private data – Contact information – Health care needed – Pandemic vaccine coverage	Central crisis manager Local crisis manager Field operator	6		1
135. The DSS must provide the list of patients in domiciliary health care specifying: – Private data – Contact information – Kind of assistance – Pandemic vaccine coverage	Central crisis manager Local crisis manager Field operator	6	1	
136. The DSS must provide the list of poultry farms specifying: – Contact information – Poultry species and number	Central crisis manager Local crisis manager Field operator Observer	7		
137. The DSS should specify, for each poultry farm: – Number of operators exposed to risk of contagion – Number of operators treated with antiviral prophylaxis – Number of operators vaccinated	Central crisis manager Local crisis manager Field operator Observer	5	1	1
138. The DSS must provide reports and graphics (time evolution) of deaths in representative sample of municipalities, with weekly update	Central crisis manager Observer	3	4	
139. The DSS may provide reports and graphics (time evolution) of number of hospital admissions, classified according to the type of disease, with weekly update	Central crisis manager Observer	1	6	
140. The DSS must provide reports and	Central crisis manager	5	1	1

graphics (time evolution) of hospital deaths from pandemic influence, with weekly update	Observer			
141. The DSS must provide reports and graphics (time evolution) about the number of infected people	Central crisis manager Observer	5	2	
142. The DSS must provide reports and graphics (time evolution) about the number of healed subjects	Central crisis manager Observer	2	5	
143. The DSS may provide reports and graphics of weekly rate of absenteeism in a sample of schools	Central crisis manager Observer	1	5	1
144. The DSS should provide reports and graphics of weekly rate of absenteeism in a sample of companies	Central crisis manager Observer	1	5	1
Geographical mapping				
145. The DSS should provide maps about the evolution of the emergency situation. Maps will display the geographical location of: <ul style="list-style-type: none"> – Poultry farms with and without animal infections – Single human outbreaks of pandemic influence – Clusters of infected people – Municipalities / quarter where pandemic vaccine has been distributed – Municipalities / quarter where antiviral prophylaxis has been carried out – Municipalities / quarter with healed subjects – Municipalities / quarter with deaths from pandemic influence – Available sanitary services (doctors and medical guard service) – Critical patients – Patients in domiciliary care 	Central crisis manager Local crisis manager Observer	5	2	

146. The DSS should provide maps showing the geographical location of available sanitary services (doctors and medical guard service)	Central crisis manager Local crisis manager Observer	5	1	1
147. The DSS will display the geographical location with appropriate markers / placeholder (a map key will be defined) dependent on the item represented		4	2	1
148. If the placeholder represents a variety of elements (number of infected people, healed subjects, etc.), the DSS will provide a marker appropriate to the number of elements (or it will permit to consult this information)		4	2	1
149. The DSS should provide maps with circular area (of desired size) around points of interest	Central crisis manager Local crisis manager Observer	4	1	2
150. The DSS should provide functionalities useful to consult maps at the right zoom level	Central crisis manager Local crisis manager Observer	1	5	1

COLLECTION AND DOCUMENTATION OF PROCESS REDESIGN REQUIREMENTS

The Work Group

The Work Group is a group which meets to carry out a specific task and which must cooperate rationally. Within the group there are specific rules of procedure and an organised structure.

Elements that characterize the group are therefore:

- A working objective to reach
- A small group of people whose wishes and needs at work are mutually dependent, amongst themselves and with the working objective, and are, therefore, suitable to work together
- The need for these people to coordinate their activities in view of the end objective.

This implies:

- A certain organisational and operative autonomy with respect to company hierarchy, at least, as far as the task in hand is concerned.
- Groups should be of limited numbers, to facilitate interaction and direct, personal communication with all group members.

Aspects to be considered for smooth running of the work group are:

- Knowledge of and clarity about the purposes for which the group was formed
- Identification of the specific objectives that the group wishes to pursue
- Precise definition of roles, both of participants and of the moderator
- Choice of the working methods to be adopted by that particular group

Composition of the group

The groups are formed in relation to the subject assigned to them, in order to include in the group all the skills and knowledge necessary to realize decisive, concrete and feasible proposals.

The group can be made up of members with different positions in the company hierarchy: during group work, however, such differences must not be taken into consideration. In fact, roles within the work group are assigned independently of the position in the company. Furthermore, all participants are requested to participate and contribute to the same level.

Work group meetings

The group performs three functions in a meeting:

- 1 The function of *production*, geared at collecting and providing information for problem-solving.
- 2 The function of *facilitation*, which aims at stimulation and debate about realising aims by means of the study/research of suitable working methods.

3 The function of *clarification*, necessary to understand group dynamics, in particular, once difficulties and resistance to change become clear.

As far as method is concerned, there is always a “before” in realizing a meeting (who should participate, the agenda, documents, various material needed, rethinking of one’s ideas, layout), a “during”, for the meeting itself, when the subject matter is explored and an “after”; a phase in which each individual rethinks the developments of the meeting to then make group decisions operative and to rationalize the experience.

The meeting should have three phases of:

- INFORMATION GATHERING, in which all participants’ ideas/opinions/hypotheses on the object of the meeting are gathered
- ELABORATION, in which individual options are discussed and a scale of priority is specified, choosing material and economic and human resources available wisely.
- DECISIONAL MAKING, in which high priority issues are stated clearly, along with the eventual need for further deepening of knowledge, deciding on “who does what, and with which objectives”.

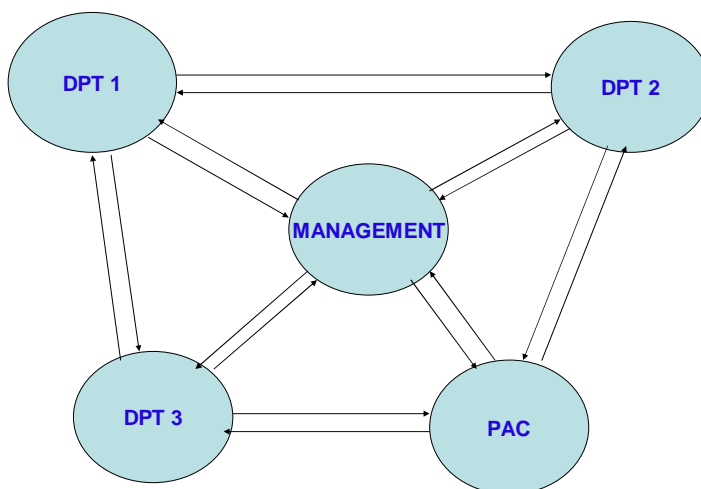
The necessity to keep check on objectives, timing, the order in which work hypotheses are presented, tasks, decisions, etc..., requires a coordinator for the functions of monitoring, direction and animation of the meeting itself, the MODERATOR.

Mapping of the processes

In order to put into practice the mapping of processes, it is necessary to overcome the conception of the company as ensemble of different jobs and specializations and consider it, instead, a system of processes.

There is no universally recognised guideline to do so, therefore, different companies will have different mapping, which will always correspond to the level of clarity to be found within the company as regards its objectives.

THE COMPANY AS A SYSTEM



In any case, the starting point is the concept of **PROCESS**: a logic-temporal sequence of interactive actions and decisions which turn an input into a concluded output.

There are various ways of mapping company processes.

We will use the approach known as MOUTH-SOURCE the starting point of which is normally “critical factors” determining a flow of activities working its way backwards, taking as “critical factor” an influenza pandemic emergency.

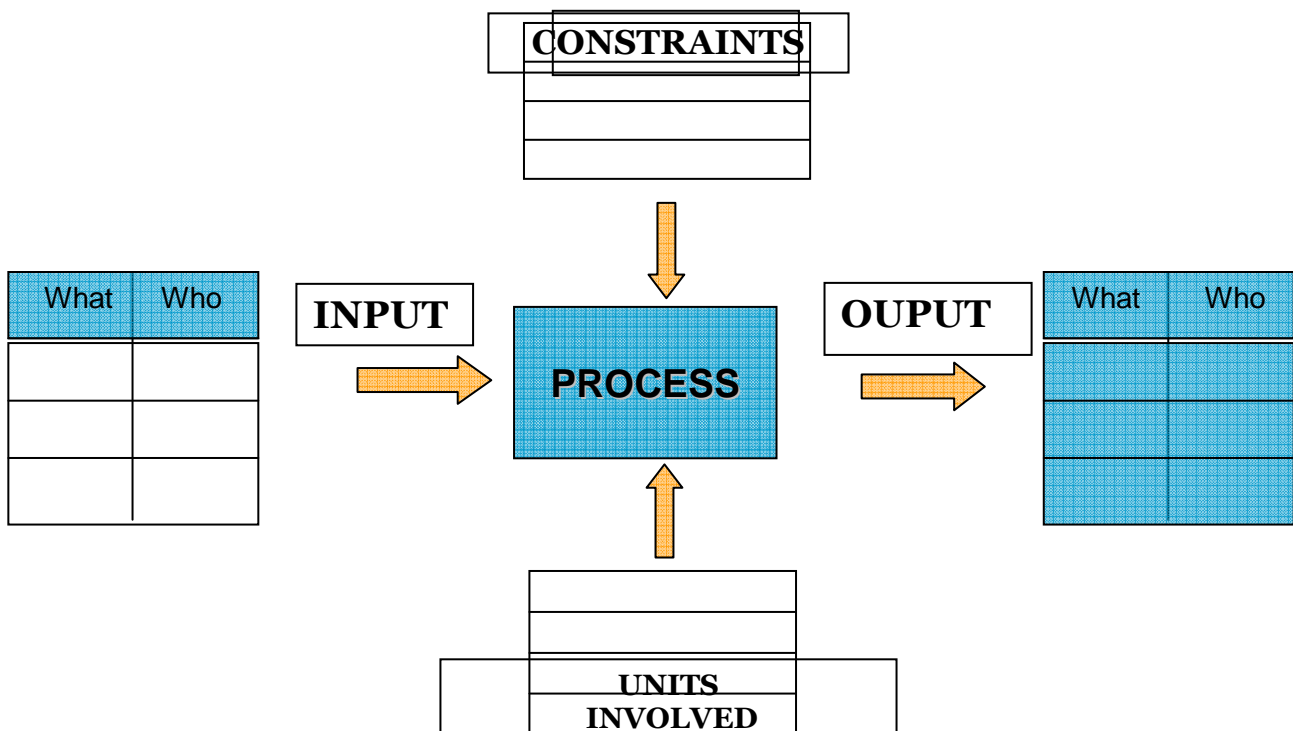
The presentation of processes

It is necessary to present the process visually, using graphics, as they make it easier to understand the activities carried out in the process and their interrelation. In particular, this type of presentation gives an instant perception of the sequence of activities, lay-out, information system supports, times, quality parameters, skills involved...

In order to realize the presentation, it is necessary to:

a) Define the process:

- Name of the process
- input: what are they and which organisation unit do they come from
- output: what are they and which organisation unit (internal clients) or external clients are they intended for
- company areas involved (companies involved)
- constraints: factors which condition the process



b) Focusing on explicit and latent expectations

The Process is a sequence of activities that allow input to be turned into output, increasing its value

The value of the output does not always coincide with evaluation of the process efficiency indicator:

evaluating performance means keeping company targets under control but not necessarily fully satisfying the client's requirements.

c) Defining the logical flow

This means demonstrating the logical-temporal sequence through a flowchart. To do so, clearly, it is necessary to be acquainted with those involved in the process, the methods and times necessary to connect activities, the detail of the flow (the detail with which the flows must be described).

The flowchart can also include information such as: input, controls (regulations, plans and aims, procedures, instructions, rules and reference standards), the means (equipment, machinery, tools, consumables, information system supports, human resources ...), the output, times of realization of individual activities, the volume of work over the time of reference.

It is, however, not advisable to exaggerate in the detail of the flowchart, as this could be nothing more than a waste of time and misleading in terms of replanning.

Replanning, in fact, normally means reconsidering the logical-temporal sequence of events or transferring specific skills to other organisational units.

PRESENTING THE PROCESS AND REPLANNING IT ARE NOT TWO SEPARATE ACTIVITIES

Presenting a process that already exists leads to identification of activities and actions that are not actually carried out, but that it would be useful to include in the flowchart as an innovative element or, otherwise, in the replanned version.

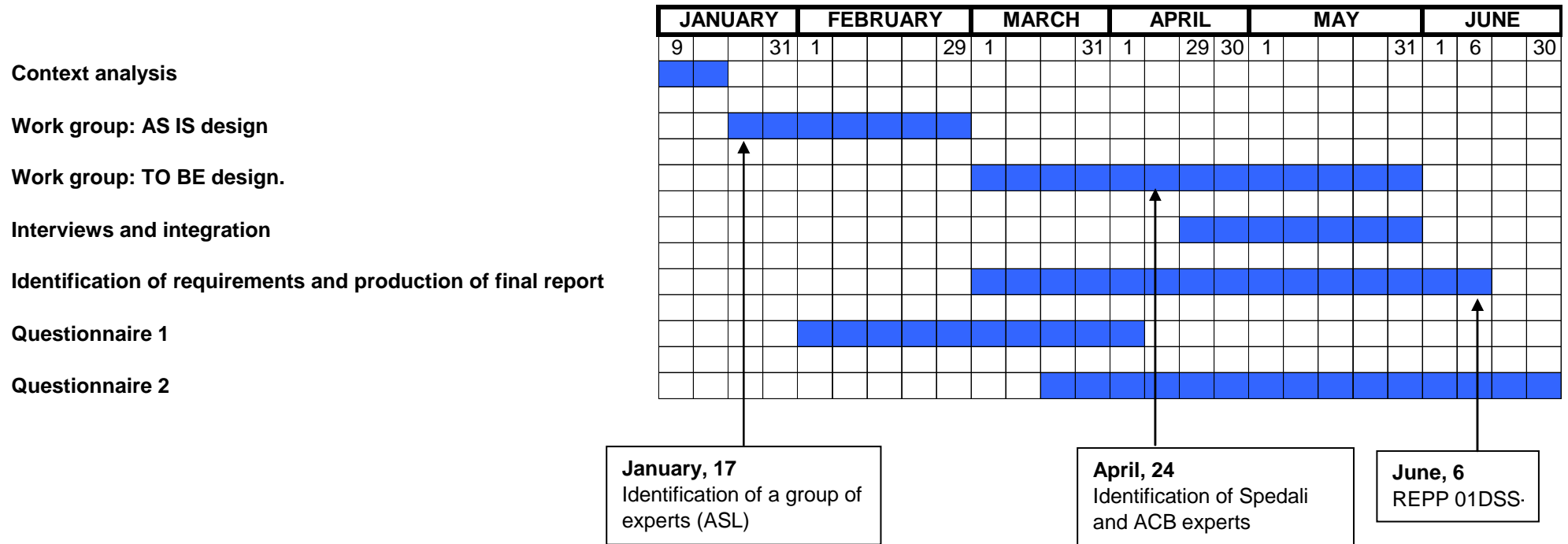
Replanning of the process

A creative activity which foresees the definition of new working methods for important processes in order to achieve strategic objectives.

It is not carried out on the basis of thorough analysis of data details and not even on the basis of comparison between the costs of activities already carried out and costs of the activities proposed.

In fact, on many occasions, detail data analysis is much more expensive than the benefits to be had.

The timesheet of these activities is reported below:



CAUSE-EFFECT DIAGRAMME ("ISHIKAWA")

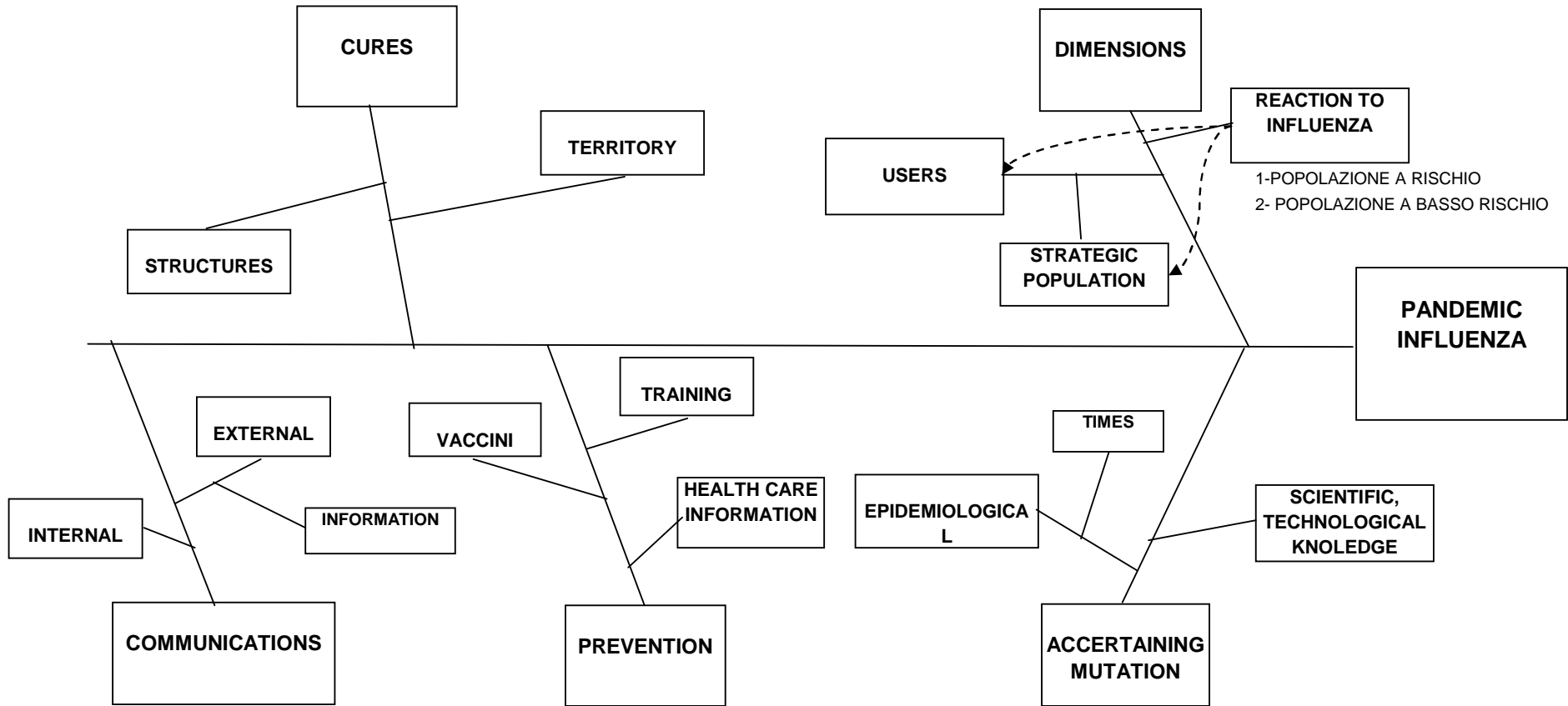
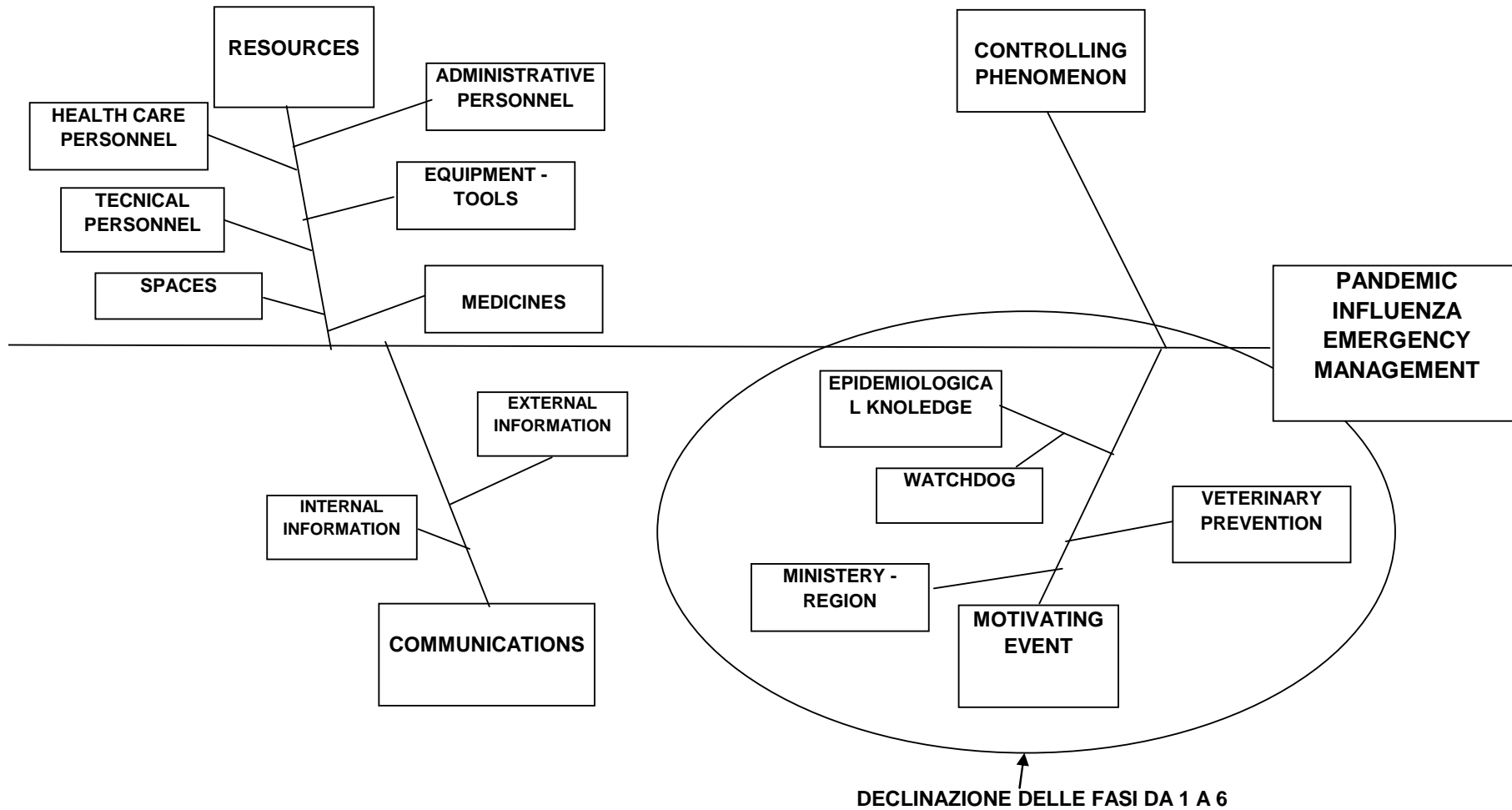


DIAGRAMMA CAUSA-EFFETTO "PANDEMIA INFLUENZALE" ("ISHIKAWA")

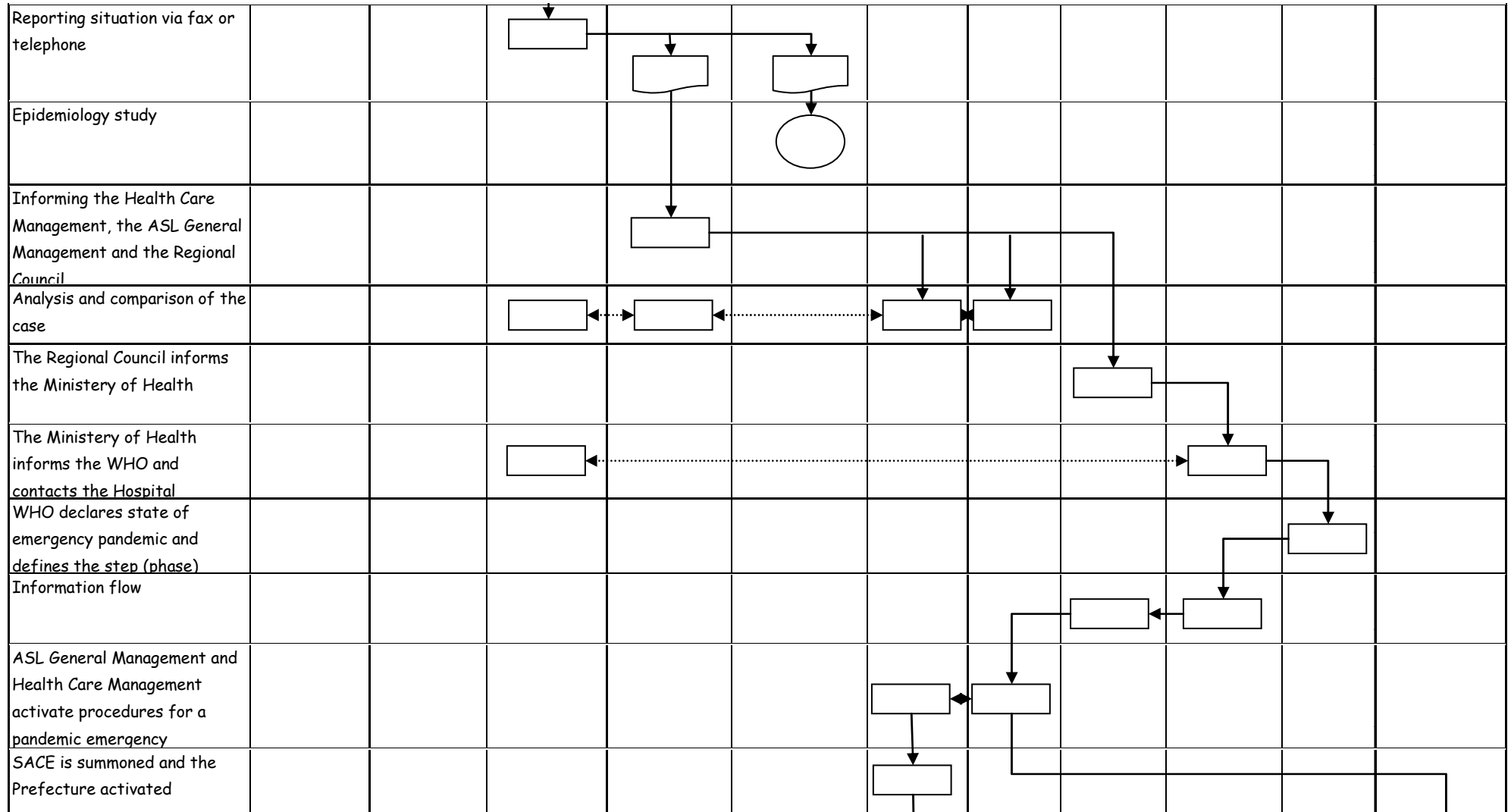


Procedure of interactivity

PURPOSE

The purpose of this procedure is to describe and document how to manage the organisational aspects and communication following the identification of an aetiological agent.

ACTIVITY	PATIENT	GP or PGP	HOSPITAL-EMERGENCY	MEDICAL PREVENTION DPT	LOCAL HEALTH CARE DISTRICT	HEALTH CARE MANAGEM ENT	ASL GENERAL MANAGEM ENT	REGIONAL COUNCIL	MINISTRY	WHO	PREFECTURE
Appearance of suspect symptoms											
Call GP or PGP?											
Examination at home or out-patient's											
The patients goes to Emergency Room?											
Call ER											
Dossier "Infection emergencies" chapter 5 Transport procedures											
Application of procedures for suspected infectious diseases (Dossier)											
Patient admitted to Infectious diseases unit of Hospital											
Diagnostic controls at infectious diseases unit											
Identification of aetiological agent (step 3)											



The Prefect assembles the Crisis Unit to define a joint plan action						↓					↓ □
DSS activation						○ DSS					



ACTIVITY

Explanation of the diagramme

The patient, with suspected symptoms, can:

- call the General Practitioner (GP) or Paediatric General Practitioner (PGP)
- go to the GP or PGP
- go to the Emergency Room

GP or PGP examines the patient at home or outpatient's.

GP or PGP calls ER.

ER organises the transport of the patient to the Hospital and applies specific procedures for "Infection emergencies" (Dossier)

When the patient is in the Hospital at Emergency Room other procedures for suspected infectious diseases are applied (included in the same Dossier).

The patient must be admitted to the Infectious Disease Unit of the Hospital where diagnostic controls must be done.

Here they can identify the aetiological agent.

The Hospital reports situation to Medical Prevention DPT (ASL) and to Local Health Care District (ASL) which begins the Epidemiological Study (Specific Work Procedure PO SISP 7.14).

The Medical Prevention DPT informs the Regional Council, the Health Care Management and the ASL General Management that promote the analysis and the comparison of the case together with the Hospital and the Medical Prevention DPT.

The Regional Council informs the Ministry of Health that informs the WHO and contacts the Hospital.

WHO declares state of emergency pandemic and define the step (phase).

WHO communicates the Phase to the Ministry of Health that informs the Regional Council.

The Regional Council informs ASL General Management and Health Care Management that activate procedures for a pandemic emergency (all the working procedures individuated by the group must be applied).

ASL General Management and Health Care Management summon the SACE (group of managers of the main departments of ASL) and activate the Prefecture that assembles the Crisis Unit to define a joint plan action.

ASL General Management will activate all the mayors of the countries to suspend mass events and close schools.

Since ASL General Management summons SACE the specific DSS is activated to manage and control the emergency status.

Working procedure

Hospital - Transport in Emergency

Indications for the management of health care emergencies
D.G.R. 504/05

INFECTION EMERGENCIES - TRANSPORT PROCEDURES

CALLS

The central 118 operator service can be used by:

- General Practitioners or Paediatricians
- Emergency Services Doctors
- Directly by the patient

The operator service provides for transport and advises:

- The Infectious Diseases Unit for admissions
- The Public Hygiene Service for prevention measures

PREPARATION OF THE MEANS OF TRANSPORT

Equipment: only the equipment necessary

Ventilation:

- seal off the passenger compartment from the driving cabin
- turn off air circulation (air conditioning or other)
- activate a slightly negative pressure in the passenger compartment

CREW

- As few members of the crew as possible should be used
- If three operators are involved, not more than two should come into direct contact with the patient
- The driver should avoid close contact with the patient

PROTECTION EQUIPMENT

- FFP2 masks
- non-sterile disposable gloves
- TNT shirts
- protective glasses or eye shade
- headwear*
- disposable footwear*
- some surgery masks

PERSONAL SAFETY KITS FOR TRANSPORTING INFECTED SUBJECTS

It may be advisable to prepare some ready-to-use kits which contain all the personal safety equipment that is not part of the standard equipment supplied and which should be used in these

specific cases (protective shirt, glasses, FFP2 mask etc.).

HEADWEAR AND DISPOSIBLE FOOTWEAR

They are not recommended in all protocols but should certainly be used in high-risk situations such as:

- Loss of body fluids:
- Patients with a cough who refuse to wear a mask
- Bleeding, etc.
- High-endemic situations (not contemplated by this protocol)

USE OF PROTECTIVE MEASURES

Put protective equipment on before seeing the patient

The patient should then be given a surgery mask to put on which covers both nose and mouth

DURING TRANSPORT

Contact the central operator service at 118

inform patients and family members about transport to the Infectious Diseases Unit

people who live with the patient must not accompany him/her to the hospital

Avoid personal activities such as: eating, drinking, putting on make-up, touching contact lenses, smoking

Avoid using personal mobile telephones

TRANSPORT BY AMBULANCE

TRASFER TO INFECTIOUS DISEASES UNIT

- The patient must wear a surgery mask and be put into the ambulance in such a way as to contaminate it as little as possible
- The patient must remain in the ambulance until being taken to the room indicated

AFTER TRANSPORT

The operators return to the passenger compartment and keep their protective equipment on until they return to their base

On arriving at the base, they will remove their protective equipment following precise procedures (for example, those shown in the video) and will put it in a container for potentially infected rubbish (which can be closed and has a disposable bin liner)

Hands must be washed with soap and water or with an alcohol solution

PROCEDURE RECOMMENDED FOR REMOVING PERSONAL SAFETY EQUIPMENT

1. take off gloves rolling them down from the wrists, without touching the skin
2. take off shirt taking care to fold the contaminated side inwards, throw it away in a covered bin
3. wash hands
4. take off protective glasses or eye shades;
5. remove mask/inhaler, taking care to touch only the strings and not the contaminated part, throw it

away in a covered bin
6.wash hands

TRANSPORT IN AMBULANCE AFTER ARRIVAL OF THE PATIENT

No restrictive measures are suggested for health care workers who have come into contact with a probable or suspected case of SARS

If personal safety equipment has been adopted from the very beginning of contact, the risk factor should be considered extremely low or nil

If contact (unprotected) was close (less than 1 m), clothes must be taken off and put in a bag and left for two days, after which they can be washed normally

Washing hands is always important

DISINFECTING THE AMBULANCE

After transporting the patient, the ambulance must be left with doors and windows open and with no-one inside for 10 minutes, so that all drops of saliva settle

Personal safety equipment must be worn to clean the ambulance

All parts exposed must be washed with customary products and then disinfected, for example with:

- diluted bleach 1:50 for non-oxidizable parts
- Ethyl alcohol at 70° for metallic parts

The material used for cleaning and disinfecting must be disposable.

It must be disposed of, along with disposable gloves and shirts, in a container which must also to be disposed of.

Conclusions

- Transport should be carried out respecting “normal” procedures for transporting infected patients
- Any type of ambulance with separate driving cabins and passenger compartments can be used
- The fewest ambulance men possible should be exposed
- The ambulance men must wear personal safety equipment and put into practice other prevention measures
- The patient must wear a mask and be taken directly to the Infectious Diseases Ward
- The ambulance cannot be used again before being decontaminated.

Working Procedure

Control of Hospital Admission

PURPOSE

The purpose of this document is to describe and document the ways in which assistance is offered to patients in health care services.

ACTIVITY

To guarantee health care in Health and Social Care structures.

In order to limit the number of admissions to hospital during an influenza pandemic, ASL in Brescia has drawn up agreements with health and social care structures to guarantee, even in this scenario, the best possible care for patients involved and appropriate allocation should they need to be admitted to hospital. In order to reach such objectives, ASL has defined and formalized a draft agreement regarding the guarantee of health care during an influenza pandemic with all the residential health and social care structures on its territory (Nursing Service, RSD, ex-IDR rehabilitation structures etc). Each structure has formally adhered to the initiative, has identified personnel eligible for vaccination in case of pandemic and has organised, in accordance with indications given them by ASL of Brescia, a document which defines how to manage the structure correctly in case of pandemic. The document contains a concise Plan for the management of pandemic emergencies which:

5. identifies who is in charge of the Plan – who is in charge of health care, his/her responsibilities and those of personnel involved;
6. identifies the objectives of the structure;
7. defines how to obtain such objectives and the tools to be used;
8. defines the sequence of events to be carried out in case of pandemic, how to inform and train staff;
9. specifies the ways in which and how often the Plan is up-dated and the structure's method of archiving such Plan;
10. indicates what must be done to guarantee that the Plan is always ready to be implemented.

The Plan aims at guaranteeing adequate health care to those hospitalized, whilst limiting the number of patients admitted, increasing, if necessary, the number of beds available, according to the

capacity of the single structure and to the characteristics of the epidemic. In case of pandemic, the structure guarantees prompt vaccination of eligible personnel and patients following the same procedure used for influenza vaccination campaigns. The Plan includes a list of personnel on duty who are therefore eligible to be vaccinated. Personnel will be kept regularly informed and will be periodically instructed on what their duties are in case of pandemic. Should the number of beds need to be increased, the Plan defines and quantifies the number of “emergency” beds that could temporarily be made available, along with the standard number of beds, specifying how many beds can be set up, indicating on a map of the structure where numbers can be boosted. How to organize programmed access for new patients and family members, organization of medical supplies, safety measures, equipment and health care aids during a pandemic are also specified.

To guarantee health care within the Integrated Home Care Service.

In case of pandemic, in order to offer the home care necessary and to limit the number of hospital admissions, ways to guarantee an increase in staff dedicated to home care have been specified (for example: an increase in emergency medical service shifts; an increase in ADP/ADI; an increase in nursing staff) All structures/businesses involved in home care have been provided with indications on organizational procedures to be adopted in order to cope with a pandemic emergency.

Working Procedure

Healthcare Information

PURPOSE

The purpose of this procedure is to describe and document the ways in which information/health care education are provided for promoting and divulging measures of prevention for the general public, for those involved in response to a pandemic and for those within the Local Health Authority (ASL) itself.

INTRODUCTION

In case of pandemic, information and health care notifications will have a fundamental role both externally and within the Local Health Authority itself.

There will be three distinct types of notifications:

1. External notifications to the general public and to groups in the public considered at high risk of contamination
2. Internal notifications to inform those involved in various services of response to a pandemic (e.g. health care personnel in the structures/businesses over the territory, first aid bodies, GP and PGP etc.), who do not, however, work for ASL .
3. Notifications within ASL itself, involving all employees, at various levels, over the entire province.

ACTIVITY

1. Handling external notifications

During the inter-pandemic period and the period of pandemic alert – phase 3, information/health care education should be divulged to the general public, promoting general measures of prevention; in particular, in the case of seasonal influenza, some pamphlets have been drawn up and distributed («Più informati e meno influenzati», «Consigli ai viaggiatori internazionali», «Come rendere più sicuri i pollai domestici») and the Health Care Management web site has been up-dated (Questions

and answers regarding Avian Influenza, regulations and scientific material) along with the Health Care Service (ASL) web site.

When it becomes evident that the phases of pandemic alert are advancing, information provided will have to be intensified and targeted: for this reason, ASL is already available and ready for the widespread distribution of the information tools which will be exhaustively supplied by the Regional Authorities. In fact, past experience of emergencies confirms the necessity to divulge uniform and scientifically confirmed information, rather than “home made” information tools.

The local network of communication and distribution of the material to be divulged (by the Regional Authorities and by ASL) has already been identified and experimented during the crisis relative to Avian influenza last year and during the past seasonal influenza campaigns.

a. Widespread distribution of literature shall be organised by:

- Department Management
- District Administrative Management
- Decentralized ASL offices
- General practitioners and Paediatricians
- Emergency service Doctors
- Chemists’
- Health and Social Care structures
- Offices of local bodies

b. Such material shall also be sent via mailing list to:

- General Practitioners and Paediatricians
- ASL personnel

c. Such material shall also be published on the Health Authority web site

d. Specific press releases shall be organised and published by the local press

2. Handling of notifications to those involved in response to a pandemic but who do not work for ASL

A specific procedure will be activated for those involved in the network (ex. GPs, Nursing Service, doctors, emergency service doctors, etc.) using all channels available, such as the activation of a freephone, use of the web portal and e-mails using the pre-existing mailing-list.

During an emergency

- The General Manager authorizes the Communications Service to activate the emergency call-center

- Within SACE (Struttura Aziendale di Comando nell’Emergenza -Internal Emergency Services) a manager will be entrusted with maintaining contact with the communications Service and will have to arrange for technical information to be published on the web portal, intranet or by e-mail.

Activity of the COMMUNICATIONS SERVICE

During preparation:

- Choosing the Head of the call center

During an emergency:

- activates the call-center, authorised by the General Manager
- guarantees up-dating of the web portal and intranet

Activity of the CALL-CENTER

1st: Service providing initial contact and able to give useful numbers and addresses in case of emergency (Ex. Times and locations of surgeries/chemists’/hospitals);

Information regarding prophylaxis and/or vaccinations;

Data collection of reports of hygiene/health problems;

Consultancy service with an expert on call

In this case, setting up a single number for the entire province should be handled on a second level by medical social workers who will direct calls to the emergency service doctors or to competent structures.

By means of a single number, on a second level, a specific psychological support service can also be activated.

2nd: service restricted to network operators with a limited access freephone requiring specification of a personal regional code and allowing the operators to communicate directly with experts.

For this service too, specific psychological support for operators in the sector who request it will be provided, with the possibility to consult the expert on call.

Structure of the CALL-CENTER

-Head of the call center: this role involves organising the primary activity of the call center, and more precisely, must deal with availability of operators and planning shifts. This person will also, after it has been drawn up, participate in explaining, along with experts, a “manual” summarizing all the information relative to an emergency.

-Supervisor: is responsible for the team of operators and will refer directly to the Head of the

service

-Operators

-Expert: present at the call-center or available by phone to resolve particular enquiries

Shifts

Covering 12/24 H or 24/24 H lasting 10/30 days (according to necessity).

A total of 15 operators is considered necessary with 3 operators on duty during the day alongside the supervisor and 2 operators and supervisor during the evening and at night.

Time necessary for activation

Freephone: 48 hours and technical assistance in identification allocation for the switchboard are required for activation using the pre-existing line.

Standard telephone lines. Already available.

Organisational aspects

The deaf and dumb: possibility to send/receive faxes, e-mails

Foreigners: mediators (in case of interaction)

3. Handling of internal notifications

Within ASL Local Health Authority notifications will be given by official communications on the web portal, and above all, by means of intranet and the e-mail addresses provided to all employees. Eventual emergency notifications may also be sent to personnel on call also using work mobile phones.

Working Procedure

Emergency Vaccination Plan

PURPOSE

The purpose of this procedure is to describe and document the ways in which emergency vaccination for influenza pandemic is carried out.

ACTIVITY

Requirements of vaccine according to the priorities already foreseen by Regional Administration

In order to define the potential requirements of pandemic vaccine the Department of Prevention of ASL in the Province of Brescia, as it does every year during the anti-influenza campaign, has asked the various bodies interested to up-date the list of subjects to vaccinate giving the figures corresponding to the typologies established regionally and, in particular, asking the Health and Social Care services to guarantee the accuracy of the list. In this way the total requirements for vaccines was defined as seen in the table below which takes into account the definitions established on a regional level.

Type of personnel	Type of structure	Categories of personnel at 1st level	No. 1st level	Categories of personnel at 2nd level	No. 2nd level	Categories of personnel at 3rd level	No. 3rd lev.
Health Care personnel and assistants	Structures for admissions, care and rehabilitation	Personnel in contact with patients (also at outpatient's or laboratories)	6355	Cleaning personnel etc.	1000		
	Structures with agreements for primary health care	MMG / PLS (and nurses) Doctors of emergency services	1100	Workers in laboratories external to the hospital/clinic	50		
	Residential health and social care services	People in contact with patients	1839			People with no contact with patients	
	Local Health Authority (ASL)	Personnel in out patient's facilities (ADI, Vaccine Service)	300	Health care personnel or working with the public	50		
	Emergency Health Services	SUEM personnel or volunteers	97				
	Pharmacies	Personnel in contact with the public	550	Other support personnel	450		
	Other	Health or social care workers involved in home care (ADI, SAD, Carers)	150			Family members assisting subjects at risk	
Personnel for essential security and emergency services	ASL and General Hospital			ASL and General Hospital managers, coordinators, decision makers	155		
	Police Forces	State and Military Police, minimal contingents for services that cannot be deferred	400				
Personnel involved in services of public utility	Various	Firemen	300	Public Transport workers	150	Local Police	500
				Transporters of vital necessities (medicines and food)	50		
				Energy provision and public hygiene workers	500	Other Health Service personnel	500
				Civil Protection personnel and volunteers	350	Personnel of the Armed Forces	
People at high risk of severe or fatal complications from influenza	Various	Subjects with pathologies that make seasonal vaccination advisable	30000	Subjects > 65 years old	190000		
				Children and adolescents 2 - 18 years old			
People susceptible to illness	Various					Workers in education, postal and collective catering services	2100
						Healthy adults	843054

Strategies for carrying out vaccinations (suspension of non-urgent outpatients' treatment; cooperation with GP and PGP, etc.).

Following communication of the state of emergency, Health Care management will suspend non-essential programmed activity and outpatient's treatment that is not essential in order to better carry out emergency vaccinating. In particular the following activities will be suspended:

- general programming, coordination, training (unless related to the pandemic)
- medical certification and forensic medicine
- health education and promotion of health initiatives
- monitoring, controls and issuing medical advise.

This will allow for better carrying out of vaccination sessions, availing of staff who are not normally assigned to it, even though it is now normal practice for ASL to carry out its anti-influenza campaign along with GP and PGP.

Storage and distribution of the pandemic vaccine;

Accordingly with the tried and tested programme for the organisation of the annual anti-influenza campaign, the emergency campaign foresees:

- Delivery of the vaccine to the Health Care Districts according to an agenda agreed upon with the Districts themselves.
- Delivery of the vaccines to doctors of General Practice and Paediatricians by the Districts according to mutually agreed agendas. At the same time the doctors will be provided with the material necessary to correctly store and dispose of the relative waste products and the personal safety equipment. Citizens will be vaccinated by MMG/PLS as from a pre-established date decided upon centrally.
- The vaccination sessions will take place in the district out-patient's clinics respecting pre-established and publicized agendas. Particular attention will be paid to verifying a uniform coverage of the territory, also in consideration of the limits in autonomy of many of the elderly.
- Delivery of the vaccine to individual health and social care facilities will be carried out by the each District.

Subjects to vaccinate in accordance with the categories of priority established by the Regional Administration:

The categories of subjects to be offered the vaccine are those foreseen by upper health care bodies according to their right to be vaccinated.

Health and social care structures will offer the vaccine to their guests of all ages. (RSA-CRD-other) The vaccine will be provided by ASL and administered by the structure itself.

The health care structures will provide the vaccine to their personnel and patients free-of-charge (ref. PRO-EMERGENCY PANDEMIC PLAN).

ASL, at its own expense will offer the vaccine to all categories foreseen by age, conditions, pathology and work of public interest.

Working Procedure

Prophylactic with Antiviral Medicines

PURPOSE

The purpose of this procedure is to describe and document the ways in which prophylaxis with antiviral drugs is carried out in the first months of onset of the pandemic virus.

ACTIVITY

Plan of distribution of antiviral drugs

Prophylaxis with antiviral drugs is the only specific intervention possible against a pandemic virus in the first months of its onset while waiting for a specific vaccine, although these strategies should be considered provisional in the absence of previous experiences. Infections by influenza virus can be treated with two types of drugs:

- M2 inhibitors (amantadine e rimantidine) result non-active on the H5N1 virus
- neuraminidase inhibitors (oseltamivir e zanamivir).

These drugs can reduce the gravity and length of the illness to some degree, however, promptness in administration, no more than 48 hours after the onset of symptoms, is decisive to their efficacy.

When these drugs are administered, it will be necessary to monitor their use and side effects using the AIFA Farmacovigilanza system, as it has been demonstrated that widespread use of these drugs increases the risk of resistant strains and the risk of side effects.

The Health Care Director, according to the indications issued case by case, will provide for the prophylactic use of antiviral drugs which, to present knowledge, only appear to have some use in the first cases of influenza caused by the pandemic virus, when a specific vaccine is not yet available and for a brief period. It is useful for isolated cases and for small clusters, in particular in closed communities.

In phase 3, use will be limited to:

- operators engaged in putting down animals in ascertained breeding grounds of highly pathogenic Avian influenza as a prophylaxis before exposure.
- Subjects exposed to high levels of the ascertained Avian influenza who worked without personal safety equipment.

For those in close contact with subjects diagnosed as having Avian Influenza, decisions made regarding the advisability of chemoprophylaxis will be subject to joint evaluation by ASL, Health and Veterinary Protection.

ASL in Brescia, for such eventualities, considering that slaughtering procedures need no more than 10 operators, including supervising personnel, intends to acquire a supply immediately for the treatment of 10 people.

In phases 4 and 5 its use will be extended to:

- People in close contact with ascertained cases of Avian influenza, such as people who live with them or those in contact for sustained periods of time (indicatively 8 hours a day) in confined environments;
- Health care workers who have worked on the case without using personal safety equipment.

ASL in Brescia, considering the limited indications of the first cases (or small confined clusters), mentioned above, considers it necessary, in this phase, to boost its supply of antiviral drugs from an amount to treat 30 people to the requirements for precautionary treatment of no more than 150 people (30 cases of illness with an average of 5 people in close contact, including the health care workers).

In phase 6, which is the phase of full-blown epidemic, prophylaxis with anti-viral drugs is not of much help due to the risk of onset of resistant strains of the virus and side effects without an appreciable reduction in the number of cases of infection.

As far as the eventual therapeutical use of antiviral drugs is concerned, it will be necessary to wait for reliable information regarding the pandemic virus and its relative clinical pictures from

competent International and National bodies.

ASL's central pharmaceutical service in the Province of Brescia and the peripheral warehouses of the 6 District Administration Management offices have already provided for suitable spaces in which to store the previously mentioned quantities of antiviral drugs retained necessary to cover phases 3-4-5 of an eventual influenza pandemic.

Storage and maintenance of the storage sites, as well as decentralized distribution will be coordinated by the Head of Medical Prevention Dpt according to the DGD and the Head of Pharmaceutical Services.

In the phase of full-blown epidemic a big number of patients is involved. They cannot be admitted in the available structures. The GP/PGP assists the patient at his domicile. ASL activates ADI (Domiciliary Assistance) Services.

The Pharmaceutical Services (according to the SACE) alert the chief of the central storage (CEF) that provides the pharmacies on the territory according with the existing agreements of distribution for rapid delivery of medicines.

Working Procedure

Storage DPI Distribution Stocks Plans

PURPOSE

The purpose of this procedure is to describe and document the ways in which stocks are organised and personal safety equipment is distributed.

ACTIVITY

Already since spring 2006, the Local Health Authority in Brescia predisposed for the following, in accordance with the integrated indications of the Authorised Doctor and the Head of Health and Safety regarding safety measures for workers in the light of veterinary problems connected to the outbreak of epidemics of the Avian Influenza H5N1 in animals:

- supplies of Personal Safety Equipment for employees who are called out to farms (such as caps, shirts, overalls, footwear, protective glasses, filtering masks and gloves, all of which disposable, along with suitable containers for waste disposal (Alibox);
- Supplies of material to the Disinfection Unit for disinfecting farms;
- Adequate procedures and protocols for putting down and disposing of the carcasses, holding competitive tenders to assign such services.

At present, requirements have been defined for protection units for personnel working for the district offices of the Local Health authority in order to guarantee, on one hand, vaccines useful in the control of an eventual pandemic, and on the other, integrated day care for both employees and personnel from the Firms commissioned.

An adequate quantity of stocks for the distribution of GP/PGP amount to a figure able to cover the requirements for 1100 GP – PGP e MCA. In hospitals, all structures that admit patients must provide for themselves. Stocks of Personal Safety Equipment are provided for through supply contracts, whilst for storage and distribution the procedures are the same, in order to guarantee distribution of prevention aids in the area during the seasonal campaign against influenza, using the warehouses of each District for storage which are normally used for storing prosthetic and protection aids and for the distribution local district organisation.

Working Procedure

Surplus Request Plans

PURPOSE

The purpose of this procedure is to describe and document the ways in which availability of facilities to be used in case of “influenza pandemic” are ascertained and managed..

ACTIVITY

The following facilities organised Surplus Request Plans and sent them to ASL in November 2007:

- Spedali Civili; Mellino Mellini di Chiari;
- Desenzano sul Garda; Istituto Clinico S. Anna;
- Clinica S. Rocco di Franciacorta S. p. A.; Istituto Clinico Città di Brescia;
- Fondazione Poliambulanza Istituto Ospedaliero.

Only the General Hospital Corporation and the clinic 'Istituto Clinico S. Anna' have indicated the number of extra beds available.

ASL Health Care Management has, therefore, drawn up a table to be used in case of emergency. It is particularly important that there is a plan in case of pandemic emergency in every Health Care Structure to guarantee the best possible assistance during the pandemic, along with an evaluation of the chances of increasing the number of extra beds by ward – Infectious Diseases and for other emergency situations.

Number of EXTRA beds in case of surplus number of patients

Task Force at Spedali Civili

Total no. of extra beds: 533 for 'Spedali Civili', distributed as follows:

General Hospital of Brescia and Children's Hospital

Approximately 300 beds can be prepared, all in the same area, to facilitate uniform assistance.

Task force at Gardone Val Trompia

Approximately 183 beds can be prepared, all in the same area to facilitate uniform assistance.

Task force at Montichiari

Approximately 50 beds can be prepared, all in the same area to facilitate uniform assistance.

Task Force at Mellino Mellini

12 beds available for seasonal emergencies in A.O. M.Mellini and 12-14 beds for non-critical patients distributed as follows:

Task Force at Chiari

In addition to beds normally available, 8 beds can be provided for seasonal emergencies, mainly in the area of General Practise.

Task Force at Iseo

The number of extra beds available is not specified in Surplus Request plans.

Task Force at Orzinuovi

Premises of General Practice and a Hospice.

Lacking sufficient organisation to admit and administer intensive therapy to critical patients, although can guarantee assistance to out-patients and those already stabilized and can take over the routine service of the hospitals in Chiari and Iseo if they are involved in providing emergency services. Can provide 12-14 beds for non-critical patients.

For seasonal emergencies, mainly in the area of General Practice: 4 beds.

Task Force at Desenzano sul Garda

Total number of extra beds for Desenzano sul Garda, distributed as follows:

Task Force at Desenzano – Lonato

Extra beds that can be prepared:

	Beds available within Unit	Beds available in another Unit	Total
Medicine	6		6
Surgery		7	7
Paediatrics	4		4
Total	10	7	17

Task Force at Gavardo – Salò

Extra beds that can be prepared:

	Beds available within	Beds available in	Total
--	-----------------------	-------------------	-------

	Unit	another Unit	
Medicine	4	6	10
Surgery		6	6
Paediatrics	6		6
Total	10	12	22

Measures at Manerbio – Leno

Extra beds that can be prepared:

	Beds available within Unit.	Beds available in another Unit	Total
Medicine	1	1	2
Surgery	3	3	6
Paediatrics		12	12
Total	4	16	20

Istituto Clinico S. Anna

5 extra beds for the clinic 'Istituto Clinico S. Anna', distributed as follows:

Number of extra beds in critical area, offering monitoring and pulmonary ventilation			
Intensive therapy	Cardiology	General Practice	Emergency Ward
1	2		2

Clinica S. Rocco di Franciacorta S.p.A.

Number of extra beds available not specified.

Istituto Clinico Città di Brescia

Number of extra beds available not specified.

Poliambulanza

Number of extra beds available not specified.

Only reported that, in case of a major emergency, each ward will identify patients who can rapidly be discharged and the number of beds available will be calculated immediately. The possibility of putting extra beds at disposal will then be evaluated taking into consideration the number of staff available and the accommodating capacity of the structure.

Currently, the total number of beds that can be made available in the Local Health Authority (ASL) of Brescia is as follows:

607 extra beds in case of surplus request of critical patients and 12 beds for non-critical patients.

Useful telephone numbers and e-mail addresses:

Structure	Address	Telephone no.	FAX	E-MAIL
ASL	V.le Duca degli Abruzzi, 15			
S.S.U.Em 118	c/o Spedali Civili			
A.O. SPEDALI CIVILI DI BRESCIA	P.zzale Spedali Civili,1 25125 Brescia			
.....			

SYSTEM OF MONITORING AND CONTROL

REGISTRATION DOCUMENTS AND ARCHIVE KEEPING

Document	Location of archive	Type of archive	Responsibility

Working Procedure

Reporting and Controlling the Infectious Diseases

PURPOSE

The current procedure describes the procedures, timing and responsibilities connected to the notification, surveillance, control, validation of infectious diseases and also the communication of the concerning data to the Lombardy Region.

FIELD OF APPLICATION

The procedure is working at the central and district centres of ASL - Brescia

REFERENCES

DGR n°VII/18853 of 30/09/2004 Object: “Surveillance, notification, control of the infectious diseases, revision and reorganization of prevention interventions in the Lombardy Region”

ASL Decree n°231 of 13.03.05 Enclosure A “Surveillance plan of the infectious diseases adopted by ASL - Brescia” (Enclosure 3)

ASL Decree n° 858 of 14/12/05: “availability management”

ASL Decree n°770 of 27/12/06:”revised availability management”

MAINF Manual with list of medical and nursing references for the regional software use

RESPONSIBILITIES

WHO	RESPONSIBILITIES
U.O. MI - SISP Responsible	<ul style="list-style-type: none">• Diffusion /information/ training on the guidelines and operative protocols• performing the expected information services in terms of D.G. and the Lombardy Region• scientific-technical and clinical consultancy on particular cases
Hygiene area Medical referent	<ul style="list-style-type: none">• training/information of the working equipe• keeping the documentation• managing the progresses and reports of the strategic choices and priorities in particularly complex cases• contacts with MMG/PLS authorized/accredited health structures, communities and responsables of voluntary associations• organizing the turnover and availability system

<p>Doctor and medical assistants/nurses</p>	<ul style="list-style-type: none"> • reception of notification • Planning and organizing the working phases • immediate interventions for any possible prophylaxis procedures • Starting up an epidemiological enquiry wherever expected • Data validation • Communication of the case to the Region
<p>List of the individuated staff</p>	<ul style="list-style-type: none"> • Using a MAINF software

MANAGING PROCEDURES

GRANTING OF A WARNING OF INFECTIOUS DISEASE

The notification of the infectious disease can be received by fax, telephone or paper also depending on the urgency of the notification (deferred or urgent).

The operator who receives the notification acts on the basis of the typology of the infectious disease:

If deferred the person who receives the notification:

Puts the filled form (M SISP 062 Notification draft for infectious diseases – Enclosure 4) in a dedicated and defined place.

The health assistant/nurse who is in charge for managing the information flows provides for the data insertion into the software (see manual) and for archiving the original versions, as programmed by the Surveillance Plan of the infectious diseases of ASL-Brescia.

If urgent: whoever should receive a notification of an infectious disease by phone or by fax must promptly inform the doctor/HA/nurse, just like an available Doctor who is Responsible is activated.

PLANNING AND REALIZING THE INTERVENTIONS

If we're speaking of a "deferred" case: The health assistant/nurse who is in charge for managing the information flows provides for the data insertion into the software (see manual)

If we're speaking of an "urgent" case: the doctor/HA/nurse in service :

Plans on the special form M SISP 093 "Register for epidemiological enquiries" (enclosure 2) to leave a trace of all the phases of the process,

Identifies the intervention time and the people involved.

Proceeds with the expected interventions as soon as possible, either alone (by himself) or with the aid of other professionals observing the Infectious Diseases Surveillance Plan of ASL-Brescia.

The HA/Nurse in charge for organizing the information flows provides for inserting and updating (necessary for the case validation) of the data in the software (see manual).

REGISTRATION OF THE ACTIVITIES AND DATA FILING

All the notifications are registered following the procedures provided by the MAINF software manual and so are given the due information to the ASL and Regional structures.

Every centre provides for all the expected methods due to grant the privacy.

CONTROL INDICATORS

WHICH	WHO CONTROLS	HOW	WHEN
There is a folder containing all the updated due modulistic, which is suitably photocopied (M SISP 094 Check list infectious diseases documents Enclosure 1)	HA/Nurse who is referent for the infectious diseases	Verifying the correspondence between the contains with the reference check list and evaluating the number of available copies	Every six months
Within 48 hours from reception of non-deferrable notification the epidemiological enquiry and in case other additional interventions are performed	HA/Nurse Doctor	Control of the planning form of the epidemiological enquiries	Every six months
At least 90% of the data required by the MAINF software are sent in a complete version	Infectious diseases operative Unit responsible	Number of incomplete notifications Sent by the Region	Annually
The notifications are traceable within 2 hours	Referent doctor for the sector	Simulation	Every six months

DISTRIBUTION LIST

Subjects	Number of copies
District Director (DID)	1
Integrated Area coordinator	1
Quality Management responsible (RGQ)	1

ENCLOSURES

Enclosure 1: M SISP 094 Infectious Diseases documents Check List

Enclosure 2: M SISP 093 epidemiological enquiries Register

Enclosure 3: Resolution n. 231 of 23.03.05 Enclosure A “Infectious Diseases surveillance Plan of ASL- Brescia”

Enclosure 4: M SISP 062 Infectious Diseases notification Form

Working Procedure

Isolation of Suspected Cases

PURPOSE

The purpose of the present procedure consists in describing and documenting the definition methods, the individuation and organization of suspected cases in case of emergency

ACTIVITIES

ENCLOSURES TO C AND D REGIONAL PLAN

Working Procedure

Nursing Homes Pandemic Emergency

PURPOSE

The purpose of this procedure is to describe and document the ways in which Nursing Homes respond with their organisation to the “pandemic influenza” emergency.

ACTIVITY

Pandemic emergency plan
Nursing Home
Denomination

Nursing Home for disabled people
Denomination

April 2007 Revision
to be updated annually

Plan responsible

Doctor

Address

Telephone number

Mobile number

Fax number

e-mail address

S.N.H. (sanitary nursing home) structure

Denomination

Address

Telephone number

Fax number

e-mail address

Managing board

Denomination

Registered Office

Telephone number

Fax number

e-mail address

Legal representative

The present plan has been drawn up according to the Lombardy Regional Council resolution n. 8/216 of 02/10/06, published on BURL (regional bulletin of Lombardy Region) n. 43 of 24/10/06 “Regional Pandemic.

As preparation and response to a pandemic according to the Health Ministry directories and according to the instructions given by ASL Brescia. Referring to the occurrence of a pandemic situation, the document:

- identifies the Plan Responsible and the responsibilities up to the other collaborating members
- identifies the objectives of the structure
- defines the adopted modalities and the possible ways to obtain the objectives
- contains a sequence of defined actions which are known by all the partners who, at different levels, are supposed to intervene
- specifies the method to maintain the plan updated
- indicates the interventions due by the structure in order to keep ready to rapidly and effectively enforce the plan

Plan responsible

The Health Responsible is responsible for the definition of the plan, of its circulation and periodical updating, of its enforcement coordinating the CRISIS UNIT. He is supported, for this purpose, by the structure Management and by the collaboration of the CRISIS UNIT members.

The plan must be updated at least annually and anyway every time a substantial organisational/structural modification is introduced.

The latest updated version is always available, both in paper and informatic version, at the Health Responsible and at the Manager’s office of the structure.

The health Responsible, or his delegate, is responsible for the communications and relationships with the family members and the Information Mass Media.

Crisis Unit

The alert is communicated by the 118 (First Aid) operations centre, by the Prefecture, by ASL, by public officers and confirmed by the Head of health care. When they receive the alert, the Plan Responsible telephonically summons the effective members of the Crisis Unit or their delegates as provided by the draft in enclosure “A”.

For each effective Crisis Unit member at least one delegate must be provided. The Health Responsible maintains the contacts with ASL, the prefecture, the Civil service, the other health- and

social care services involved.

ASL provides to alert all the structures, leaving instructions about the pathology, how to manage the patient and the people looking after him, how to manage and prepare the premises (ex disinfection, in case quarantine for the staff and/or pharmacological treatment, etc...). and the indications about the right management of the different cases, including in case the transfer of the infected people to a more suitable place.

Objectives

Main object: to grant a suitable assistance to the patients and limit the transfer of patients to hospital admission;

Secondary object: increase the recovery capacity for the new patients so as to correspond to the Hospital capacity and to the epidemiological situation.

Methods and instruments

Vaccinations

Considering the possible pandemic situation the structure must be able to promptly vaccinate the staff and eligible patients. Similarly to what already provided for the anti-influenza vaccine campaigns, the Health Manager is responsible for the general supervision of all the operations which are connected to the vaccination (identification of possible subjects to vaccinate; preparation of lists and transmission to ASL; collection and administering of the vaccines; registration.

Enclosure B reports the personnel in service at the moment of redaction of the Plan and the eligibility of it to the vaccination process.

By activating the plan, an updated list will be promptly redacted, the Health Responsible assuming responsibilities about the eligibility to the vaccination.

Organization and information of the personnel

The medical staff must be previously informed and instructed about his proper duties in case of activation of the Plan against delivery of a copy of the first Plan to be in case completed by role and specific tasks forms, permanent availability of an updated copy of the plan to be consulted. The personnel instruction and Plan functionality are to be verified in fieldwork, implementing a practice/simulation session at least every 2 years aiming to improving any possible mistake and trouble, maintaining staff training, reminding the single specific tasks, awakening the staff to safety problems.

Enclosure “C” shows the numerical availability of personnel, listed according to their professionalism, normally working in the different phases (night-, holiday-, working- time) and the availability due as a result of the changes and developments. Every member of the Crisis Unit is responsible for the adoption of procedures aimed to mobilizing the personnel according to their pertaining sectors (doctors, nursing staff, technical and administrative staff) to contact following a “waterfall” system, interrupting or revoking leaves and discharges, according to the needs required by the event and indicated by the Crisis Unit, as shown in enclosure D draft/list.

POSSIBILITY TO INCREASE THE NUMBER OF BEDS

The structure has

- n. xx accredited beds
- n. yy only authorized beds available

If necessary the structure can temporarily increase its reception capacity for further:

- N. xx “emergency” beds in addition to the authorized ones.

The receptivity development area has been identified on the structure planimetry by the present place.

The additional beds which can be arranged are stored and packed at the warehouse

Access of guests and family members

Due to the Plan activation and according to the instructions given also over the telephone- by ASL, to all the interested people, all the programmed accesses of new guests and the accesses of unauthorised people, including guests’ relatives and acquaintances, are either regulated or denied.

MANAGING STOCKS

In a pandemic it’s predictable that the use of medicines, premises, sanitary disposals and aids, laundry, bed linen, overcomes the normal availability of the structure.

The medicines retrieval and supply in rapid times is of extreme importance. The responsible for technical logistic services provides for a permanent available supply of unperishable goods (ex.: laundry, bed linen, polyethylene bags) at the structure’s premises and provides for the contacts and the relative methods for an immediate increasing of supplies of perishable goods (ex. Medicines, medical aids, sanitary disposals and aids) at disposal in case of pandemic emergency.

ORGANIZATION OF AREAS INTERNALLY AND EXTERNALLY

The enclosed map (Enclosure E) points out the possibility of using some indoor and outdoor areas of the structure so as to ensure an adequate management of a pandemic situation, individuating the following:

Operative offices of the Crisis Unit by...

Room connecting with the external world (Information Office with Media and family members): by...

Sector potentially useful as a contaminated area and related de. Contamination area _ by...

Area provided for increasing the residential receptivity: by...

Area for developing a death chamber: by...

Area provided for external staying

Access Viability area

LOGISTICS OF EXTERNAL COMMUNICATIONS

In case of activation of the plan the reference phone, fax numbers and e-mail addresses cited in the point "Structure" of page 1 of this document, are reserved for communicating with the Institutions which manage emergencies.

Working Procedure

Guarantee of Emergency Services

PURPOSE

The purpose of this procedure is to describe and document the ways in which emergency services will be provided, identifying the duties and tools of the doctor in charge.

ACTIVITY

THE EMERGENCY SERVICES DOCTOR

Emergency Services guarantees urgent home care at times when the General Practitioner and Pediatrician are neither on duty nor on call.

Areas of Emergency Services: 30

DISTRICT N° 1 - BRESCIA
DISTRICT N° 2 - BRESCIA OVEST
DISTRICT N° 3 - BRESCIA EST
DISTRICT N° 4 - VALLE TROMPIA
DISTRICT N° 5 - SEBINO
DISTRICT N° 6 - MONTE ORFANO
DISTRICT N° 7 - OGLIO OVEST
DISTRICT N° 8 - BASSA BRESCIANA OCCIDENTALE
DISTRICT N° 9 - BASSA BRESCIANA CENTRALE
DISTRICT N° 10 - BASSA BRESCIANA ORIENTALE
DISTRICT N° 11 - GARDA
DISTRICT N° 12 - VALSABBIA

Times: from 20 to 8 every day of the week and from 8 to 20 on Saturdays and on weekdays before a holiday from 8 to 20 all Bank Holidays

Duties of the Emergency Services Doctor

(ESD) are specifically identified in the National Collective Agreement in force since 23 March 2005, in particular with regards to clauses 67 and 69.

Clause 67, comma 1: “The Emergency Services Doctor guarantees emergency health care to residents over the territory to which he/she is assigned ...”

Clause 67, comma 2: “The Doctor... must be present from the beginning of the work shift, on the premises allocated by the Health Service and remain on duty until the end of the shift, ready to carry out home and territorial visits.”

Clause 67, comma 3: “With regards to the clinical picture advanced by the patient or by the operations centre, the Doctor must perform all that is considered pertinent, on the basis of appropriate national or regional guide lines... The Doctor may give out-patient treatment as defined by Regional Agreements”.

The ESD must respond to requests for help according to what he/she knows and thinks is right; such obligation stems from the legal figure of the Doctor, who is defined as a Public Service Officer.

As such, not responding to a call could lead to charges of dereliction of duty, whether or not such behaviour has damaged the patient’s health.

It is, therefore, fundamentally important that the ESD gives priority to the doctor-patient relationship in order to avoid causing anxiety, misunderstandings and that the patient feels they haven’t been “understood”, or worse, “listened to”.

It is also important that the patients’ problems are interpreted correctly and are seen to; in case of inappropriate requests, the Doctor must suggest alternatives that facilitate the user in finding a solution, eventually using alternative Services.

The Doctor must also report any users who avail of Services improperly to the District Manager or to those appointed as delegates, so that eventual disputes can be forwarded.

Presence and traceability

The ESD must be present to offer assistance at the start of the shift, on the premises assigned by ASL, and remain on hand until the end of the shift. He/she must be available until the arrival of the GP who then takes over the Service, thus ensuring the continuity of the Service itself.

Documentation of requests for help and assistance offered

Clause 67, comma 7: “Users’ calls must be registered and remain on the records. The documentation must contain:

- name, surname, age and address of the user;
- patient’s details and eventual ties with the patient;
- time of call and eventual symptomatology suspected;
- time of assistance given (or justification for not intervening) and type of assistance requested and given.”

Therefore, all of the requests for help must be registered, be they home visits, out-patients’ assistance or advice over the telephone; furthermore, the name of the Doctor must be specified.

Type of assistance

With regards to the patient's requirements, the ESD can, therefore, provide help telephonically, in outpatients' if District Management has provided a surgery, or, more traditionally, by means of home visits.

As regards home visits for acute pathologies arising from pathologies the GP is already aware of and treating, precise diagnosis will be necessary.

Above and beyond any clinical or ethical consideration regarding the necessity to take into account any therapy underway, it should be remembered that, in order to avoid possibly harmful changes in therapy, the GP should decide whether to provide the patient whose physiopathology would suggest that caution in un-programmed assistance is necessary with brief notes explaining his/her situation.

Working protocols

Reporting infectious diseases

Infectious pathologies, due to the spreading of their agents, have always been one of the main problems in Public Health Service.

The Lombardy Regional Council, in its Regional Council Decree of 30 September 2004 no. 7/18853 considered it necessary to redefine the regional system of surveillance of infectious diseases in order to optimise passive surveillance through simplifying reporting of the situation and ways in which to report it.

In order to make reporting of infectious diseases by the Doctor who diagnoses them timely, complete and simple, the report must contain the following details:

- patient's details (name, date of birth, sex, address, telephone number);
- collectivites frequented (i.e.: nursery school, old people's homes);
- date of onset of symptoms;
- eventual admission to hospital (specific cure and where);
- diagnostic criteria (clinical, serology, tests direct/histological, cultures, other);
- Doctor's details (name, telephone number).

The ESD must, in any case, adopt the procedures, forms and distribution of information foreseen by ASL.

Medicines

ATC A:

Atropine fl

Scopolamina Butilbromuro fl
Antagonisti recettori H2 fl
Metoclopramide fl
ATC B: Tranexamic acid fl
ATC C:
ACE inhibitors cpr
Adrenaline fl
Sublingual nitroglycerine cpr
Frusemide fl e cpr
Clonidine fl
Nifedipine cpr
ATC H:
Corticosteroids (prednisone, methylprednisolone, betamethasone) cpr e fl
ATC M: FANS (diclofenac, fl urbiprofen, ibuprofen, ketorolac) cpr e fl
ATC N:
Haloperidol gtt e fl
Acetylsalicylic acid cpr 100mg
Diazepam gtt e fl
Paracetamol cpr
Promazine fl
Hydrochloride morphine fl
ATC R:
Beta 2 stimulants sol

Clorfenamina maleato fl
Aminophylline fl
ATC V:
Naloxone fl
Glucose 33%
Physiological solution

ASL in Brescia, during phase 6 or fully blown epidemic, considers it necessary to expand the service, providing one doctor for every 50,000 inhabitants the 24-hour shifts.

The Emergency Services Doctor will guarantee emergency services to residents over the territory pertaining to the surgery assigned by ASL and will remain at disposal until the end of his/her shift in order to carry out services, at home or on the territory, in relation to the clinical picture advanced either by the patient directly or by the operations centre.

Questionnaires

The partners IVZ, RSDM, SEC, involved in the experimental phase, have shared to collection and documentation of process and procedures through writing out of two questionnaires.

First questionnaire “Survey on the National Sanitary Systems” has obtained general informations concerning:

- Health systems organization in these countries;
- Unit involved in the experimental phase in these countries;
- Out of pocket services;
- Organization of human and material resources;
- Structure ad hoc addressed for the emergencies management.

Second questionnaire “The general management and the qualitative-quantitative application of the National, Regional and Local Pandemic Plans” has obtained informations concerning existence and application of national pandemic plan in order to plan a response to spread of pandemic flow.

The objective of pandemic planning is to enable countries to be prepared to recognize and manage an influenza pandemic, being sure that influenza pandemic preparedness plan can easily be used for broader contingency plans encompassing other disasters caused by the emergence of new, highly transmissible and/or severe communicable diseases.

In any case this capacity of planning and being organized for emergency can always be useful, even to better face routine organizational problems and management situations.

The capacity of countries to plan and have an intervention programme for influenza pandemic varies, and they may be at different stages of the planning process. The WHO has prepared a pandemic preparedness checklist to provide an outline of the essential minimum elements of preparedness, as well as elements of preparedness that are considered desirable. The WHO recommends that authorities or institutes in countries that are in the process of planning should consider the specific aspects of the checklist for which they are responsible. Countries that already have a national pandemic preparedness plan in place may use the checklist to evaluate the completeness of their current plan.

The structure of this questionnaire takes key topics of WHO document “WHO checklist for influenza pandemic preparedness planning”¹, indicated as follows:

- general issues
- surveillance
- case investigation and treatment
- method to perform prevention and control of infection
- contingency plans to maintain essential health and other essential services
- working out a training plan
- planning suitable communication strategies
- progress/efficiency indicators of the adopted measures.

The questionnaires written out by partners are reported below.

¹ WHO Department of Communicable Disease Surveillance and Response Global Influenza “WHO global influenza preparedness plan. The role of WHO and recommendations for national measures before and during pandemics”, (WHO/CDS/CSR/GIP/2005.5)

1st Questionnaire: Survey on the National Sanitary Systems

1. Define Health System Organizational structure, respective subjects and correlated Boards

Suggestions:

- What is central government role within the Health System?
 - What are the lists of Minister of Health?
 - There are competences of others Ministers in the health circle?
 - What are the regional competences in the health field?
 - What powers due to the responsible preservation of the health state at the local level?
2. What is the organizational structure of the Unit where you will make experimentation?
 3. Define the distributed services basing on the following questions:
 - Which?
 - From who?
 - To who?
 - Why?
 - How?
 - When?
 4. How is structured the commando chain?

Specifying following points:

- Planning and health information management
 - Health technology assessment
 - Information system
 - Research and development
5. How are organized the different structures and the respective staff?
 6. There is a structure addressed for the emergencies management?
 7. How are organized the human and material resources?

Define material resources organization based on:

- Planning and distribution of infrastructures at the local level.
- Information technology
- Medical equipments, dispositive and subsidies
- Drugs

Define sanitary staff organization based on:

- Manager
- Medical staff sanitary structures
- Infermieristico staff
- Technical staff
- Clerical staff
- Doctors of base

8. Is there an appointed structure for the emergencies management?
 - How are the Operational Units organised?
 - Please give details about the services supplied by the emergency management structure, according to the following questions:
 - o What?
 - o Why?
 - o Who?
 - o How?
 - o Where?
 - How is the chain of commands of the emergency management structure (o Unit?) organised?
9. Please indicate the training sessions of the appointed staff and the specialised medical training.
10. Please indicate the training sessions given for the sanitary staff involved in the management activity of emergencies.

2nd Questionnaire: The general management and the qualitative-quantitative application of the National, Regional and Local Pandemic Plans

1. General issues

1.1 Is there a political awareness and commitment to prepare for a pandemic?

- Funding should be committed relative to the anticipated preparedness planning.
- Establishing core national Pandemic planning Committees, representing relevant organizations *
- Is there a national / local pandemic plan? Which are its main objectives and key-actions?

1.2 Is there a clear strategy on how to involve the community in the planning process?

- Who is making the decisions in case of an influenza pandemic? Who is advising the government? Is there a hierarchical structure for deciding on measures and ordering their implementation, and is this structure known to other national and sub-national emergency departments? Does everybody know what to do?
- Communication strategies are an important component:
- Is there a scientific committee to assess risks or interpret research and define its public health relevance?
- Are there mechanisms for information sharing between national authorities (WHO, other Agencies) and for sharing information, also using the modern rapid communication technologies, from the national to the local level and within the Country?

1.3 Is there a legislative framework in place for the national response plan? Does this framework include contingencies for health-care delivery and maintenance of essential services?

- During a pandemic it may be necessary to overrule existing legislation or individual human rights (ex. Use of privately owned buildings for hospitals; off-license use of drugs, etc...). These decisions need a legal framework to ensure transparent assessment and justification of the measures that are being considered, and to ensure coherence with international legislation (international health regulations)

1.4 Is there a response plan in place that identifies the responsibilities and tasks of organizations and individuals at varying stages of a pandemic?

- The response plan should indicate the specific response during each phase of a pandemic, and should reflect the detail of the preparedness plan.
- It should include a mechanism for identifying triggers that will change the level of response and indicate the organization (and the unit within the organization) responsible for the designated response at each phase
- Have the legal implications been considered?
- Is there an esteem of the expected impact the pandemic would have on the society?
- Has the response been planned by the WHO pandemic phases?

*** Examples of organizations that could contribute to the plan:**

- national and regional public health authorities including: preventive, curative and diagnostic services; the national drug regulatory authority; the national influenza centres; representatives of physicians' associations, nurses and pharmacists;
- recognized national virologists and epidemiologists; representatives of scientific and academic institutions;

- *veterinary authorities and experts in animal influenza viruses;*
- *Representatives of public or private organizations that monitor health indicators, use of health – care facilities and pharmaceuticals;*
- *representatives of pharmaceutical manufactures or distributors;*
- *representatives of social service administrations;*
- *representatives of military or other government emergency response organizations or teams;*
- *representatives of nongovernmental and voluntary organizations, such as the national Red Cross or Red Crescent Society;*
- *representatives of telecommunications, and media relations experts.*

2. Surveillance

2.1 Instruments to rapidly detect confirm and describe cases of abnormal clusters of influenza-like illness caused by a new strain, and so as to be able to recognize a potential pandemic strain of influenza virus.

- Does an active surveillance system exist, which can enable to detect unusual or unexplained events of influenza symptoms, possibly caused by new strains of influenza virus and therefore the possible beginning of a pandemic?
- Is there a possibility to establish a sentinel system for virological surveillance of influenza, so as to enhance surveillance for ILI (influenza like illness) and criteria for case sampling? (ref.: WHO checklist, cap. 2 (surveillance), par. 2.1 (**Sentinel System**))
- Are all chicken farming sites, including the rural ones, and their operators regularly registered?
- Are there precise prescriptions concerning the performing modality of national protocols for epidemiologic surveillance and establishing roles and responsibilities about :
 - People exposed to animal pandemic
 - Health-care workers caring for patients with suspected or confirmed pandemic strain influenza infection
 - Laboratory workers handling potentially riskful clinical specimens
 - Contacts of suspected individuals/cases
- Does the Country have a system to perform national protocols of implementation of epidemiologic surveillance, defining responsibility roles concerning:
 - clusters of a potential pandemic strain of influenza virus, both through community practitioners and Health-care facilities
 - Clusters of unexpected mortality for influenza-like illness and infections caused by acute respiratory illness in health-care facilities

2.2 What kind of weekly monitoring systems do emergency facilities use and how many admissions does a sample of locations (towns/villages) have?

- Possible existing collaboration with a central level for weekly detection of total mortality in a sample of municipalities (villages/towns)

3. Case investigation and treatment

3.1 Is there a local laboratory capacity, and how is it integrated in the surveillance system?

Assess local laboratory capacity :

- in the interpandemic phase, all countries should have access to at least one laboratory able to offer routine influenza diagnosis, even if not necessarily strain; funding for laboratory maintaining; protocols for specimen collection and transport; implementation of biosafety protocols; national inventory of laboratories with biosafety security levels 3 and 4; strategy

performing for rationing laboratory testing during pandemics; facilities for storing clinical specimens; capacity of sharing clinical material and of interpretation of diagnostic tests

3.2 Epidemiological investigation and contact management

- Alongside laboratory confirmation, an epidemiological investigation should be carried out to identify how suspected human cases of a new influenza strain became infected, to assess the clinical impact of the disease and to determine the risk that infected persons or their environment may represent for others.(ensure through field investigation of confirmed cases of influenza; designated capacity to carry out epidemiological investigations: update the case report form for epidemiological investigation; ensure a mechanism for daily reporting of cases to national authorities; develop study protocols for basic and enhanced epidemiological studies; provide clear guidance on how to define and manage possible contacts of the case; set up a mechanism of scientific review of results of epidemiological investigation in order to develop or adjust recommendations to prevent further spread of the disease)

3.3 Clinical management

- -To ensure effective and safe treatment of human cases of a new influenza strain, it's important that clinical guidelines are ready, supplies are available and staff aware of admission criteria; staff should be aware of and trained in infection control measures (ensure the development or rapid adaptation and implementation of clinical management guidelines for patients with suspected / confirmed pandemic strain; consider establishment of a clinical working group with experts from the public and private sectors to ensure broad expertise and commitment; ensure access to a designated reference laboratory by regional networking)

3.4 Procedures to grant management and assistance for human cases of pandemic influenza strain

- Prepare a survey about the ordinary and extra-ordinary availability of health centres, including centres equipped with assisted respiration instruments, health and assistance centres, primary health-care workers, general practitioners, paediatricians, assistance and medical specialists Indicate health/hospital settings, according to their level (primary, secondary, tertiary, emergency and intensive units) where patients should ideally be managed during the pandemic
- Locate possible alternative sites for medical care
- Ensure the availability of supplies, storage and distribution of antiviral drugs (as already requested about their prophylactic use)
- Quote of population beneficiary of home-medical assistance
- Distribution of guidelines for use of antiviral drugs as early treatment

4. Methods to perform prevention and control of infection

4.1. Public health measures

- Are there health-care information plans to promote implementation of routine hygienic rules amongst population and have information campaigns modalities been assessed?
- Has the need Personal protective equipment kit (PPE) and diagnostic kits for medical and paramedical staff, and other staff whose critical functions entail high-risk exposure, been estimated?
- Have supply and distribution plans been programmed?
- Are there protocols for PPE usage for riskful professional categories?

- Have public health measures at a central and local level been implemented, such as isolation of routine influenza cases but with possible suspected symptomatology, at home or in special areas within health-care facilities? Are there specific procedures on how quarantine and contact tracing and restriction should be carried out?
- Are there any prescriptions concerning schools/places where people gather closure, or revocation of mass gatherings or events, to limit the spread of the disease in the community?

4.2 Treatment with antiviral drugs.

- Designation of a responsible for drugs storage and request strategy plans.
- Designation of regional areas for drugs storage within the Hospital chemists/pharmacies existing in every Region.
- Definition of specific sites as Local sites (responsible for public health conditions) with suitable drugs storage conditions.
- Ensure transport availability at an intra-regional level, granting the possibility of reaching. Within 3-4 hours any location of the region.
- Lists or estimations of defined risk groups (people exposed to high epidemic risks) due to professional reasons.

4.3 Vaccination

- How to foresee the logistic of vaccine provision
- Define a list of high-risk groups/people (in case indicated by the National Plan)
- Procedures expected for local distribution and storage of vaccines
- Establish specialised staff for vaccine administering, granting the respect of priorities and equity
- Determine how receipt of vaccine will be recorded and how a two-dose immunization programme would be implemented in terms of recall and record keeping
- Develop a method (strategy for data collection and analysis) for estimating pandemic strain influenza vaccine effectiveness at a regional/local level and a suitable method for exchanging information within referents of drugs/vaccine surveillance and prevention.

5. Contingency plans to maintain essential health and other essential services

- Prepare a list of essential services on the base of priorities established at a National level
- For each essential service appoint a responsible and ensure the assessment of procedures to vaccinate health-care workers considered essential for replacing vacancies during pandemic spreading

6. Working out a training plan

- Protocols defined at a national level for a training plan (if existing)
- Regional/local training programme for every target-group. Specific referents with didactic roles, if existing
- Training sessions starting from a national level up to regional/local level

7. Planning suitable communication strategies

- Suitable communication strategies (verify their existence or develop a new plan)
- Define the communication flow within the Region
- A communication strategy concerning:
- Integrated use of Media on the base of :target, objectives, resources, time, aimed to the unidirectional flow of information (Media, Web sites, information leaflets, documents) and also a bi-directional flow through different kinds of meetings/
- A collaboration with the media through a stable and clear flow of available information

- Use of specific information material for various target groups and constant communications for the Media
- Activation of information sharing with the population (uni- and bi-directional)
- Audio and video conferences between National and local representatives/bodies
- Nominate pandemic spokespersons at the national and regional levels (responsible for all media presentations to the broader community)

8. Progress/efficiency indicators of the adopted measures

- Is there a monitoring plan setting :
 1. targets to define the efficiency level of public health, antiviral drugs and pandemic vaccine
 2. level of safety surveillance of antiviral drugs and pandemic vaccine.

Slovenia

Partner IVZ

Questionnaire 1: SURVEY ON THE NATIONAL SANITARY SYSTEMS

1. Organisational structure of the Sanitary System and related actors

- Which is the role of the central Government in the area of the Sanitary System?
 - o Government is responsible for assuring the conditions for a healthy environment and healthy living as well as for the implementation and functioning of national health programmes.

- Which functions are due to the Health Ministry?
 - o The task of the Ministry of Health is to prepare legislation for health care and health protection, and to ensure regulation and supervision of the implementation of legislation. The activities of the Ministry of Health relate to health and financing matters at the primary, secondary, and tertiary level. The ministry furthermore monitors public health, prepares and implements health promotion programmes and ensures conditions for people's health education. Other activities of the Ministry of Health include: the supervision of the production, trade and supply of medicines and medicinal products and the manufacture and trade of illegal drugs.
 - o The Ministry of Health is also responsible for establishing hospitals and public health institutions at the national level. In this role, the ministry approves the policies of an institution, provides financing for specific expenses such as capital investments in state-owned hospitals (both housing as well as medical appliances, such as MRI, CT, PET, etc.) and plays an active role in the nomination of directors of health institutions.

- Are in case any other competences in the field of the Sanitary Sector managed by other Ministries?
 - o **Ministry of Finance:** The Ministry of Finance reviews and approves the budget of the Ministry of Health. The basic principles and the shares of the state budget, budgets of local authorities, mandatory health insurance and mandatory pension and disability insurance are approved through the "budget memorandum" by the finance ministry and the parliament each year.
 - o **The Ministry of Education and Sport:** The Ministry of Education and Sport is in charge of implementing education policy and enforcing the education legislation for the education of the population from pre-school age to adult education and higher vocational education and sport. The ministry operates, funds, and manages public educational institutions, human resources with regards to education and determines the enrolment procedures of applicants among other things. The Ministry of Education and Sport also administers some health promotional programmes in Slovenia.
 - o **The Ministry of Higher Education, Science and Technology:** The Ministry of Higher Education, Science and Technology supervises activities related to medical and health professional education, financial support for companies in the field of technological development. It is also responsible for matters relating to sponsoring basic research and technological development, and for university and postgraduate

education of junior researchers. In its internal cooperation activities, the ministry is a full member of the European Community and is participating in its sixth framework programme of research (of which a number of projects are related to health).

- **The Ministry of Labour, Family and Social Affairs:** The Ministry of Labour, Family and Social Affairs together with the Ministry of Health coordinates the provision of homes for the elderly and handicapped. They are also responsible for negotiating bilateral conventions on social security which are multi-sectoral in nature.
 - **The Ministry of Environment and Spatial Planning:** The Ministry of Environment and Spatial Planning cooperates with the Ministry of Health in the area of environment and health.
 - **The Ministry of Agriculture, Forestry and Food:** The Ministry of Agriculture, Forestry and Food handles affairs relating to agriculture; forestry; ensuring food safety; veterinary medicine and integrated rural planning among other functions. The Veterinary Administration, a body within the ministry, is responsible for monitoring the situation regarding contagious animal diseases both nationally and internationally as well as is responsible for adopting programmes, coordinating activities and defining measures to prevent and control the spread of contagious animal diseases and epidemics.
 - **Other Relevant Ministries:** The ministries of internal affairs, defence, and justice provide payments for the health care for police and military personnel while on active duty, and for prisoners.
- Which competences concern to the regional Governments?
- There are only two levels of (self) governance in the country i.e. national and municipal. This means that there are no regional governments in Slovenia at the moment. However, municipalities are responsible for organizing primary health care in their communities, i.e. providing facilities or granting concessions to the private providers.
- Which competences are up to the Board in charge of health care at a local level?
- There is no such body in the Slovenian health care system.
 - **Brief description of the system:** in 1992 Slovenia introduced health system according to the principles of social health insurance (Bismarck Model). In this year government established single provider of compulsory health insurance (Health Insurance Institute of Slovenia – HIIS) which received the responsibility and competence for implementing mandatory health insurance for the whole country. Health legislation and National Health Care Plan provide framework for development and distribution of health services which are available to the citizens. HIIS acts as a purchaser of health services from health care providers. The type and amount of health services is negotiated and agreed annually between HIIS, health care providers and Ministry of Health. System is highly centralized, regional branches of HIIS only distribute funds to health care providers.
- Where are you positioned in your Sanitary System?
- National Public Health Institute (i.e. IVZ) and 9 regional public health institutes cover the fields of social medicine, environmental health, communicable diseases, informatics and data management. The most important activities of IVZ include collection of data on health and health care, epidemiological surveillance of communicable (including outbreaks) and non-communicable diseases, prevention

and health promotion, monitoring of environmental health, provision of laboratory services (IVZ holds accreditation for national public health laboratories), development of national vaccination programme and distribution of vaccines, development of health policy documents etc. With all above mentioned activities IVZ supports Ministry of Health with necessary inputs.

Please insert a draft to explain and present the Sanitary System, highlighting your exact position in it

See: Fig 1. 'Organisational chart of the Slovene health care system' at the end of this document.

2. Which is the organisational structure of the Unit/Structure on which you do your experimentation?

Organisational scheme of the testing Unit

See: Fig 2. 'Organisational structure of IVZ' at the end of this document.

3. Define the services which are supplied by the experimented organisational Unit, on the basis of the following questions:

- What?
- Why?
- Who?
- How?
- Where?

Centres

1. Centre for health and health care research:
 - population's health information system (development and implementation of methodology)
 - research projects
 - health indicators
 - analyses and interpretation
 - support in preparation of strategies for prevention of disease and promotion of health
 - co-operation with WHO, EU (DG Sanco, Eurostat, DG Employment)
2. Centre for health care organisation, economics and informatics
 - planning and research of health care services
 - economic evaluation of health programmes
 - uniform definitions, standards
 - system analyses
 - design for information system
3. Centre for health and environment
 - food safety
 - drinking water
 - bathing water
 - environmental toxicology
 - children environmental health
 - children chemical safety

4. Centre for communicable diseases
 - surveillance
 - early warning response system
 - research & development
 - education
 - public health laboratories
 - collaboration:
 - EU networks,
 - WHO,
 - international research projects

5. Centre for health promotion
 - Raising awareness of public, education of educators, working with media, World health days
 - Networking, intersectoral collaboration
 - Development and evaluation of HE/HP programs with HE/HP materials
 - International Projects and Surveys (Health Promoting Schools, Health in prisons; HBSC, HIA, DAFNE)
 - life style determinants of health and prevention of CND, injuries, HIV/AIDS prevention

Units

1. Health statistics unit
 - IPH RS is the main producer and co-ordinator of health statistics
 - our goal is quality statistical data for the needs of users in Slovenia and international users
 - routine data sources
 - population based health surveys
 - classifications and nomenclatures
 - data protection

2. Information unit for illicit drugs (EMCDDA)
 - To provide the objective, reliable and comparable information resp. data concerning drugs and drug addiction and their consequences
 - To provide the audience with an overall picture of the drugs phenomenon
 - Collecting and exchanging data and information on drugs
 - National and European networking and dissemination

3. Unit for drug purchase and distribution
 - Permanent procurement of antimalarics, imunoglobulins, and all vaccines in Slovenia:
 - planning, purchase, storing, distribution.
 - control of quality of vaccines,
 - continuous education of medical staff about vaccines, cold chain and safety vaccination at all,
 - recommendations and advises to medical staff about transport, storing, stability, elimination of vaccines.

4. How is organised the chain of management of the experimented Unit?

5. Please give the features and characteristics of the structures listed as follows, if existing:

- Planning and health information management
 - o IVZ has been given responsibility to collect data on health and health care. There is compulsory reporting of all health care providers to the IVZ. Our databases include data on out-patient contacts, hospitalizations, communicable diseases (among others: influenza, STD, HIV/AIDS), birth and mortality registry, reproductive health, drug prescriptions, health workers and health care providers registry, occupational injuries, sickness absence, monitoring of drinking water etc. In this context IVZ provides methodology for data collection. IVZ is also one of the responsible institutions for further developments of health informatics. Planning of health information takes place in the Council on Health Informatics at the Ministry of Health.

- Health technology assessment
 - o There is an HTA working group (including representative of IVZ) at the Ministry of Health responsible for the development of this field in the country. According to this group IVZ would take care of evaluation of HTA procedures and results.

- Information system
 - o Information system of IVZ is based within governmental information system. It maintains safe connections with all hospitals, Health Insurance Institute of Slovenia, Regional Institutes of Public Health and some other health care providers.

6. How are the human resources organised, if existing, at the testing organisational Unit?

Please give the details about the organisation of the sanitary staff as follows:

- Executives
- Medical staff of Sanitary structures
- Nursing staff
- Technical staff
- Clerical staff
- General practitioners /medical officer

7. How are the material resources of the organisational Unit organised?

Please give details about the material resources concerning:

- Planning and distribution of the infrastructures (facilities) on the territory
 - o IVZ is based in Ljubljana and has no organizational units around the country. Network of Regional Institutes of Public Health is financially and organizationally independent from IVZ. However IVZ plays a coordinative role regarding monitoring and responding to important public health issues.
 - o IVZ is involved in planning of health care on national strategic level with analytical and methodological contributions to national health care plan. IVZ has no competences in distribution of health care facilities (except its own) in the country.

- Information technology
 - o IVZ maintains its own ICT and has no competences in providing ICT to other health care providers.

- Medical equipments, disposals, facilities

- (the same as above)
- Medicines/drugs
 - IVZ is responsible for planning, purchasing and distribution of vaccines to health care providers.

8. Is there an appointed structure for the emergencies management? Yes, there is an appointed structure (see Fig 3)

- How are the Operational Units organised?
- Please give details about the services supplied by the emergency management structure, according to the following questions:
 - What?
 - Why?
 - Who?
 - How?
 - Where?
- How is the chain of commands of the emergency management structure (o Unit?) organised?

National pandemic plan for health care, adopted in 2006, describes tasks of Ministry of Health, MoH pandemics coordination group, Institute of Public Health of the Republic of Slovenia, Regional Institutes of Public Health and providers of health care. National pandemic plan which would link different sectors and stakeholders with health care and which would provide clear emergency management on the level of the government, society and its subsystems, hasn't been prepared yet.

Tasks and goals of:

Ministry of Health

- Preparation of pandemic plan
- Adopting actions in case of pandemics
- Coordination with the government, other ministries and Administration for Civil Protection and Disasters Relief
- International cooperation
- Public relations

MoH pandemics coordination group

- Monitoring and revision of pandemic plan
- Monitoring of epidemiological situation
- Suggesting actions to the Minister of Health

Institute of Public Health of the Republic of Slovenia (IVZ)

- International cooperation in epidemiological surveillance
- National epidemiological surveillance
- Laboratory diagnostics
- Communication within health care and with veterinary administration
- Public relations, informations to citizens
- Preparation of protocols and instructions on public health activities
- Preparation of vaccination strategy
- Training for health workers

Regional Institutes of Public Health

- Epidemiological surveillance
- Preventive and health promotion activities
- Informations to citizens; Communication strategy in the region
- Implementation of public health actions in the region
- Coordination with health care providers in the region
- Vaccination in the region
- Advising agencies and companies which provide important services (e.g. water supply, distribution of food, waste management etc.)

Providers of health care

- Planning of health care services in case of pandemics
- Cooperation with Regional Institutes of Public Health
- Training of health workers
- Providing protection equipment for their own workers
- Information to citizens

Organisational draft of the structure appointed for managing emergencies

See Fig 3. Crisis management in health care in case of Phase 4 of influenza pandemics.
(attached document Questionnaire1_Figures.doc)

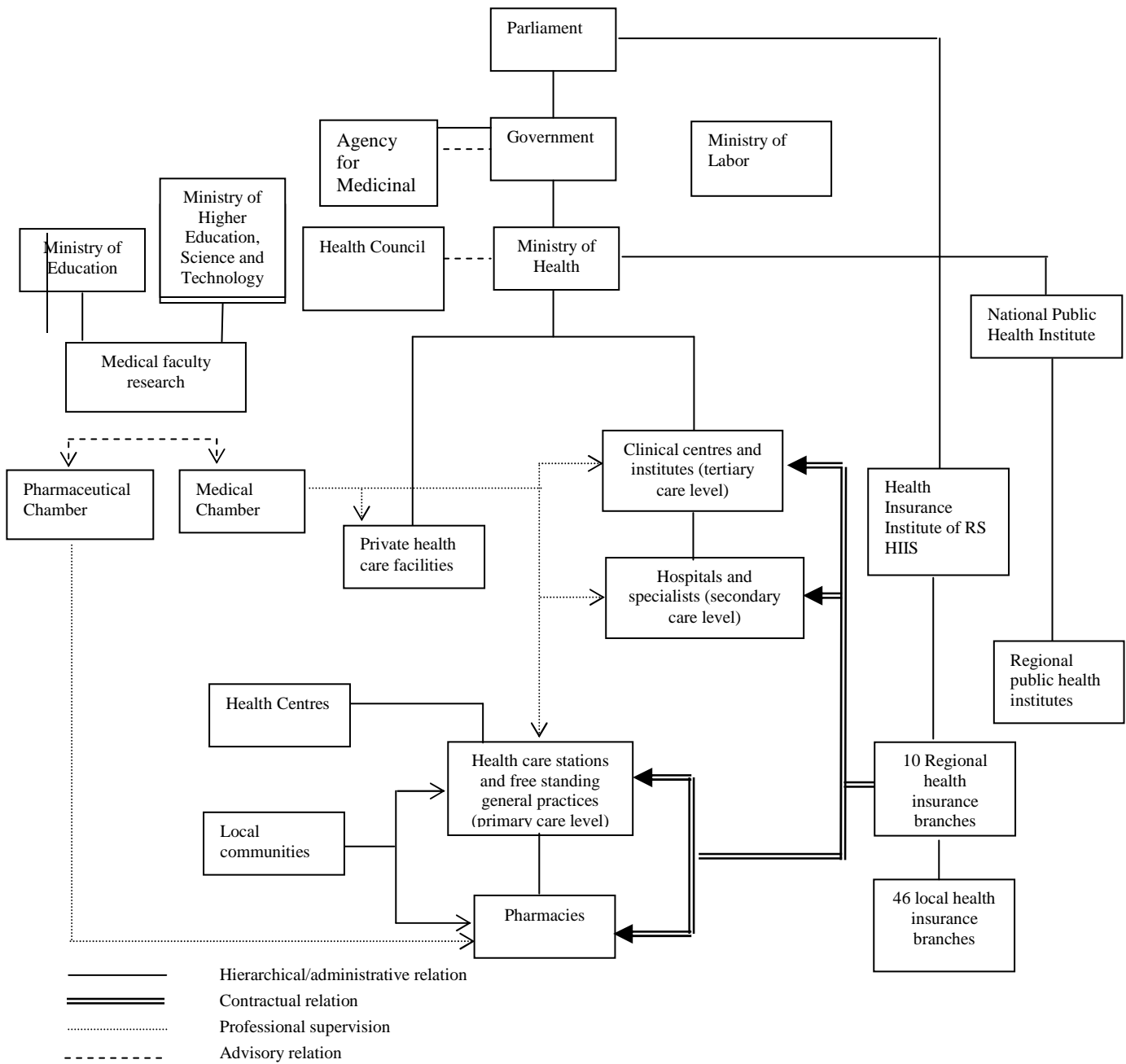
9. Please indicate the training sessions of the appointed staff and the specialised medical training.

Staff at the IVZ, who are responsible for pandemics' response, are medical doctors, specialized in epidemiology and public health, working at the IVZ Centre for Communicable Diseases. IVZ CCD is involved in several EU and WHO networks and activities concerning threats to health i.e. ECDC, EWRS, RAS-BICHAT etc.

10. Please indicate the training sessions given for the sanitary staff involved in the management activity of emergencies.

Apart from their basic training and cooperation in EU and WHO networks and working groups, IVZ staff took part in several training exercises with simulation of pandemics.

Fig 1. Organisational chart of the Slovene health care system



Source: Albrecht, T. et al. Health Care Systems in Transition: Slovenia. Copenhagen, European Observatory on Health Care Systems, 2002.

Fig 2. Organisational structure of IVZ

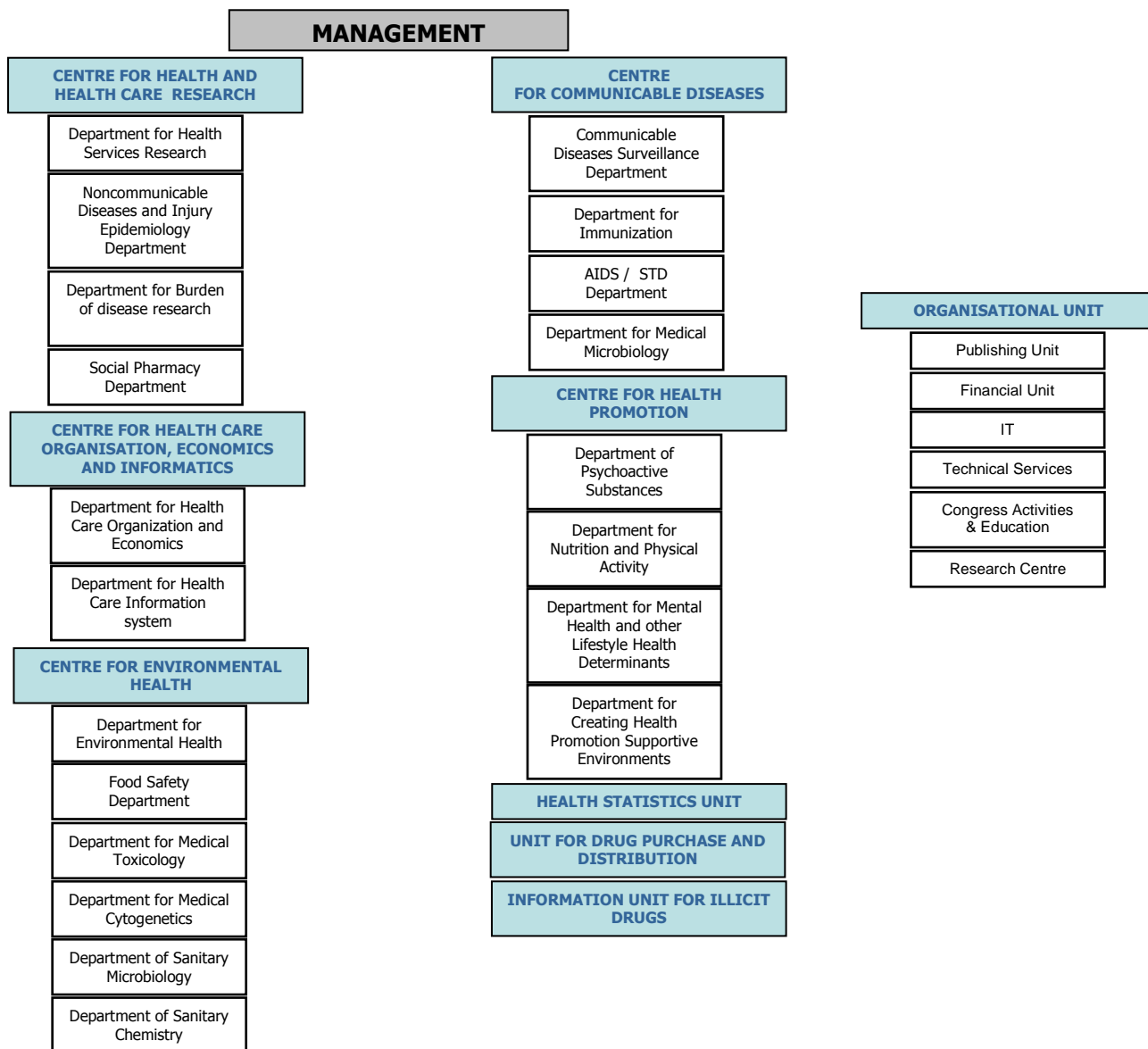
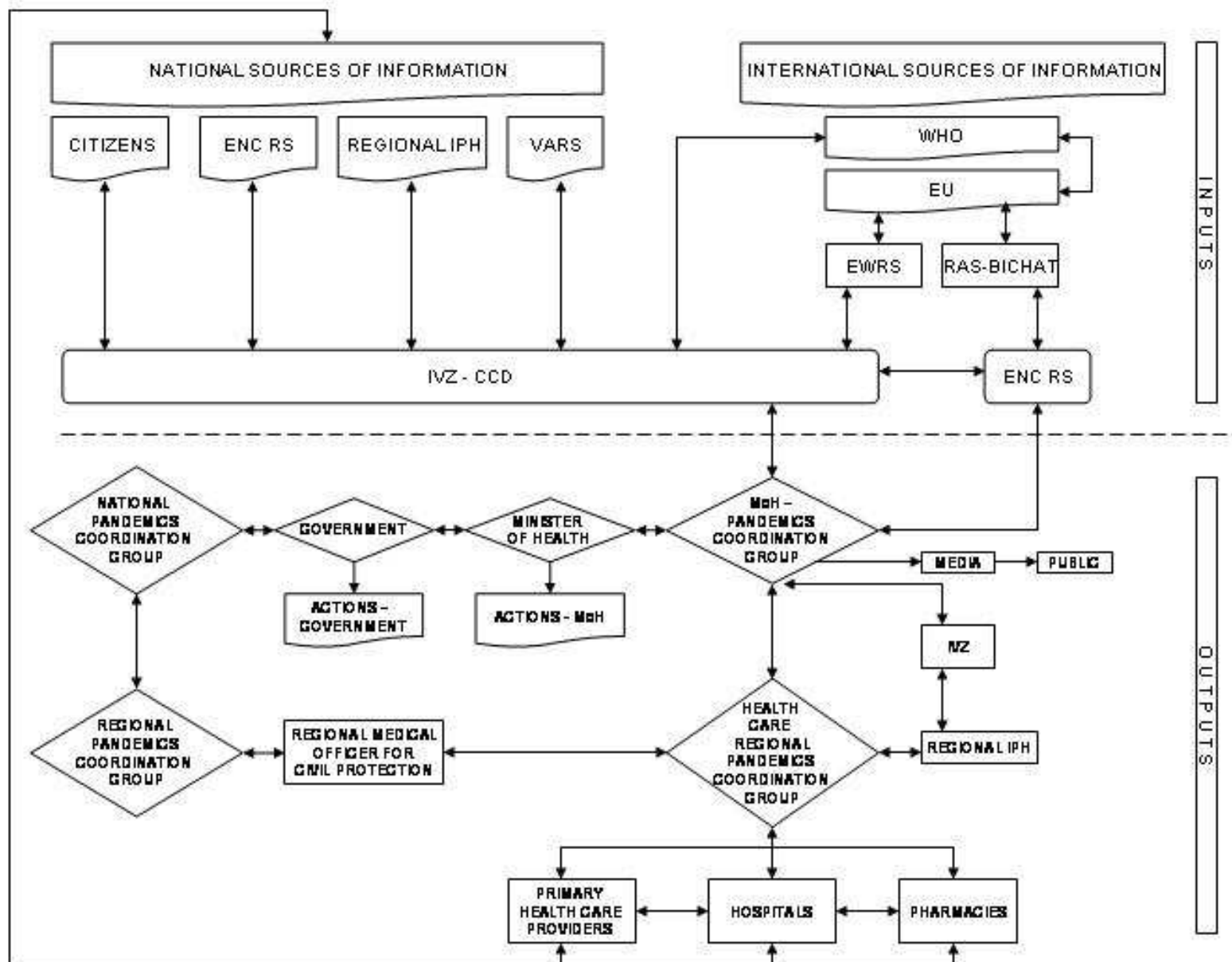


Fig 3. Crisis management in health care in case of Phase 4 of influenza pandemics. (revised for Healththreats project)



IVZ – Institute of Public Health of the Republic of Slovenia
CCD – Centre for Communicable Diseases
CEH – Centre for Environmental Health
IPH – Institute of Public Health
MoH – Ministry of Health
ENC RS – Emergency Notification Centre of the Republic of Slovenia
VARs – Veterinary Administration of the Republic of Slovenia
WHO – World Health Organization
EU – European Union
EWRS – Early Warning and Response System
RAS-BICHAT – Rapid Alert System for Biological and Chemical Attacks and Threats

Questionnaire 2: The general management and the qualitative-quantitative application of the National, Regional and Local Pandemic Plans

1. General issues

1.2 Is there a political awareness and commitment to prepare for a pandemic?

There is a high level of awareness within key health structures, Ministry of Health, National and Regional Institutes of Public Health, and the health care providers. The operability of the Plan has not been tested in any exercise. An interministerial body including other governmental sectors, such as Civil Defence and Agriculture, exists but is not operative yet.

Q:Funding should be committed relative to the anticipated preparedness planning.
Except stockpiling of antivirals, no additional funding hasn't been committed yet.

Q:Establishing core national Pandemic planning Committees, representing relevant organizations.
Ministry of Health is responsible for:

- Preparing and regularly updating the national pandemic preparedness plan
- Coordinating measures with other ministries and the system of Civil Protection
- Operational management of health issues
- International cooperation and coordination of measures
- Information and communication to the professional and general public

Slovenia has a Coordinating Committee for pandemic preparedness for health issues. Its members are:

- Director General for Public Health
- Director General for Health Care
- Emergency Planning Officer
- Head of Centre for Communicable diseases (NIPH)
- Head of Clinic for Infectious Diseases (in Ljubljana)
- Head of Agency for Medicines and Medicinal Products
- Chief Health Inspector
- Representative of National Committee for Infectious Control
- Representative of Medical Chamber
- Representative of Pharmacists' Chamber
- Representative of Association of Private Doctors
- Press Officer

Tasks for the Coordinating Committee

- Regular assessment of Pandemic Preparedness Plan and advising minister on updates of the plan
- Regular assessment of the situation and advising minister on activation of the measures from the plan
- Advising minister on operational issues regarding the health care system
- Advising minister about measures concerning other ministries and system of civil protection
- Advising minister about information and communication issues

This committee is structured for health sector planning and coordination.

It is foreseen to have intersectoral committee too, but this is still not officially nominated.

Q:Is there a national / local pandemic plan? Which are its main objectives and key-actions?

National pandemic plan for health care, adopted in 2006, describes tasks of Ministry of Health, MoH pandemics Coordination Committee, Institute of Public Health of the Republic of Slovenia, Regional Institutes of Public Health and providers of health care. National pandemic plan which would link different sectors and stakeholders with health care and which would provide clear emergency management on the level of the government, society and its subsystems, hasn't been prepared yet.

Tasks and goals of other stakeholders (for MoH and for the Coordination Committee for pandemic preparedness for health issues, see above):

Institute of Public Health of the Republic of Slovenia (IVZ)

- International cooperation in epidemiological surveillance
- National epidemiological surveillance
- Laboratory diagnostics
- Communication within health care and with veterinary administration
- Public relations, informations to citizens
- Preparation of protocols and instructions on public health activities
- Preparation of vaccination strategy
- Training for health workers

Regional Institutes of Public Health

- Epidemiological surveillance
- Preventive and health promotion activities
- Informations to citizens; Communication strategy in the region
- Implementation of public health actions in the region
- Coordination with health care providers in the region
- Vaccination in the region
- Advising agencies and companies which provide important services (e.g. water supply, distribution of food, waste management etc.)

Providers of health care

- Planning of health care services in case of pandemics
- Cooperation with Regional Institutes of Public Health
- Training of health workers
- Providing protection equipment for their own workers
- Information to citizens

Regional/local planning and coordination structure for pandemic preparedness is in place for the health sector, but not cross-sectoral. Even though the regional level does not formally exist in Slovenia (there are only the municipal and national levels, there are 9 health statistical regions with regional hospitals and Regional Institutes of Public Health. The "Regional" contingency plans for the health sector are coordinated by Regional IPHs.

Non-health sectors are coordinated by the structures of Civil Protection.

1.2 Is there a clear strategy on how to involve the community in the planning process?

Q: Who is making the decisions in case of an influenza pandemic? Who is advising the government? Is there a hierarchical structure for deciding on measures and ordering their implementation, and is this structure known to other national and sub-national emergency departments? Does everybody know what to do?

As soon as WHO phase 4 is declared, the Minister of Health informs the Prime Minister and convenes the Pandemic Coordination Committee as a coordinating body for operational

management for health issues. The Ministry of Health is responsible for coordinating measures with other ministries and the System of Civil Protection.

Q: Communication strategies are an important component:

Is there a scientific committee to assess risks or interpret research and define its public health relevance?

The coordinating committee gives advice to the Minister and performs regular risk assessments.

Q: Are there mechanisms for information sharing between national authorities (WHO, other Agencies) and for sharing information, also using the modern rapid communication technologies, from the national to the local level and within the Country?

The National Institute of Public Health is expected to coordinate experts from different institutions and advising decision makers. It is the focal point for IHR, EWRS (Early Warning and Response System) and RAS- BICHAT Rapid Alert System for Biological and Chemical Attacks and Threats.

1.3 Is there a legislative framework in place for the national response plan? Does this framework include contingencies for health-care delivery and maintenance of essential services?

National response plans in case of pandemics is not defined within national legislation. However, Act on Health Care services defines liability of MoH for preparation of National Health Care Plan, which is a comprehensive document on health care planning.

Q: During a pandemic it may be necessary to overrule existing legislation or individual human rights (ex. Use of privately owned buildings for hospitals; off-license use of drugs, etc...). These decisions need a legal framework to ensure transparent assessment and justification of the measures that are being considered, and to ensure coherence with international legislation (international health regulations)

Act on Communicable Diseases enables Minister of Health to make necessary decisions in case of epidemics.

1.4 Is there a response plan in place that identifies the responsibilities and tasks of organizations and individuals at varying stages of a pandemic.

Q: The response plan should indicate the specific response during each phase of a pandemic, and should reflect the detail of the preparedness plan.

It should include a mechanism for identifying triggers that will change the level of response and indicate the organization (and the unit within the organization) responsible for the designated response at each phase.

Aims of the plan:

- To provide a national framework for flexible response in order to reduce morbidity and mortality due to new pandemic strain
- To reduce the impact on health/social services and on every day life and business activities

Specific objectives:

- set up a system of crisis management in health sector
- define the role of institutions and organizations
- provide a surveillance system to assess the epidemiology of a new pandemic and make a risk assessment
- ensure timely and effective public health response
- provide care and treatment for large number of people

- provide authoritative, timely and up to date information and communication to the public
- ensure that ethical aspects are taken into account
- Ensure that planning measures for each phase of the pandemic are in line with WHO definitions

Ministry of Health is responsible for:

- Preparing and regularly updating the national pandemic preparedness plan
- Coordinating measures with other ministries and the system of Civil Protection
- Operational management of health issues
- International cooperation and coordination of measures
- Information and communication to the professional and general public

Slovenia has a Coordination Committee for pandemic preparedness for health issues. Its members are:

- Director General for Public Health
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- Chief Health Inspector
- Representative of National Committee for Infectious Control
- Representative of Medical Chamber
- Representative of Pharmacists' Chamber
- Representative of Association of Private Doctors
- Press Officer

Tasks for the Coordinating Committee

- Regular assessment of Pandemic Preparedness Plan and advising minister on updates of the plan
- Regular assessment of the situation and advising minister on activation of the measures from the plan
- Advising minister on operational issues regarding the health care system
- Advising minister about measures concerning other ministries and system of civil protection
- Advising minister about information and communication issues

This committee is structured for health sector planning and coordination. It is foreseen to have intersectoral committee too, but this is still not officially nominated.

Missions of the National Institute for Public Health (NIPH)

- Focal point for IHR, EWRS (Early Warning and Response System) and RAS- BICHAT Rapid Alert System for Biological and Chemical Attacks and Threats
- Diagnostic influenza laboratory
- Surveillance and information gathering
- Communication to general public according to communication plan (phone lines, web pages)
- Advice on the public health measures (i.e. criteria for isolation and quarantine)
- Preparation of guidelines for health care providers (i.e. vaccination, gathering data on hospital admissions)
- Preparation of training programs and activities for health professionals

- Preparation of strategy and operational plan for vaccination

Missions of the 9 Regional Public Health Institutes

- Surveillance and information gathering
- Information and communication to general public according to communication plan at regional level
- Ensure activation of public health measures at regional level
- Coordination of health care providers at regional level
- Information gathering from primary health centres, private providers, hospitals in the region
- Epidemiological investigation

Regional/local planning and coordination structure for pandemic preparedness is in place for the health sector, but not cross-sectoral. Even though the regional level does not formally exist in Slovenia (there are only the municipal and national levels, there are 9 health statistical regions with regional hospitals and Regional Institutes of Public Health. The "Regional" contingency plans for the health sector are coordinated by Regional IPHs.

Non-health sectors are coordinated by the structures of Civil Protection

Q: Have the legal implications been considered?

Yes.

Q: Is there an esteem of the expected impact the pandemic would have on the society?

Estimation of the expected impact of pandemic on society is based on WHO pandemic plan.

Q: Has the response been planned by the WHO pandemic phases?

The national pandemic plan is consistent with international (WHO and EU) guidance and publicly available.

2. Surveillance

2.1 Instruments to rapidly detect confirm and describe cases of abnormal clusters of influenza-like illness caused by a new strain, and so as to be able to recognize a potential pandemic strain of influenza virus.

Q: Does an active surveillance system exist, which can enable to detect unusual or unexplained events of influenza symptoms, possibly caused by new strains of influenza virus and therefore the possible beginning of a pandemic?

Yes, it does. Influenza is notifiable disease. Any unusual case or unexpected event has to be notified to public health institutes.

There is also sentinel surveillance system in place. The sentinel surveillance for influenza includes 40 primary care physicians (family practitioners, GPs, pediatricians and specialists in school medicine) from all 9 Slovene regions, chosen to be geographically representative. 4% of population is included.

Coordinating institute: Communicable Diseases Centre, Institute of Public Health of the Republic of Slovenia.

The case definition is used. Influenza like illness is defined as sudden onset of fever (>38°C) with general weakness, muscle and joint pain, dry cough and symptoms of upper respiratory tract affection.

Physicians make the decision on the diagnosis and swabbing cases with probable influenza infection.

Data are collected and aggregated data by age group. Groups for which data are collected are stratified: 0-3/3-7/8-14/15-19/20-64/65+

Sentinel primary care physicians send weekly data to the local public health department from the 9 Regional services, which send data by email to national level where is analyzed and published on the Institute website weekly, during the peak season, monthly out of the peak season and at the end of the season (May/June) for the whole season. A web-based system is currently tested to be used for reporting. Surveillance period is year round.

Q: Is there a possibility to establish a sentinel system for virological surveillance of influenza, so as to enhance surveillance for ILI (influenza like illness) and criteria for case sampling? (ref.: WHO checklist, cap. 2 (surveillance), par. 2.1 (Sentinel System))

The sentinel system for virological surveillance is well established: swabs are taken by sentinel doctors and by infectious diseases specialists from one tertiary care centre. Any doctor who notices a cluster or outbreak of respiratory illness can send microbiological samples.

In the season 2007-2008, a total number 1400 specimens were tested (500 from sentinel). Overall for the season, 20% specimens were positive (the percentage of positive specimens is 30%-50% during the peak season). The results can be obtained 1 day after receiving the specimens (since RT-PCR is used for confirmation: sentinel or not)

Q: Are all chicken farming sites, including the rural ones, and their operators regularly registered?
Yes.

Q: Are there precise prescriptions concerning the performing modality of national protocols for epidemiologic surveillance and establishing roles and responsibilities about :

Q: People exposed to animal pandemic

Yes, it is. There is a protocol in place what to do when a person is exposed to wild or domestic birds with presumed or confirmed avian influenza virus infection. The protocol is available (in Slovene) on internet page of Institute of Public Health).

Q: Health-care workers caring for patients with suspected or confirmed pandemic strain influenza infection

Yes, as above –how to prevent the nosocomial infections is described in the same protocol.

Q: Laboratory workers handling potentially riskful clinical specimens

Yes, as above – how to prevent the infections in laboratory is described in the same protocol.

Q: Contacts of suspected individuals/cases

Yes, there is protocol what to do with contacts of suspected or confirmed cases

Q: Does the Country have a system to perform national protocols of implementation of epidemiologic surveillance, defining responsibility roles concerning:

Q: clusters of a potential pandemic strain of influenza virus, both through community practitioners and Health-care facilities

Ministry of Health is in close contact with primary care and secondary care level and through the channels of communication can inform and implement national protocols for epidemiological surveillance and response.

Q: Clusters of unexpected mortality for influenza-like illness and infections caused by acute respiratory illness in health-care facilities

Same as above.

2.2 What kind of weekly monitoring systems do emergency facilities use and how many admissions does a sample of locations (towns/villages) have?

There is no weekly monitoring system for emergency facilities.

Q: Possible existing collaboration with a central level for weekly detection of total mortality in a sample of municipalities (villages/towns)

There are no mechanisms in place for weekly detection of total mortality.

3. Case investigation and treatment

3.1 Is there a local laboratory capacity, and how is it integrated in the surveillance system?

Laboratory for viruses is part of National Institute of Public Health. The laboratory is WHO National Influenza Center (NIC). NIC is staffed by three researchers with academic degree and four technicians. The laboratory is separated from the Epidemiological Department, but closely connected to the epidemiologists via an electronic network.

Multiplex reverse transcription polymerase chain reaction (RT-PCR) is used as a method for detecting influenza A or B virus (RSV, adenovirus and enterovirus are also detected). Nested multiplex RT-PCR method is used to determine the types of haemagglutinins and neuraminidases in samples where the nucleic acid of influenza A was found.

40-50 samples can be processed per day during normal working hours in the NIC. Three regional laboratories are performing direct test to confirm influenza antigens in samples (e.g. latex agglutination) but there are no national agreed protocols.

Transport of specimens from sentinel doctors and non-sentinel sources is only organized for inter-pandemic influenza. It would take about 48 hours for the national reference laboratory to confirm a novel type of influenza virus.

The laboratory is taking part in WHO GISN and EISS surveillance schemes. The laboratory can assure BSL 2 only. No resources are planned for development of BSL 3 level at the moment.

The laboratory should strengthen the services of the national reference laboratory in the field of nationally agreed protocols, confirmation, support in the method validation and quality assurance for the regional level, and to further define how the expertise in the high-level laboratories would work in synergy.

3.2 Epidemiological investigation and contact management

Surveillance for pandemic influenza has not been developed yet but the minimum specific data requirements for each phase are under development. No criteria have been developed yet when to switch to pandemic surveillance.

There is a protocol for epidemiological investigation, case and contact management for possible or confirmed avian influenza case. The detailed description is available in Slovene on internet page of National Institute of Public Health <http://www.ivz.si/index.php?akcija=novica&n=791> .

3.3 Clinical management

Q: To ensure effective and safe treatment of human cases of a new influenza strain, it' important that clinical guidelines are ready, supplies are available and staff aware of admission criteria; staff should be aware of and trained in infection control measures (ensure the development or rapid adaptation and implementation of clinical management guidelines for patients with suspected / confirmed pandemic strain; consider establishment of a clinical working group with experts from the public and private sectors to ensure broad expertise and commitment; ensure access t o a designated reference laboratory by regional networking)

Clinical guidelines haven't been developed yet. Availability of supplies is very limited; stockpiling

of antivirals for 25% of the population. There is a need to define Slovenian (national) standards for health care in a pandemic, for instance as regards case definitions, severity score and triage for hospital access (admission criteria).

3.4 Procedures to grant management and assistance for human cases of pandemic influenza strain

Q: Prepare a survey about the ordinary and extra-ordinary availability of health centres, including centres equipped with assisted respiration instruments, health and assistance centres, primary health-care workers, general practitioners, paediatricians, assistance and medical specialist.

Limited availability of data.

Q: Indicate health/hospital settings, according to their level (primary, secondary, tertiary, emergency and intensive units) where patients should ideally be managed during the pandemic.

Limited availability of data.

Q: Locate possible alternative sites for medical care.

Not defined yet.

Q: Ensure the availability of supplies, storage and distribution of antiviral drugs (as already requested about their prophylactic use)

There is a central storage, under special conditions defined by Ministries of Health and Finance.

A practical mechanism for delivery to patients has been agreed:

- Through GPs; every ill patient will be asked to go to a general practitioner
- Three scenarios to provide antivirals are foreseen according to the severity of the situation:
 - Low: through the pharmacists
 - Middle: ask pharmacists to dispense medicines near to the primary health centres
 - Severe: a system to give the antivirals to the patients within 48 hours is not yet developed; there are concerns how to prevent second sale by patients

Protocols for indications:

- Treatment :
 - for hospitalised patients
 - for infected healthcare workers
 - for the treatment of patients with risk for complicated course of infection
- Prophylactic use may be envisaged in certain cases, following the directions of the Ministry of Health and taking into account the volume of stocks (especially HCWs)
-

Q: Quote of population beneficiary of home-medical assistance.

Not defined yet. However there are estimations of population in need in case of pandemics (based on UK model).

Q: Distribution of guidelines for use of antiviral drugs as early treatment.

Guidelines are part of National Pandemic Plan. See also above.

4. Methods to perform prevention and control of infection

4.1. Public health measures

Q: Are there health-care information plans to promote implementation of routine hygienic rules amongst population and have information campaigns modalities been assessed?

The Ministry of Health is the competent body that decides on non-pharmaceutical public health

measures on the basis of the NIPH advice. Standard hygiene measures (washing hands, isolation, etc.) are already foreseen. Individual protective equipment (such as FFP2-type masks) will be provided to health professionals.

Q:Has the need Personal protective equipment kit (PPE) and diagnostic kits for medical and paramedical staff, and other staff whose critical functions entail high-risk exposure, been estimated?

There is no estimation regarding the need of PPE.

Q:Have supply and distribution plans been programmed?

The distribution plan has not been programmed yet.

Q:Are there protocols for PPE usage for riskful professional categories?

PPE protocols are in place in every health facility according to good clinical practice for control of nosocomial infections.

Q:Have public health measures at a central and local level been implemented, such as isolation of routine influenza cases but with possible suspected symptomatology, at home or in special areas within health-care facilities? Are there specific procedures on how quarantine and contact tracing and restriction should be carried out?

The public health measures (isolation, quarantine, contact tracing) are planned for avian influenza.

Q:Are there any prescriptions concerning schools/places where people gather closure, or revocation of mass gatherings or events, to limit the spread of the disease in the community?

Working strategies for international travel advice, for limitation of social gatherings, school closures, case isolation and isolation of contacts have been considered as propositions and will be examined on a case-by case basis, according to the epidemiological situation.

4.2 Treatment with antiviral drugs.

Q:Designation of a responsible for drugs storage and request strategy plans.

There is a central storage, under special conditions defined by Ministries of Health and Finance.

Q:Designation of regional areas for drugs storage within the Hospital chemists/pharmacies existing in every Region.

Not defined yet.

Q:Definition of specific sites as Local sites (responsible for public health conditions) with suitable drugs storage conditions.

Not defined yet.

Q:Ensure transport availability at an intra-regional level, granting the possibility of reaching. Within 3-4 hours any location of the region.

Not defined yet.

Q:Lists or estimations of defined risk groups (people exposed to high epidemic risks) due to professional reasons.

Treatment will be available for the listed risk groups :

- hospitalised patients
- infected healthcare workers

– patients with risk for complicated course of infection

Prophylactic use may be envisaged in certain cases, following the directions of the Ministry of Health and taking into account the volume of stocks (especially HCWs)

4.3 Vaccination

Q:How to foresee the logistic of vaccine provision?

Logistic of vaccine provision on established and well known locations (public buildings) that fulfil required hygienic and safety standards. For highly emergent circumstances in Health-care facilities.

Q:Define a list of high-risk groups/people (in case indicated by the National Plan)

- Health care workers
- Emergency unit workers
- Health care decision-makers, public safety workers (utility workers, critical transportation workers and telecommunications workers)
- Highest-risk groups: patients 65 and older with at least one high-risk condition, patients 6 months to 64 years with at least two high-risk conditions, patients hospitalized in the past year because of pneumonia, influenza or another high-risk condition
- Other Highest-risk groups

Q:Procedures expected for local distribution and storage of vaccines

There is no procedure for local distribution and storage of vaccines. There is tendency to keep established procedures or to adopt new according to the situation.

Q:Establish specialised staff for vaccine administering, granting the respect of priorities and equity?

No.

Q:Determine how receipt of vaccine will be recorded and how a two-dose immunization programme would be implemented in terms of recall and record keeping.

Established procedures.

Q:Develop a method (strategy for data collection and analysis) for estimating pandemic strain influenza vaccine effectiveness at a regional/local level and a suitable method for exchanging information within referents of drugs/vaccine surveillance and prevention.

Not developed yet.

5. Contingency plans to maintain essential health and other essential services

Q:Prepare a list of essential services on the base of priorities established at a National level

Q:For each essential service appoint a responsible and ensure the assessment of procedures to vaccinate health-care workers considered essential for replacing vacancies during pandemic spreading

There is no national contingency plan for maintenance of health and other non-health essential services included in the Pandemic Preparedness Plan. The Ministry of Defence through the Civil Protection System provides a basic contingency plan for epidemics. A harmonization and integration of the Pandemic Preparedness Plan with the Contingency Plan is planned in the future.

6. Working out a training plan

Q: Protocols defined at a national level for a training plan (if existing)

Q: Regional/local training programme for every target-group. Specific referents with didactic roles, if existing

Q: Training sessions starting from a national level up to regional/local level

Regarding avian influenza one simulation exercise has been organized in 2005. Training of veterinarians has been performed in 2005 and 2006. The firemen (under Civil Protection) have been part of the training and they have also participated in the avian flu outbreak in 2006 by collecting dead birds.

Regarding human influenza pandemics there is no comprehensive training plan. Recent analysis of preparedness has shown that training should be strengthened in several levels:

- outbreak investigation
- reserve staff for pandemic situation
- extend the common training with the Civil Protection staff
- extend training in laboratory methodology.

7. Planning suitable communication strategies

Slovenia has developed and published a national communication plan. This is set out in two documents:

- The plan of preparations in healthcare for an influenza pandemic
- Crisis communication plan in the event of a flu pandemic

The basic objective of the plan is “to give timely and reliable advice and information regarding an influenza pandemic to health and other experts and to contribute to better understanding of the pandemic by the general public”. It defines the following roles and responsibilities for actors in the health sector:

- **Ministry of Health:** the primary source of information on the pandemic, but will act in close cooperation with the office of the Prime Minister
- **Institute of Public Health:** offers advice on the correct content of messages. The Institute will establish a telephone hotline for concerned members of the public, publish information on the Internet and coordinate access to key spokespersons.
- **Public health-care network:** responsible for receiving and supporting responses at local level

In order to ensure rapid preparation of appropriate messages and timely communication a **Crisis communications headquarters** would be established. This will bring together experts, politicians and public relations officers from across government. Its members include:

Organisation / Institution	Member of Crisis Communication Headquarters
Government of the Republic of Slovenia	Prime Minister Public relations officer (PR officer)
Ministry of Health	Minister

	Head and Deputy Head of the Public Health Directorate Head and Deputy Head of the Health Care Directorate
Public Relations Media Office	Head and Deputy Head
Ministry of Agriculture Fisheries and Food	Minister Head of the Veterinary Administration of the Republic of Slovenia PR officer
Ministry of Defence	Minister Public relations officer
Ministry of Internal Affairs	Minister PR officer
Institute of Public Health	Head Head of Centre for Contagious Diseases PR officer
University Medical Centre	General Manager Head of the Infection Clinic PR officer

The **Communications Group of the Government of Slovenia**, which brings together the government's key spokespersons, will be part of the Crisis Communications Headquarters. The membership of both groups overlap to a significant extent.

The organisation and membership of the **Core Communications Group of the Government of Slovenia** is as follows:

Institution	Coordinator	Spokesperson
Government of the Republic of Slovenia	PR officer	Prime Minister
Public Relations and Media Officer	Head	Head
Ministry of Health	PR officer	Minister
Institute of Public Health	PR officer	Head of the Centre for

		Contagious Diseases
Public Health Directorate	Deputy Head	Head
Healthcare Directorate	Deputy Head	Head
University Medical Centre	PR officer	Head of the Infection Clinic

The **Extended Communications Group of the Government of Slovenia** brings in the PR officers and Ministers from other key ministries including the Ministry of Defence, Ministry of the Environment and Spatial Planning, Ministry of Education and Sport, Ministry of Higher Education, Science and Technology, Ministry of Labour Family and Social Affairs, Ministry of Foreign Affairs and Ministry of Agriculture.

The pandemic communication plan is based on the WHO pandemic phases and defines what actions are to be taken by whom at the different stages. It defines which person in which institution is responsible for key actions, such as preparing material for the website aimed at the public, the website aimed at journalists, for establishing a national telephone hotline, for speaking to national media and for speaking to media at local level. Contact details for each of these officials is contained in the plan. Separately to the plan, the Communications Group of the Government of Slovenia also keeps a contact list with mobile telephone number and email addresses of its members.

Key audiences are defined in the plan as being the general public, expert audiences and key participants in Slovenia's response. Messages for these groups will give a balanced presentation of the risks and how people can protect themselves. The exact content of the messages is kept flexible and will be finalised in line with future developments and information about the nature of the pandemic.

8. Progress/efficiency indicators of the adopted measures

Q: Is there a monitoring plan setting :

1. targets to define the efficiency level of public health, antiviral drugs and pandemic vaccine
2. level of safety surveillance of antiviral drugs and pandemic vaccine.

Monitoring plan hasn't been set up.

Spain

Partner SEC

Questionnaire 1: SURVEY ON THE NATIONAL SANITARY SYSTEMS

1. Organisational structure of the Sanitary System and related actors

- Which is the role of the central Government in the area of the Sanitary System?
- Which functions are due to the Health Ministry?
- Are in case any other competences in the field of the Sanitary Sector managed by other Ministries?
- Which competences concern to the regional Governments?
- Which competences are up to the Board in charge of health care at a local level?
- Where are you positioned in your Sanitary System?

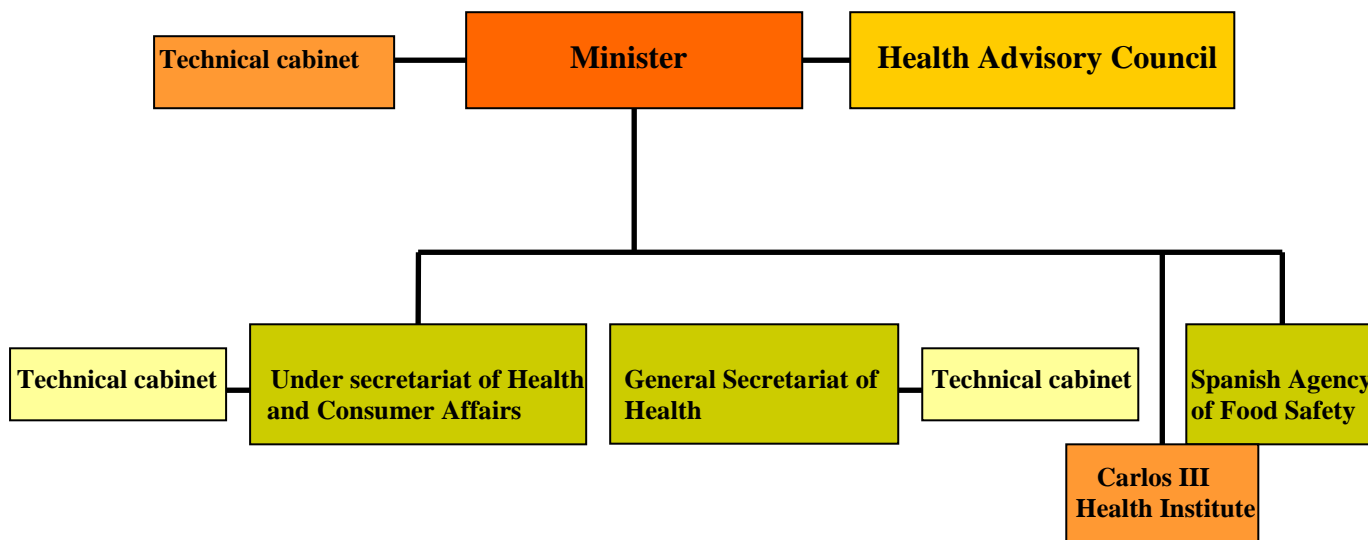
Spain counts on a health system of almost universal coverage, with a broad network of public hospital with a high level of services and specializations. The creation of a structure of primary attention has radically transformed the first level of contact between citizens and the healthcare system. The State of Autonomous regions and the transference to Autonomous Communities of almost all of the areas of responsibility in healthcare have diversified the healthcare services in the Spanish state. However, the **central Government** has as its main function the coordination of the health policies:

- General organisation and coordination of health matters: it refers to the regulation of conditions and minimum requirements, aiming to achieve equal conditions in the functioning of public health services; the creation of methods for the sharing of information, technical standardisation in specific areas, and joint action by State and Autonomous Community authorities in the exercise of their respective powers.
- International health, and international health relations and agreements: refers to the surveillance and control of possible health risks in connection with the import, export or traffic of goods and international passenger traffic. Spain collaborates with other countries and international organisations through international relations and health agreements:
 - In epidemiological control
 - In the fight against communicable diseases
 - In the protection of a healthy environment
- Legislation on pharmaceutical products

Irrespective of the powers held by the Autonomous Communities and, where appropriate, in coordination with them, the State Administration also carries out actions in the following areas:

- Health and hygiene control of the environment, foods, services or products that are directly or indirectly related to human use and consumption
- Regulation, authorisation and registration or standardisation of drugs for human and veterinary use and, for the former, inspection and quality control
- Promotion of rational drug use
- General determination of the conditions and minimum technical requirements for the approval and standardisation of facilities and equipment in centres and services
- Promotion of quality in the National Health System
- Specialised training in accredited teaching centres and units
- Creation of the NHS Information System

Spanish Ministry of Health and Consumer Affairs: the ministry is responsible for the proposal and execution of the general guidelines of the Government in the area of health and consumption policy, planning and assistance.



The Spanish National Health System is organised in line with its basic principles. Since it aims to provide universal support, it has to ensure equal access to services for all citizens and, since it is financed with public funds, expenditure must be based on efficiency criteria.

The System is therefore organised at two care levels in which accessibility and technological complexity are counterpoised.

The first level – **Primary Health Care** – is characterised by extensive accessibility and sufficient technical resources to resolve the most frequent health problems.

The second level – **Specialist Care** – has more complex and costly diagnostic and therapeutic resources which have to be concentrated in order to be efficient. Access is gained by referral from Primary Health Care.

Primary Health Care aims to provide basic services within a 15-minute radius from any place of residence.

The main facilities are the Primary Care Centres which are staffed by multi-disciplinary teams comprising general practitioners, paediatricians, nurses and administrative staff and, in some cases, social workers, midwives and physiotherapists. Since this level is located within the community, it also deals with health promotion and preventive health care. Maximum accessibility and equity means that Primary Health Care also reaches homes when necessary.

Specialist Care is given in Specialist Centres and Hospitals, for both in- and out-patients. Once care is complete, the patient is referred back to the Primary Health Care doctor who uses the full medical history as a basis for subsequent treatment and overall care. This means that continued care is given in equitable conditions, irrespective of the place of residence and individual circumstances, and care will be given in the patient’s home if necessary.

Each Autonomous Community establishes its own **Health Areas** according to demographic and geographic criteria aiming, above all, to guarantee service proximity for users. The Health Areas are then sub-divided into Basic Health Zones, which are the territorial framework for Primary Health Care and the Primary Care Centres. Each Area has a general hospital for Specialist Care. In some Health Departments there are intermediate structures between the Health Area and the Basic Health Zone.

Powers of the Public Administrations on health matters



Competences of the regional government: Catalonia

The autonomous region of **Catalonia** has, since 1981, full competences in health services, as part of the decentralized Spanish health system, based on the common principles of universality, equity and cost-free status. The Central government collects public taxes and social security contributions, and transfers the budget to the Regions.

The budget transferred to the Catalan region represents 16.3% of the national expenditure in HC. The Catalan government (Generalitat de Catalunya) has developed its own organizational model based on the historical evolution of the Catalan health system, where only 30% of the resources in the public network were directly owned by the government (through the ICS, National Health Institute, the biggest provider in Catalonia), while the other 70% was owned by foundations, mutuality and other private non-profit authorities. In that context, the Catalan government decided to maintain the weight of the centers created by the civil society and to “limit” the role of the Health authorities (the Catalan Health Service, SCS) to the management of the resources, acting as a purchaser of services, and defining the guidelines and strategy for health provision. Therefore, the Catalan health care model establishes the separation of functions, purchasing-providing, based on concertation agreements and tenders.

The Catalan Government (Generalitat de Catalunya) has developed its own organisational model based on the historical evolution of the Catalan health system. The Ministry of Health (Departament de Salut, DS) is also the highest authority for the definition, planning and development of healthcare services in Catalonia, acting as a purchaser of services and defining the guidelines and strategy for health provision. Finally, it is responsible for the promotion and protection of individual and collective health.

The **objectives of public health policies in Catalonia** are articulated around three main general objectives:

1. The reduction of inequalities in terms of healthcare so that the differences in terms of healthcare

do not confirm or multiply already existing social or economic inequalities.

2. The control and elimination of social and environmental risks that may have a direct or an indirect effect on health,

3. The effective improvement in the quality of life of all people in our society, by favouring the best health conditions possible. To pursue these objectives it is necessary to favour de-centralization in the range of services offered and their management; to link actions in public health with other actions of attention, to design interventions with a public-oriented perspective, and to make the most of the indirect implications of interventions on health.

The responsibility for the management of health crisis in Catalunya is shared by two different units, within the Catalan Health System, dealing with health crisis such as influenza, either epidemic or pandemic: the General Directorate on Public Health (DGSP) and the PIUC (Integral plan of emergencies of Catalunya).

General Directorate on Public Health: This DG is responsible for surveillance, supervision, monitoring, preparedness, analysis and evaluation. With the use of laboratory based epidemiological services with the corresponding information system, integrating surveillance programmes using both laboratory and clinical data. Samples are collected in order to detect flu viruses every year. As any other epidemiological services, the DGSP controls the network with sentinels that supervise the incidences. When a certain level is overcome, this DG is responsible for declaring the epidemic, and start the information and coordination activities with the different agents involved in the process

The main functions of this entity are the following:

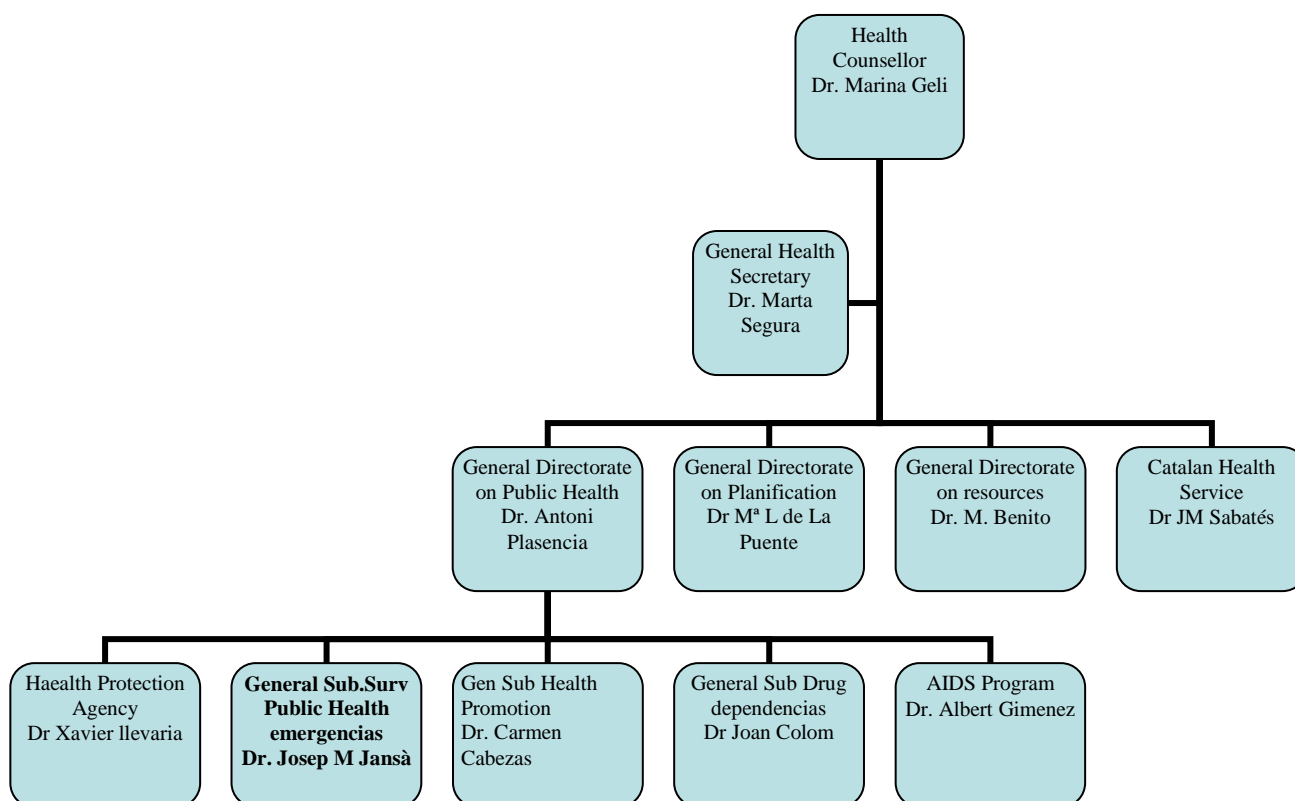
- Establishment of general criteria for health planning, coordination of the Health Plan for Catalunya, follow-up and evaluation.
- Epidemiologic surveillance of transmissible diseases and epidemic outbreak.
- Proposal, monitoring and evaluation of health programmes aiming at disease prevention, health promotion
- Planning, execution, control and evaluation of the necessary activities to find and define the chemical, physical and biological agents in the environment, specially water, air and food, able of produce disorders or diseases.
- All activities aiming at preventing and controlling the effects on public health in collaboration with other institutions in the field of environment.

PIUC (Integral Plan for Emergencies in Catalunya): created to solve the problem of bottlenecks in the emergency services of Catalunya, mainly in winter due to the flu. The organisation was created in 2000, as an integrated plan of emergencies, with two main areas of action: the emergencies due to the influenza pandemic; the need to coordinate the response to emergencies in the general context.

PIUC is a virtual coordination structure with a powerful information system that gathers and integrates information coming from the hospital emergency services, primary care services and, in general, from the medical emergencies unit. It is constantly receiving information of the functioning of emergency services coming from the hospitals and other centres belonging to the network XUP (Public Utilization Network). Of course, PIUC is in constant communication with the DGSP.

PIUC belongs, organically, to Ccatsalut, the Catalan Health Service, the public body responsible for guaranteeing the provision of public cover health services for all the citizens of Catalonia.

PIUC can be consider, too, as the instrument supporting the better distribution of medical and healthcare resources in times of high demand of assistance. Two actions are especially relevant in the coordination activities of the PIUC: winter and the influenza pandemic, and summer with the prevention programme to fight the effects of heat waves.



2. Which is the organisational structure of the Unit/Structure on which you do your experimentation?

Organisational scheme of the testing Unit

The General Directorate of Public Health of the Catalan Health Department has an organizational dependence of the Catalan Health Counsellor and a functional link to General Secretary of this Department.

WORKING LINES:

- Authority and healthcare planning
- Healthcare information,
- Epidemiological vigilance,
- Health promotion,
- Disease prevention,
- Protection of health and
- The public health laboratory.

SPECIFIC OBJECTIVES:

- The reduction of inequalities in terms of healthcare so that the differences in terms of healthcare do not confirm or multiply already existing social or economic inequalities.
- The control and elimination of social and environmental risks that may have a direct or an indirect effect on health.
- The search for an effective improvement in the quality of life of all people in our society, by

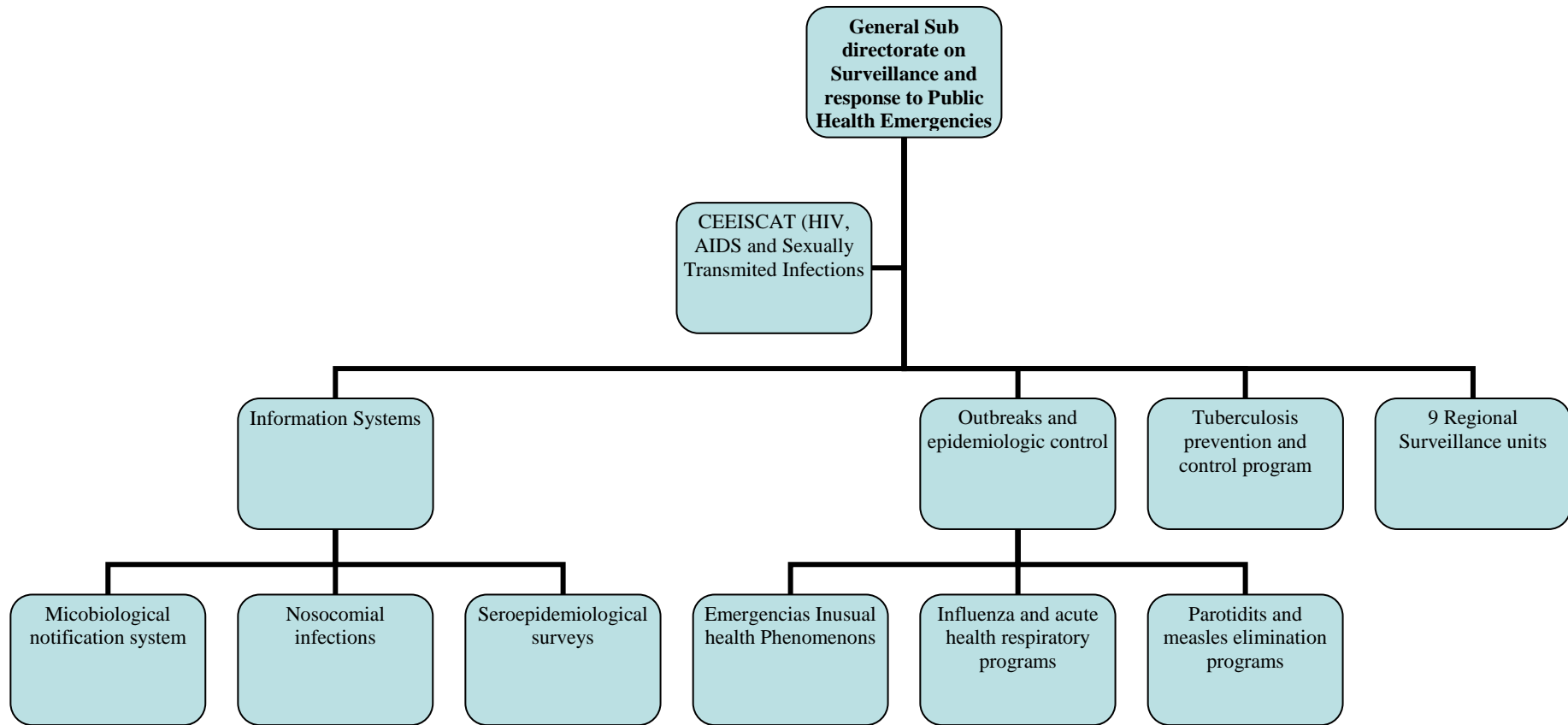
favouring the best health conditions possible.

AREAS

Traditionally the Directorate General of Public Health of the Department of Health has been organized in three areas:

- Promotion of health
- Protection of health
- Epidemiological vigilance.

The **General Sub directorate on Surveillance and response to Public Health Emergencies** depends on the General Directorate of Public Health (included a simplification of the organizational structure of the Catalan Health Department).



3. Define the services which are supplied by the experimented organisational Unit, on the basis of the following questions:

As resumed in the organizational scheme:

- **What?**

The surveillance and public health emergencies branch of the General Directorate of Public Health includes the areas of information systems, epidemiologic control (including emergencies and unusual health phenomenon), the tuberculosis prevention and control program, 9 regional units on surveillance and public health emergencies.

- **Why?**

The defined areas are those considered as priorities in terms of surveillance and public health emergencies.

- **Who?**

The professionals in charge of the selected areas have a public health and epidemiology profile. Most of them are physicians, and there are also biologists, pharmacists, nurses, statisticians and administrative staff.

- **How?**

The offered services are delivered considering the aspects of quality, immediateness, and capacity of response.

- **Where?**

There is a central unit in Barcelona and 9 regional (and sub regional in the case of Barcelona) units distributed by health regions all along the country:

- Big Region of Barcelona, including: Barcelona City, Costa de Ponent (Barcelona south coast area), Barcelonès Nord i Maresme (north coast of Barcelona), Àrea centre (Inland area of Barcelona Region)
- Catalunya Central (Inland area of Catalonia)
- Girona (North east area of Catalonia)
- Lleida (North western area of Catalonia)
- Tarragona (South eastern area of Catalonia)
- Terres de l'Ebre (South Catalonia).

4. How is organised the chain of management of the experimented Unit?

At the central level there is the General Sub director and the different units (see previous scheme). At the regional level, there is an epidemiologist in charge of each unit with a functional dependence of the Sub Directorate of Surveillance and an operational dependence of the region.

5. Please give the features and characteristics of the structures listed as follows, if existing:

- Planning and health information management;
- Health technology assessment;
- Information system

A general common information system for mandatory reporting diseases does exist at the national and regional level. This system is being implemented at the local level. A system for microbiological notifications does also exist at the central level. Hospitals included in this system are connected via internet to this network.

**6. How are the human resources organised, if existing, at the testing organisational Unit?
Please give the details about the organisation of the sanitary staff as follows:**

- Executives: There is an executive committee at the level of the General Directorate of Public Health, consisting of the responsible of programs and sub directorates
- Medical staff of Sanitary structures: at the Surveillance Subdirectorates level there is a “technical Committee” consisting of the responsible of each area (see scheme)
- Nursing staff: in each area
- Technical staff: statisticians, pharmacists and others are also distributed according to the specific area they are working in.
- Clerical staff
- General practitioners/medical officer: only the neurologist in charge of the encephalopathys program is also working at the clinical level.

7. How are the material resources of the organisational Unit organised?

Please give details about the material resources concerning:

- Planning and distribution of the infrastructures (facilities) on the territory
At the central level the coordination of the regions is performed. In each region there is a regional director taking care of the specific needs of the territory. The head of each surveillance unit does report to this director as well as to the General sub director of Surveillance

- Information technology
Information is distributed and processed according to the actual technologies of information

- Medical equipments, disposals, facilities

- Medicines/drugs

The Tuberculosis program is in charge of the specific drugs to treat this disease in coordination with the Agencia Española del Medicamento (Spanish Agency of Medicines) for specific antituberculosis drugs. Other drugs such as Rifampicine to treat contacts of meningococcal meningitis cases are available. Laboratory materials to collect samples for specific surveillance purposes (influenza sentinels program) are also available and distributed.

8. Is there an appointed structure for the emergencies management?

- How are the Operational Units organised?

Operational Units at the regional level are activated in front of every detected emergency (outbreaks, alerts...) during the weekends and holidays in the basis of 24 hours day / 365 days year an epidemiological surveillance emergency service is activated. All hospitals, primary health care units and other health and social service resources, report to this service every detected public health emergency.

- Please give details about the services supplied by the emergency management structure, according to the following questions:

- o What?

- o Why?

To give a quick and operational response to public health emergencies.

- o Who?

The network of public health officers and epidemiologists of the Surveillance unit in Catalonia.

o How?

Applying the defined Public Health emergencies methodology, adapted to each case and situation. Actions related to food safety are coordinated with the Health Protection Agency and the (Catalan Food Safety Agency).

o Where?

All along the territory of Catalonia

- How is the chain of commands of the emergency management structure (o Unit?) organised?

Specific organization is defined for special programs (heat wave) in which, meteorological organization reports to the surveillance organization. At the same time public health organisms connects with the health care emergency system and the structures of the civil society (social services, security department, city councils...).

Organisational draft of the structure appointed for managing emergencies

Following the Action plan in Catalonia in the event of a possible flu pandemic, in case of an emergency, the following structure would be appointed:

An Executive Committee of Catalonia for the prevention, control and surveillance of the evolution of a possible influenza pandemic, reporting to the Department of Health, will be set up.

The functions of the Executive Committee of Catalonia for the prevention, control and follow-up of the evolution of a possible pandemic of the influenza will be as follows:

a) The design of the organisational structure and the determination of the levels of responsibility in decision-making to face up to a possible influenza pandemic in Catalonia, including the approval of the Pandemic Plan.

b) The follow-up and assessment of the response plans of the health-care centres and of all the areas involved.

c) The approval of specific guidelines for every phase of the pandemic, following the recommendations of the WHO and of the Ministry of Health and Consumer Affairs.

d) The coordination of the information that has to be supplied to organisations and institutions of Catalonia, national and international.

e) Any another action related to the influenza pandemic.

With a view to making the decisions adopted by the Executive Council of Catalonia for the prevention, control and follow-up of the evolution of a possible influenza pandemic operative, and manage the plans and actions determined for every pandemic phase, a Technical Secretariat will be set up.

An Advisory Scientific Council of the Influenza Pandemic Plan will be set up to guide the decisions of the Executive Committee of Catalonia for the prevention, control and follow-up of a possible influenza pandemic, in accordance with the scientific knowledge and experience of the professionals related to this matter.

9. Please indicate the training sessions of the appointed staff and the specialised medical training.

A training program is annually defined by all epidemiologists (central and regional) according to the determined needs and priorities. In 2008 the selected topics are:

- Management of microbiological samples
- Advances in epidemiological methodology
- Sexually transmitted diseases and HIV
- Evaluation on health interventions

10. Please indicate the training sessions given for the sanitary staff involved in the management activity of emergencies.

Training sessions are offered according to specific needs and programs (ex. Aviary influenza pandemics, heat wave, outbreaks management...)

Questionnaire 2: The general management and the qualitative-quantitative application of the National, Regional and Local Pandemic Plans

1. General issues

1.3 Is there a political awareness and commitment to prepare for a pandemic?

- Funding should be committed relative to the anticipated preparedness planning.
- Establishing core national Pandemic planning Committees, representing relevant organizations *
- Is there a national / local pandemic plan? Which are its main objectives and key-actions?

There is a high level of political awareness and commitment to be prepared for a pandemic, with a general action plan since January 2006.

Special funding for the preparedness planning is received every year and has been used up to the moment for stockpiling of antivirals, stockpiling of PPEs, a training programme for educators of health care centre staff, a simulation of cases of Avian Influenza in 20 health urgency services at both, primary health care centres and hospitals.

In Catalonia, were established by law two regional Pandemic planning Committees:

- **The Executive Committee of Catalonia for the prevention, control and evolution follow-up of a possible pandemic influenza.** In this Committee are represented all the different departments of the Catalonian Government, together with the two institutions more representative of the municipalities, with the following members:
 - The minister of the Health Department in Catalonia, who is the president of the committee
 - The general secretaries of all the government departments in Catalonia
 - The director of the Catalan Health Service
 - The director of the Catalan Health Institute
 - The director of the Catalan Institute of Social Services
 - The general director of Public Health, who is the secretary of the committee
 - The general director of Health Resources
 - The general director of Health Evaluation and Planning
 - The director of the Institute of Health Studies
 - The general director of Civil Protection
 - The director of the Medical Emergency Service
 - The head of the Cabinet of the health minister in Catalonia
 - The president of the Catalan Association of Municipalities and Regions
 - The president of the Federation of Municipalities in Catalonia
 - The general secretary of the Presidential Department, who is the vice-president of the committee

The functions of the Executive Committee of Catalonia for the prevention, control and follow-up of the evolution of a possible pandemic of the influenza will be as follows:

- a) The design of the organizational structure and the determination of the levels of responsibility in decision-making to face up to a possible influenza pandemic in Catalonia, including the approval of the Pandemic Plan.
- b) The follow-up and assessment of the response plans of the health-care centers and of all the areas involved.

- c) The approval of specific guidelines for every phase of the pandemic, following the recommendations of the WHO and of the Ministry of Health and Consumer Affairs.
 - d) The coordination of the information that has to be supplied to organizations and institutions of Catalonia, national and international.
 - e) Any another action related to the influenza pandemic.
- **The Scientific Advisory Committee for the Influenza Pandemic Plan in Catalonia.** In this Committee are different representatives of different Departments and a major representation of Scientific Institutions and Professional Colleges related to the specific subject, with the following members:
 - The president of the Scientific Advisory Committee, who is designated by the minister of health in Catalonia because his scientific career and expertise in the subject
 - The general sub-director of surveillance and response to public health emergencies, who is the secretary of the committee
 - A representative of the Research Department in Catalonia
 - A representative of the Department of Agriculture, Food and Rural Action
 - A representative of the Catalan Society of Infectious Diseases and Clinical Microbiology
 - A representative of the Catalan Society of Family and Community Medicine
 - A representative of the Catalan Society of Paediatrics
 - A representative of the Society of Public Health of Catalonia and Balearic Islands
 - A representative of the Catalan Society of Emergencies Medicine
 - A representative of the Catalan Society of Geriatric medicine and Gerontology
 - A representative of the Spanish Society of Preventive Medicine, Public Health and Hygiene
 - A representative of the Spanish Society of epidemiology
 - A representative of the Catalan Nurses Association
 - A representative of the Catalan Family and Community Nurses Association
 - A representative of the Catalan Control Infection Nurses Association
 - A representative of the Catalan Society of Clinical Pharmacy
 - A representative of the Catalan Society of Occupational Medicine
 - A representative of the Catalan Society of Pneumology
 - A representative of the Council of Catalan Colleges of Medicine
 - A representative of the Council of Catalan Colleges of Pharmacy
 - A representative of the Council of Catalan Colleges of Veterinary
 - A representative of the Council of Catalan Colleges of Nurse Diplomates
 - A representative of the Agency of Technology Evaluation and Medical Research
 - A representative of the Catalan Agency of Food Security
 - A representative of the Research Centre in Animal Health
 - Different experts in the subject designated by the minister of health, the vice-president is elected between them.
 - There is also a working pandemic planning committee, **the Technical Secretary's Office for the prevention, control and evolution follow-up of a possible pandemic influenza**, where technicians of the different departments and institutions

represented in “The executive Committee of Catalonia for the prevention, control and evolution follow-up of a possible pandemic influenza” work together to implement in the different levels the decisions taken in the executive committee, with the following members:

- The general director of Public Health, who is the president
- The sub-director of the Catalan Health Service, who is the vice-president
- The technical directors of the Pandemic Plan
- The directors of the different territorial services of the Department of Health
- The director of the Public Health Agency of Barcelona
- Technicians of the different departments and institutions represented in “The executive Committee of Catalonia for the prevention, control and evolution follow-up of a possible pandemic influenza”

In Catalonia, there is a regional pandemic plan since January 2006. The main objective of the plan is to facilitate an effectiveness response in the case of a pandemic influenza to reduce the impact of a pandemic on mortality, morbidity and on health/social services. This plan can also give benefits to different logistic and planning processes:

- Best communication systems between health sector and other sectors involved in emergency responses.
- Participation of the different institutions and social and community structures in the planning process which will facilitate its implementation. During the planning process, the responsibilities and tasks of the different actors will be better identified, possible limitations and mistakes can be detected and the legal framework will be evaluated to ensure transparent assessment and justification of the measures to be implemented with the plan. The actions to be implemented will be coordinated with the National Plan and the European one.
- The increase in activities to improve epidemiological surveillance and the response to emergencies of public health will improve the routine tasks to be implemented during the annual influenza epidemics which cause in Catalonia every year around 400 deaths.
- To improve the emergency system to respond to a pandemic, will improve the generic emergency planning models.
- Most of the elements and infrastructures developed for the pre-pandemic phase (measures to contain the transmission of the infection and to provide a laboratory confirmation) will be able to be used in other health emergency situations.

Key actions of the plan:

- Surveillance
 - Animal surveillance
 - Human surveillance
- Vaccines and vaccination programmes
- Antivirals
- Response to the emergency
- Communication

1.2 Is there a clear strategy on how to involve the community in the planning process?

- Who is making the decisions in case of an influenza pandemic? Who is advising the government? Is there a hierarchical structure for deciding on measures and ordering their implementation, and is this structure known to other national and sub-national emergency departments? Does everybody know what to do?
- Communication strategies are an important component:
- Is there a scientific committee to assess risks or interpret research and define its public health relevance?
- Are there mechanisms for information sharing between national authorities (WHO, other Agencies) and for sharing information, also using the modern rapid communication technologies, from the national to the local level and within the Country?

The decisions in case of an influenza pandemic will be taken by the Executive Committee and led by the health department. One of the tasks of the Executive Committee is to design the hierarchical structure for deciding on measures and ordering their implementation.

As it was commented above, there is a Scientific Advisory Committee to assess risks, interpret research and define its public health relevance. This Committee is also responsible for developing protocols, guidelines, training of the health care centres and simulation exercises.

All the information is coordinated at the regional level but with the implication of the local level. Information is shared between all the different participants within the different committees where are representatives of the local level which are responsible to inform all the municipalities and make them to participate.

The regional plan is in accordance to the national plan and specific actions have to be informed to the national level.

1.3 Is there a legislative framework in place for the national response plan? Does this framework include contingencies for health-care delivery and maintenance of essential services?

- During a pandemic it may be necessary to overrule existing legislation or individual human rights (ex. Use of privately owned buildings for hospitals; off-license use of drugs, etc...). These decisions need a legal framework to ensure transparent assessment and justification of the measures that are being considered, and to ensure coherence with international legislation (international health regulations)

One of the actions to be developed by the Executive Committee and the Technical Secretary's Office is to evaluate the actual legislation and to build if it is necessary a legal framework to ensure transparent assessment and justification of the measures to be implemented with the plan.

1.4 Is there a response plan in place that identifies the responsibilities and tasks of organizations and individuals at varying stages of a pandemic?

- The response plan should indicate the specific response during each phase of a pandemic, and should reflect the detail of the preparedness plan.
- It should include a mechanism for identifying triggers that will change the level of response and indicate the organization (and the unit within the organization) responsible for the designated response at each phase
- Have the legal implications been considered?
- Is there an estimate of the expected impact the pandemic would have on the society?
- Has the response been planned by the WHO pandemic phases?

The action plan in Catalonia identifies the different actions to be taken in the different pandemic

phases, with the aim objective in each phase and the different actions to be taken according to the key actions (animal surveillance, human surveillance, vaccines, antivirals, response to the emergency and communication).

Specific actions are identified in the specific protocols developed by the different actors: concerning to animal surveillance, specific protocols have been developed by the Department of Agriculture, Food and Rural Action; the protocols about human surveillance, vaccines, antivirals and response to the emergency have been developed by the department of Health with the participation of the Scientific Advisory Committee and every health care centre in Catalonia has been asked to develop their own emergency plan which had to be sent to the Health Department. Protocols were delivered to all health centres in 2006 and are also available in our web site (www.gencat.cat/salut) in Catalan and Spanish languages.

The legal implications as mentioned above have been considered.

Estimation of the expected impact of pandemic on society has been calculated according to the FlueSurge 2.0 programme (CDC). This estimation has been used to assess our hospital admission capacity, hospital ingressions capacity, emergency care area capacity, ventilator capacity, necessary transport and morgue services capacity. This estimation has been also calculated by the biggest hospitals to prepare their specific emergency plan.

The action plan in Catalonia has been structured according to the WHO pandemic phases as well as the specific protocols and guidelines.

2. Surveillance

2.1 Instruments to rapidly detect confirm and describe cases of abnormal clusters of influenza-like illness caused by a new strain, and so as to be able to recognize a potential pandemic strain of influenza virus.

- Does an active surveillance system exist, which can enable to detect unusual or unexplained events of influenza symptoms, possibly caused by new strains of influenza virus and therefore the possible beginning of a pandemic?

Avian Influenza is an urgent mandatory communicable disease. Any unusual case or unexpected event has to be notified immediately to the public health institutes.

The objective of the active human surveillance during the pandemic warning period (phase3) is the rapid diagnosis of clinical manifestations with suspected infection by avian influenza virus.

In this phase it is necessary:

- To disseminate the action protocol in imported cases among health professionals. This protocol is available on the Department's web (www.gencat.net/salut).
- To perform a study of contacts of the imported cases.
- To follow the protocol for the prevention of infection by pandemic virus in health staff.
- To design a study to assess the effectiveness of vaccines and antivirals during the pandemic.

In the event of a suspected or probable case of avian influenza, for confirmation of the case, following consultation with the corresponding territorial epidemiological surveillance unit, samples will be collected.

The Health Department's fundamental objectives in phase 4 are to curb the transmission of the new virus in localized areas and delay its dissemination, with a view to gaining time for the application of the response measures. In phase 5, the main objectives consist of maximizing the efforts to contain, delay or prevent the dissemination of the pandemic and gain time to be able to apply the response.

The objective of human surveillance in these phases is the rapid diagnosis of suspicious clinical manifestations of infection by the new influenza virus.

In these phases the following procedures will be implemented:

- The study of contacts
- Review and adjustment of the action protocol for phases 4 and 5
- Review and updating of the management protocols of the patients and their contacts.
- Assessment of the impact of the measures of contention and readjustment of the recommendations.

In the event of a suspected or probable case, for confirmation of the case, following consultation with the corresponding territorial epidemiological surveillance unit, samples will be collected.

- Is there a possibility to establish a sentinel system for virological surveillance of influenza, so as to enhance surveillance for ILI (influenza like illness) and criteria for case sampling? (ref.: WHO checklist, cap. 2 (surveillance), par. 2.1 (**Sentinel System**))

The human surveillance of influenza in Catalonia started in the 1988-1989 season and was modified as of the 1999-2000 season in order to accomplish greater geographical representativeness and wider coverage in the obtainment of samples for virological study. At present, the number of sentinel doctors involved is 44, distributed over 24 centers in different regions of Catalonia. The sentinel doctors collect pharyngeal and nasal samples throughout the season (weeks 40 to 16).

The viruses studied, besides the influenza virus, are the syncytial respiratory virus, the parainfluenza viruses 1, 2, 3 and 4, adenovirus, coronavirus, rinovirus and enterovirus. The search for these different viruses from the influenza viruses helps to distinguish between outbreaks with flu aetiology from other cases and outbreaks of acute respiratory processes caused by other viruses. The morbidity indicators collected from the sentinel centers and the virological indicators are obtained daily.

The virological and epidemiological data obtained are compiled in the Information Sheet that is published and distributed weekly, and are sent to the National Epidemiology Centre, which in turn compiles all the data from Spain and sends them to the EISS (*European Influenza Surveillance Scheme*). This surveillance system is highly useful and is the cornerstone of surveillance activities to be developed in Catalonia to face up to a possible pandemic.

- Are all chicken farming sites, including the rural ones, and their operators regularly registered?
Yes.
Avian influenza is a disease that must be declared according to the International Office of Epizootics (IOE).

The measures applied by the Department of Agriculture, Food and Rural Action (DAAR) for avian influenza are framed within a *Surveillance Programme*, a *Warning Plan* and an *Emergency Plan*.

The Surveillance Programme is applied annually by means of analyses of samples from birds taken at random according to a general distribution that the European Union establishes for every member state and the Spanish Ministry of Agriculture, Fisheries and Food (MAPA) redistributes among the Autonomous Communities. It includes the control of birds from poultry farms and wild birds, particularly ducks. The Programme particularly seeks to detect possible avian influenza viruses of low pathogenicity, since they are susceptible to transform into high pathogenicity viruses.

In Catalonia, the Poultry Surveillance Programme has been implemented, since 2003, by the Poultry Health Centre of Catalonia (CESAC) according to the instructions issued by the Animal Health Service of the DAAR, which is based on community regulations, and in coordination with the MAPA. Over these three years, improvements have been made in the selection criteria of the farms to be sampled according to the type of farms and their location rather than an overall increase in the number of samples taken.

In wild birds, the DAAR has established a Surveillance Programme by means of an agreement with the Animal Health Research Centre (CReSA) that collects samples from different wild birds from the four wild animal recovery centers. The surveillance is conducted with the collaboration of the Department of Environment and Housing that facilitates the samples collected from hunting campaigns, from ring-placing operations and specific captures made for this purpose. The 2005 wild bird programme is much more specific than that of 2004 and the type of birds to be analyzed was diversified to include water birds, marine and other birds. The number of wild birds sampled in 2005 quadrupled the initial number forecast.

The Surveillance and Prevention Programme also includes all the transversal measures that are useful for fighting all diseases. These are the biosafety measures for animals and for people, the control and restriction of bird movements, if necessary, and people training.

The Warning Plan is applied when there are outbreaks of cases in other countries with a risk for birds from Catalonia, and it comprises the following actions:

- Review and control of movements: all batches of birds and eggs that arrive in Catalonia from countries with a risk of transmitting the disease are checked.
- Immediate and continuous information and dissemination: the communication mechanism established rapidly notifies all the sectors involved (official veterinary services, CESAC, Catalan Poultry Federation, Association Poultry Slaughterhouses, Public Health and Food Safety Agency) As well as by means of the DAAR web site and the RURALCAT site for general information.
- Emphasis is placed on reinforcing the measures established in the Surveillance and Prevention Programme: biosafety measures and movement control.
- Urgent sampling and analysis of birds coming from risk areas. The CESAC laboratory is prepared to perform the necessary analyses rapidly.
- Handling of suspected cases. The protocol established to rule out or confirm the disease as quickly as possible is applied.

The Emergency Plan is implemented when there is a reasonable suspicion of positivity to avian influenza. It provides for the action and organization procedures and the basic objectives of the struggle, namely: A) early detection of the locus; b) rapid elimination of the locus and c) minimization of the risk of dissemination. The actions to be performed are

visits, confirmation of suspicion, delimitation of protection and surveillance areas, and slaughter and destruction of dead bodies.

- Are there precise prescriptions concerning the performing modality of national protocols for epidemiologic surveillance and establishing roles and responsibilities about :
- People exposed to animal pandemic

There is a specific protocol for workers who have been exposed to animals infected with the avian influenza H5N1 virus. The protocol is available (in Catalan and Spanish) in our web site (www.gencat.cat/salut).

- Health-care workers caring for patients with suspected or confirmed pandemic strain influenza infection
- Laboratory workers handling potentially riskful clinical specimens

There is a specific protocol to prevent the infection in health care centres where both aspects (health care workers and laboratory workers) are taken into account. The protocol is available (in Catalan and Spanish) in our web site (www.gencat.cat/salut).

- Contacts of suspected individuals/cases

The management of contacts of suspected cases is explained in the protocol of actions to be taken when a suspected case of infection in humans is detected. The management of contacts is specially important in phases 4 and 5. This protocol is also available (in Catalan and Spanish) in our web site (www.gencat.cat/salut).

- Does the Country have a system to perform national protocols of implementation of epidemiologic surveillance, defining responsibility roles concerning:
 - clusters of a potential pandemic strain of influenza virus, both through community practitioners and Health-care facilities
 - Clusters of unexpected mortality for influenza-like illness and infections caused by acute respiratory illness in health-care facilities

In Catalonia, there are two protocols of actions to be taken when a suspected case of infection in humans is detected, one for the phase 3 and the other one for phases 4 and 5. In these protocols, responsibilities are defined, as well as the flow chart of actions and actions to be taken when one case or a cluster is suspected.

Besides, clusters of any aetiology are of mandatory urgent communication to the public health institutes.

2.2 What kind of weekly monitoring systems do emergency facilities use and how many admissions does a sample of locations (towns/villages) have?

- Possible existing collaboration with a central level for weekly detection of total mortality in a sample of municipalities (villages/towns)

The human surveillance of influenza in Catalonia collects morbidity indicators from the sentinel centers every day. Actually there is no weekly monitoring system for emergency facilities, but every year during the summer, to implement the heat health action plan in Catalonia, indicators of hospital activity (admissions, visits, deaths) of four major hospitals

in Barcelona are collected twice per week.

The human surveillance of influenza in Catalonia, moreover, and since it is a well-known fact that mortality increases during influenza epidemics, fundamentally among the elderly, collects every week the number of deaths occurred in the city of Barcelona and other 6 municipalities of the province of Barcelona (l'Hospitalet de Llobregat, Manresa, Mataró, Terrassa, Sabadell and Santa Coloma de Gramenet). The mortality data are monitored according to the Box-Jenkins time series methodology; the ARIMA model (3,0,0) is used for the city of Barcelona and the 6 municipalities of the province of Barcelona.

3. Case investigation and treatment

3.1 Is there a local laboratory capacity, and how is it integrated in the surveillance system?

Assess local laboratory capacity :

- in the interpandemic phase, all countries should have access to at least one laboratory able to offer routine influenza diagnosis, even if not necessarily strain; funding for laboratory maintaining; protocols for specimen collection and transport; implementation of biosafety protocols; national inventory of laboratories with biosafety security levels 3 and 4; strategy performing for rationing laboratory testing during pandemics; facilities for storing clinical specimens; capacity of sharing clinical material and of interpretation of diagnostic tests

In Catalonia there is one WHO reference centre for influenza (the Microbiology Laboratory -Hospital Clínic /University of Barcelona-). This centre is the reference centre for diagnosis of influenza in the interpandemic phase. Moreover, it is in charge of the virological surveillance due to the continuous antigenic changes in the influenza virus.

The virological surveillance will include the detection and isolation of viruses, in community and hospital cases, and the conduct of antigenic and genetic studies. Although the detection of major variants (antigenic shift) is the maximum objective of virological surveillance, minor antigenic variations (*drifts*) that occur in every annual epidemic should not be minimized. As these minor changes occur continuously, they will be followed up and their prevalence and impact on the frequency of appearance of the disease and its clinical consequences (morbidity and mortality) established. The new strains that gradually will appear will must also be available to be able to include them as standard strains in the annual vaccination programmes for the influenza epidemic. Our WHO reference centre for influenza will send them to their corresponding European reference centre.

Besides these aspects, there is a specific protocol, available in our web site in Catalan or Spanish, about the actions to be taken by the laboratories of microbiology regarding biosafety, specimen collection of the samples and transport to the reference laboratory.

The Health Department has available a Catalan inventory of laboratories with biosafety security levels 3 and 4.

3.2 Epidemiological investigation and contact management

- Alongside laboratory confirmation, an epidemiological investigation should be carried out to identify how suspected human cases of a new influenza strain became infected, to assess the clinical impact of the disease and to determine the risk that infected persons or their environment may represent for others.(ensure through field investigation of confirmed cases of influenza; designated capacity to carry out epidemiological investigations: update the

case report form for epidemiological investigation; ensure a mechanism for daily reporting of cases to national authorities; develop study protocols for basic and enhanced epidemiological studies; provide clear guidance on how to define and manage possible contacts of the case; set up a mechanism of scientific review of results of epidemiological investigation in order to develop or adjust recommendations to prevent further spread of the disease)

There is a protocol for epidemiological investigation, case and contact management for possible or confirmed avian influenza cases (phase 3) and another one for epidemiological investigation, case and contact management in phase 4 and 5. Both protocols are available in Catalan and Spanish in the web site of the Department of Health (www.gencat.cat/salut).

One of the tasks of The Scientific Advisory Committee for the Influenza Pandemic Plan in Catalonia is to carry out a scientific review of results of epidemiological investigation in order to develop or adjust recommendations to prevent further spread of the disease.

3.3 Clinical management

- -To ensure effective and safe treatment of human cases of a new influenza strain, it's important that clinical guidelines are ready, supplies are available and staff aware of admission criteria; staff should be aware of and trained in infection control measures (ensure the development or rapid adaptation and implementation of clinical management guidelines for patients with suspected / confirmed pandemic strain; consider establishment of a clinical working group with experts from the public and private sectors to ensure broad expertise and commitment; ensure access to a designated reference laboratory by regional networking)

Based on the pandemic plan, and with the participation of various working groups of the Scientific Advisory Committee, protocols for the prevention of nosocomial infection, laboratory diagnoses, the use of antiviral drugs, prevention in workers exposed to animals, activities in the scenario of human cases in phase 3 and in phases 4 and 5, and emergency responses have been drawn up and delivered to all health centres in Catalonia.

Different material (leaflets and questionnaires) have been also prepared and delivered to all the health care centres in Catalonia to facilitate the detection of suspected cases in phase 3.

A programme for the training of health care centre staff was also elaborated.

The objective of the Training Programme for Educators was to increase the knowledge and skills of health care centre staff with respect to the Plan for Pandemics.

A 20-hour workshop on the preparedness and response to a pandemic aimed at technicians of the Epidemiological Surveillance Units of the Department of Health was carried out.

A consensual agreement was reached on the materials to be delivered (Power Point and explanatory text) by a working group of the Scientific Advisory Committee.

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16 training sessions of two hours for educators were called, which were attended by representatives of 142 health care and social centres (80% of those invited). The sessions were given by two epidemiologists, one territorial and one from central services.

By February 2007, the persons attending the aforementioned training sessions had imparted 94 training sessions in health centres.

Moreover, during 2007 a working group was created to design 4 hypothetical cases (based on the OSCE methodology) of different simulated patients that had to accede the public health network with symptoms and epidemiological background potentially compatible with an infection by Avian Influenza (phase 3). The simulated patients acceded 20 health urgency services, at both primary care centres and hospitals, in order to assess the knowledge that health professionals had on the disease, its epidemiology and about the established protocols; how well the health systems linked to the epidemiological services, and how, presumably, the protocol's application works in case of an alert. The evaluation of this exercise allows the identification of the potential problems in our health network so improvements could be taken into account and implemented in a short term period.

3.4 Procedures to grant management and assistance for human cases of pandemic influenza strain

- Prepare a survey about the ordinary and extra-ordinary availability of health centres, including centres equipped with assisted respiration instruments, health and assistance centres, primary health-care workers, general practitioners, paediatricians, assistance and medical specialists. Indicate health/hospital settings, according to their level (primary, secondary, tertiary, emergency and intensive units) where patients should ideally be managed during the pandemic
- Locate possible alternative sites for medical care
- Quote of population beneficiary of home-medical assistance

- One of the working groups of the Scientific Advisory Committee led by the Catalan Health Service elaborated the plan for the emergency response at the health centres. This plan is a guideline to be used for all health centres to elaborate its own emergency planning. The objectives are to give the most effective assistance response to the patients without interfering too much in the rest of the hospital functions; to get the maximum coordination and collaboration between the different services at the same hospital and resources/services extra-hospital (primary health care centres,...); to adapt the physical space, human resources and logistics to the different scenarios during the pandemic. In this plan the centres are asked to answer a questionnaire about the different aspects to be taken into account to be prepared in case of a pandemic (the ordinary and extra-ordinary availability of health centres, home-medical assistance, telephonic assistance, role of the different professionals, functional teams, reserve staff, alternative sites for medical care, possibilities to divide in different sector the hospital to separate the pandemic patients, number of ventilators, extra beds, treatments...). The plan is available in Spanish and Catalan in our web site (www.gencat.cat/salut).
Actually, most of the health centres in Catalonia have sent us their specific plans to be prepared in case of a pandemic and in a short time the plans of the two reference hospitals for cases management in Catalonia will be also available in our web site.

- Distribution of guidelines for use of antiviral drugs as early treatment
- Ensure the availability of supplies, storage and distribution of antiviral drugs (as already requested about their prophylactic use)

Since 2006, there is a specific protocol for use of antiviral drugs as early treatment and for prophylactic use. This protocol is also available in our web site in Spanish and Catalan and actually is being updated.

In Catalonia, actually, 1,351,000 treatments are available as a powder for oral suspension (oseltamivir phosphate), 58,000 treatments of Tamiflu and 5,000 treatments of Relenza. There is a central storage, under special security conditions with a list of responsible people

who can accede to it. In phase 3, a pharmacy service has been designated to elaborate the oral suspensions for treatment of cases. The distribution of the treatment to the hospital where the case is being attended is responsibility of the epidemiological units of the department of health. Treatments will be delivered only after confirmation of the suspicion by the epidemiological units as it is established in the protocols of case management in phase 3 and 4-5. In phase 5, it is expected to have distributed the treatments according to the number of inhabitants in the different health territories in Catalonia to ensure a fast delivery for treatment of cases.

4. Methods to perform prevention and control of infection

4.1. Public health measures

- Are there health-care information plans to promote implementation of routine hygienic rules amongst population and have information campaigns modalities been assessed?

The protocol to prevent the infection in health care centres contains all the information necessary to be taken into account to promote implementation of routine hygienic rules, not only among health workers, and specific hands washing information and respiratory hygiene is available to promote these hygienic rules amongst population attending health care settings.

A specific campaign about hand washing has been assessed to health workers by media of videos. Leaflets have been delivered to all health care settings.

Leaflets about respiratory etiquette have also been delivered for all health care settings and actually we are working in implement a campaign to promote implementation of respiratory etiquette in all health care settings.

- Has the need Personal protective equipment kit (PPE) and diagnostic kits for medical and paramedical staff, and other staff whose critical functions entail high-risk exposure, been estimated?
- Have supply and distribution plans been programmed?
- Are there protocols for PPE usage for riskful professional categories?

Civil protection workers, veterinaries and workers who can be in high-risk exposure to infected poultry and wild birds have estimated their specific needs and have a stock of PPEs. Guidelines of how to use PPE and when were established by the Department of Health and specific speeches were organized to train them about the real risks and protective measures to be taken.

A minimum stock of PPEs was also distributed to hospitals and ambulances and another stock is in the Public Health Department. To contain to the maximum the high-risk of transmission, in phase 4 and 5, cases will be delivered to reference hospitals which have estimated all these needs in their plans of preparedness and are specifically prepared to contain highly transmitted diseases.

The protocol to prevent the infection in health care centres contains specific guidelines for a correct usage of PPEs.

- Have public health measures at a central and local level been implemented, such as isolation of routine influenza cases but with possible suspected symptomatology, at home or in special areas within health-care facilities? Are there specific procedures on how quarantine and contact tracing and restriction should be carried out?

The public health measures (isolation, quarantine, contact tracing) are planned and have to be implemented in the case management in the different pandemic phases according to the different protocols.

- Are there any prescriptions concerning schools/places where people gather closure, or revocation of mass gatherings or events, to limit the spread of the disease in the community?

These prescriptions will be examined according to the epidemiological situation and the national and international guidelines.

4.2 Treatment with antiviral drugs.

- Designation of a responsible for drugs storage and request strategy plans.
- Designation of regional areas for drugs storage within the Hospital chemists/pharmacies existing in every Region.
- Definition of specific sites as Local sites (responsible for public health conditions) with suitable drugs storage conditions.
- Ensure transport availability at an intra-regional level, granting the possibility of reaching. Within 3-4 hours any location of the region.
- Lists or estimations of defined risk groups (people exposed to high epidemic risks) due to professional reasons.

There is a central storage, under special security conditions with a list of responsible people who can accede to it. In phase 3, a pharmacy service has been designated to elaborate the oral suspensions for treatment of cases. The distribution of the treatment to the hospital where the case is being attended is responsibility of the epidemiological units of the department of health. Treatments will be delivered only after confirmation of the suspicion by the epidemiological units as it is established in the protocols of case management in phase 3 and 4-5. In phase 5, it is expected to have distributed the treatments according to the number of inhabitants in the different health territories in Catalonia to ensure a fast delivery for treatment of cases (less than three hours).

In the pandemic phase, treatment will be available for the following risk groups:

- Hospitalized patients
- Essential workers (health workers and another ones with essential tasks for the society)
- Patients with risk for complicated course of infection

Prophylaxis in this phase will be only recommended in case of outbreaks in closed institutions with people with risk for complicated course of infection and for health workers with non protected exposure.

4.3 Vaccination

- How to foresee the logistic of vaccine provision
- Define a list of high-risk groups/people (in case indicated by the National Plan)
- Procedures expected for local distribution and storage of vaccines

- Establish specialised staff for vaccine administering, granting the respect of priorities and equity
- Determine how receipt of vaccine will be recorded and how a two-dose immunization programme would be implemented in terms of recall and record keeping
- Develop a method (strategy for data collection and analysis) for estimating pandemic strain influenza vaccine effectiveness at a regional/local level and a suitable method for exchanging information within referents of drugs/vaccine surveillance and prevention.
- Determine how receipt of vaccine will be recorded and how a two-dose immunization programme would be implemented in terms of recall and record keeping

Since the flu vaccination programmes were started in the 50s, it has been demonstrated that they are a key element, indispensable and essential in the prevention and control of this infection. The epidemic influenza vaccine is given and recommended in Catalonia in people aged above 60 years, people of any age with predisposing base condition and people in regular contact with these high-risk patients and pregnant women.

In case of the possibility of an influenza pandemic, a series of questions pertaining to the administration and application of the vaccination programme must be considered:

- Importance increase in the target population to be vaccinated beyond the risk groups considered, and ideally covering the whole of Catalonia.
- The warning period before the expansion of the pandemic will probably be very short (2-3 weeks), so the fastest possible distribution and administration system must be prepared.
- Since the pandemic strain may appear at any time and the minimum need of the pharmaceutical laboratories for the preparation of the new vaccine is 6 to 8 months, it is very likely that this time must be shortened, eliminating some of the final phases of effectiveness to be given quickly. It is also possible that there is no efficacious vaccine or that the amounts of the existing one will be insufficient to attend to the needs of the population.
- In general terms, the immune response to a vaccine in seronegative the people is rather poor; thus, the emergence of a new strain with an antigenically different haemoagglutinin (H) and/or neuraminidase (N) would require the administration of a second dose 30 days after the first to guarantee the maximum protective efficacy.

As a consequence of the questions addressed, it must be considered that in the case of a flu pandemic there will not be enough vaccine and for this reason it is very important to guarantee the legal mechanisms that permit, by means of national agreements, and within the framework of the European Union, a fair supply of vaccines. It will be important to control and distribute stocks to the

groups regarded as requiring priority protection, efficaciously and rapidly replace and redistribute

the unused doses and guarantee the second dose if it is finally regarded as necessary for optimal protection.

If it is impossible to have sufficient quantities of pandemic vaccine, in our plan, three operating eventualities must be provided for when designing the vaccination programmes:

- a) vaccination of the essential community services workers
- b) vaccination of the essential services workers and risk groups
- c) vaccination of the whole population.

These three eventualities will be considered in staggered fashion, according to the availability of pandemic vaccine.

For all the above exposed reasons there is a working group on vaccines in the Scientific Advisory Committee for the Influenza Pandemic Plan in Catalonia who is working in how to foresee all these questions regarding vaccination according to the situation. This group is

actually working in the pre-pandemic vaccination: establishing specialised staff for vaccine administering and procedures for local distribution and storage of vaccines, defining the list and order of the groups/people to be vaccinated and the number of doses (one or two).

5. Contingency plans to maintain essential health and other essential services

- Prepare a list of essential services on the base of priorities established at a National level
- For each essential service appoint a responsible and ensure the assessment of procedures to vaccinate health-care workers considered essential for replacing vacancies during pandemic spreading

The list of essential services to be vaccinated will be prepared in coordination with the Department of Interior, Institutional Relations and Participation who through the Civil Protection and the Emergencies Centre of Catalonia (CECAT) provides basic contingency plans in case of emergencies.

In the event of pandemic influenza, businesses and other employers will play a key role in protecting employees' health and safety as well as limiting the negative impact to the economy and society. Companies that provide critical infrastructure services, such as power and telecommunications, also have a special responsibility to plan for continued operation in a crisis and should plan accordingly. As with any catastrophe, having a contingency plan is essential. For this reason in Catalonia we have developed a questionnaire for health and other non-health essential services to assist them in planning for a pandemic. This questionnaire was developed taking as example the checklists prepared by HHS and the Centers for Disease Control and Prevention in USA.

In a first step, the questionnaire has been sent to all health services to be completed and sent back to the Department of Health. In a second step, it is previewed to send them to the different services of the different departments of the Catalanian Government. Each department will be responsible to store the different questionnaires of their own services in order to have all the information necessary in case of an emergency. In a last step, it is previewed to send them to different companies that provide critical infrastructure services and to put it available in our web site in order to be used for all companies that want to prepare its own contingency plan.

6. Working out a training plan

- Protocols defined at a national level for a training plan (if existing)
- Regional/local training programme for every target-group. Specific referents with didactic roles, if existing
- Training sessions starting from a national level up to regional/local level

Training of veterinarians, firemen and policemen (under Civil Protection) was performed in 2004 and 2005 in order to prepare them for all the transversal measures that are useful for fighting an avian outbreak (visits, confirmation of suspicion, delimitation of protection and surveillance areas, and slaughter and destruction of dead bodies).

Training for health workers has been explained before in point 3.3:

The objective of the Training Programme for Educators was to increase the knowledge and skills of health care centre staff with respect to the Plan for Pandemics.

A 20-hour workshop on the preparedness and response to a pandemic aimed at technicians of the Epidemiological Surveillance Units of the Department of Health was carried out.

A consensual agreement was reached on the materials to be delivered (Power Point and explanatory text) by a working group of the Scientific Advisory Committee.

Slides and accompanying text were selected for two training sessions of two and one hour, respectively with the heads of the various territorial units of Epidemiological Surveillance.

16 training sessions of two hours for educators were called, which were attended by representatives of 142 health care and social centres (80% of those invited). The sessions were given by two epidemiologists, one territorial and one from central services.

By February 2007, the persons attending the aforementioned training sessions had imparted 94 training sessions in health centres.

It is previewed to do these training sessions every 2-3 years to maintain the warning between the health care workers about the possibility of a pandemic and to update the knowledge.

Moreover, during 2007 a working group was created to design 4 hypothetical cases (based on the OSCE methodology) of different simulated patients that had to accede the public health network with symptoms and epidemiological background potentially compatible with an infection by Avian Influenza (phase 3). The simulated patients acceded 20 health urgency services, at both primary care centres and hospitals, in order to asses the knowledge that health professionals had on the disease, its epidemiology and about the established protocols; how well the health systems linked to the epidemiological services, and how, presumably, the protocol's application works in case of an alert. The evaluation of this exercise allows the identification of the potential problems in our health network so improvements could be taken into account and implemented in a short term period.

Training with the Civil Protection staff regarding human influenza pandemic has not yet been prepared.

7. Planning suitable communication strategies

- Suitable communication strategies (verify their existence or develop a new plan)
- Define the communication flow within the Region
- A communication strategy concerning:
- Integrated use of Media on the base of :target, objectives, resources, time, aimed to the unidirectional flow of information (Media, Web sites, information leaflets, documents) and also a bi-directional flow through different kinds of meetings/
- A collaboration with the media through a stable and clear flow of available information
- Use of specific information material for various target groups and constant communications for the Media
- Activation of information sharing with the population (uni- and bi-directional)
- Audio and video conferences between National and local representatives/bodies
- Nominate pandemic spokespersons at the national and regional levels (responsible for all media presentations to the broader community)

In the pandemic plan in Catalonia one of the key actions is communication. The dissemination of suitable information rapidly and efficaciously among health managers, medical service providers, media (radio, press and television) and the general public, are one

of the key and essential points in any response plan in a natural emergency, and particularly in the case of a possible influenza pandemic. Therefore, it is very important to guarantee that the different communications networks operate smoothly, particularly during the pre-pandemic period.

The main objectives of all the communication activities that must to be performed, that have always to follow the guidelines of the Technical Secretary's Office, must be:

- To provide communication support and tools to health professionals in contact with the public to promote safety.

- To create a favourable state of opinion and broad knowledge on the social and health impact of an influenza pandemic, and avoid overlapping efforts that may reduce human resources at the time of the action.

The communication actions have been determined for every WHO pandemic phase as follows:

- **Pandemic warning period (phase 3):**

In this phase it is necessary to:

- To create the communication operating committee:
 - o To define its components
 - o To define its functions
- To draft the Communication Plan

A website was also created with relevant information on avian influenza (website of the Department of Agriculture, Food and Rural Action) and human influenza (website of the Department of Health), which are updated constantly.

- **Pandemic warning period (phase 4):**

- Activation of the information process defined for this phase in the Communication Plan to the internal targets.
- Activation of the information processes defined for this phase in the Communication Plan to the external targets: pedagogical discourse.
- Spokesperson training.
- Verification that all computing system works properly.
- Revision and permanent update of the web.

- **Pandemic warning period (phase 5):**

- Adaptation of the communication contents
- Activation of the information process defined for this phase in the Communication Plan to the internal target.
- Activation of the information process defined for this phase in the Communication Plan to the external targets: wait-and-see or preventive discourse.
- Review and update of the website.

- **Pandemic period (phase 6):**

- Total activation total of the Crisis communication Plan.
- Permanent review and update of the website.

In 2005 and 2006, a proposal of Communication Plan in Catalonia was developed by a communication expert after request of the General Secretary of the Department of Health.

8. Progress/efficiency indicators of the adopted measures

- Is there a monitoring plan setting :
 1. targets to define the efficiency level of public health, antiviral drugs and pandemic vaccine
 2. level of safety surveillance of antiviral drugs and pandemic vaccine.

The monitoring plan to set the efficiency and level of safety of antiviral drugs is previewed to be set up by the Scientific Advisory Committee as soon as the first cases in Europe are detected.

The monitoring plan to set the efficiency and level of safety of pandemic vaccine is previewed to be set up by the Scientific Advisory Committee as soon as pandemic vaccine is available. Actually, the group on vaccines of the Scientific Advisory Committee for the Influenza Pandemic Plan in Catalonia is developing the monitoring plan regarding the pre-pandemic vaccination.

Romania

Partner RSDM

Questionnaire 1: SURVEY ON THE NATIONAL SANITARY SYSTEMS

1. Organisational structure of the Sanitary System and related actors

- Which is the role of the central Government in the area of the Sanitary System?
 - o The main role is national policy making: legislation, national strategies, national health programs such as AIDS, diabetes, tuberculosis, disaster preparedness, etc.

- Which functions are due to the Health Ministry?
 - o Setting the policy for national health strategies
 - o Control of implementation of programs
 - o Monitoring of national health status of the population
 - o Financing, in cooperation with the Ministry of Interior and local authorities, the pre-hospital and hospital emergency medical care
 - o Financing of the health structures for disaster preparedness including pandemics and epidemics.

- Are in case any other competences in the field of the Sanitary Sector managed by other Ministries?
 - o Ministry of Interior participates in the management of the emergency medical care in cooperation with the Ministry of Health.

- Which competences concern to the regional Governments?
 - o In Romania there are no administrative Regional Governments.

- Which competences are up to the Board in charge of health care at a local level?
 - o The same as the competences of the Ministry of Health but reserved to the local level, except the financing which comes directly from the Ministry of Health for the domains mentioned above.

- Where are you positioned in your Sanitary System?
 - o We are a non-Governmental Organisation dealing with emergency care development at a national level cooperating with State structures

Please insert a draft to explain and present the Sanitary System, highlighting your exact position in it

We are not part of the health providing system.

2. Which is the organisational structure of the Unit/Structure on which you do your experimentation?

Non-Governmental Organisation in cooperation with State structures.

3. Define the services which are supplied by the experimented organisational Unit, on the basis of the following questions:

- What?
 - o Training at all levels: physicians, nurses, paramedics, EMT's
 - o Supporting implementation and development of first response system in cooperation with the Ministry of Interior.
- Why?
 - o In order to develop emergency services in Romania.
- Who?
 - o Emergency medicine doctors and nurses working in the emergency department.
- How?
 - o Theoretical and practical training in the emergency department.
- Where?
 - o Mures County Emergency Hospital
 - o Mures County Fire Department
 - o Other places in Romania

4. How is organised the chain of management of the experimented Unit?

It has no hired personnel. All the people working for RSEDM are volunteers. There is a President and a Coordinating Committee.

5. Please give the features and characteristics of the structures listed as follows, if existing:

- Planning and health information management

Not existing

- Health technology assessment

Not existing

- Information system

Basic information system for own use of the organisation and for training

6. How are the human resources organised, if existing, at the testing organisational Unit?

Please give the details about the organisation of the sanitary staff as follows:

- Executives
- Medical staff of Sanitary structures
- Nursing staff
- Technical staff
- Clerical staff
- General practitioners /medical officer

Our organisation has no structures like the one described above.

7. How are the material resources of the organisational Unit organised?

Please give details about the material resources concerning:

- Planning and distribution of the infrastructures (facilities) on the territory
- Information technology
- Medical equipments, disposals, facilities
- Medicines/drugs

Not relevant for our organisation

8. Is there an appointed structure for the emergencies management?

- How are the Operational Units organised?
- Please give details about the services supplied by the emergency management structure, according to the following questions:
 - o What?
 - o Why?
 - o Who?
 - o How?
 - o Where?
 - o How is the chain of commands of the emergency management structure organised?

We are not an operational emergency care provider. We are only supporting the development of the emergency care in Romania by training and consulting.

Organisational draft of the structure appointed for managing emergencies.

9. Please indicate the training sessions of the appointed staff and the specialised medical training.

10. Please indicate the training sessions given for the sanitary staff involved in the management activity of emergencies.

Our organisation held training courses in emergency and disaster medicine management, avian flu pandemic response for health and emergency care providers.

Questionnaire 2: The general management and the qualitative-quantitative application of the National, Regional and Local Pandemic Plans

1. General issues

1.1 Is there a political awareness and commitment to prepare for a pandemic?

- Funding should be committed relative to the anticipated preparedness planning.
- Establishing core national Pandemic planning Committees, representing relevant organizations *

Partial, establish by Ministry of Public Health order no 1094/2005, but it is not fully operational. In 2008 will be develop a new strategy for intervention in all pandemic phase.

- Is there a national / local pandemic plan? Which are its main objectives and key-actions?

Partial. The framework plan needs to become operational at national and local level, with clear objectives, timeline, indicators and responsibilities for implementation identified

1.2 Is there a clear strategy on how to involve the community in the planning process?

- Who is making the decisions in case of influenza pandemic?

General Inspectorate for Emergency Situation, trough Public Health information and recommendation.

- Who is advising the government ?

Ministry of Public Health.

- Is there a hierarchical structure for deciding on measures and ordering their implementation, and is this structure known to other national and sub-national emergency departments? Does everybody know what to do?

Will be developing in 2008.

- Communication strategies are an important component:

- Is there a scientific committee to assess risks or interpret research and define its public health relevance?

No.

- Are there mechanisms for information sharing between national authorities (WHO, other Agencies) and for sharing information, also using the modern rapid communication technologies, from the national to the local level and within the Country?

Yes, thought the General Inspectorate for Emergency Situation.

1.3 Is there a legislative framework in place for the national response plan? Does this framework include contingencies for health-care delivery and maintenance of essential services?

- During a pandemic it may be necessary to overrule existing legislation or individual human rights (ex. Use of privately owned buildings for hospitals; off-license use of drugs, etc...). These decisions need a legal framework to ensure transparent assessment and justification of the measures that are being considered, and to ensure coherence with international legislation (international health regulations)

Will be developing in 2008.

1.4 Is there a response plan in place that identifies the responsibilities and tasks of organizations and individuals at varying stages of a pandemic?

Will be developing in 2008.

- The response plan should indicate the specific response during each phase of a pandemic, and should reflect the detail of the preparedness plan.
- It should include a mechanism for identifying triggers that will change the level of response and indicate the organization (and the unit within the organization) responsible for the designated response at each phase
- Have the legal implications been considered?

- Is there an estimate of the expected impact the pandemic would have on the society?
Partial, just for the impact on public health system.

- Has the response been planned by the WHO pandemic phases?
Yes.

*Examples of organizations that could contribute to the plan:

- *national and regional public health authorities including: preventive, curative and diagnostic services; the national drug regulatory authority; the national influenza centres; representatives of physicians' associations, nurses and pharmacists;*
- *recognized national virologists and epidemiologists; representatives of scientific and academic institutions;*
- *veterinary authorities and experts in animal influenza viruses;*
- *Representatives of public or private organizations that monitor health indicators, use of health – care facilities and pharmaceuticals;*
- *representatives of pharmaceutical manufactures or distributors;*
- *representatives of social service administrations;*
- *representatives of military or other government emergency response organizations or teams;*
- *representatives of nongovernmental and voluntary organizations, such as the national Red Cross or Red Crescent Society;*
- *representatives of telecommunications, and media relations experts.*

2. Surveillance

2.1 Instruments to rapidly detect confirm and describe cases of abnormal clusters of influenza-like illness caused by a new strain, and so as to be able to recognize a potential pandemic strain of influenza virus.

- Does an active surveillance system exist, which can enable to detect unusual or unexplained events of influenza symptoms, possibly caused by new strains of influenza virus and therefore the possible beginning of a pandemic?

Romania has an active surveillance system for influenza all year around. Through this system, samples from influenza like illness cases and other acute respiratory diseases are analysed and by the virological tests performed new strains of influenza can be detected and characterized. The national system is linked in international surveillance networks (like GISN-WHO and

EISS-ECDC) and samples of unsubtypable strains can be sent for further analysis to WHO Reference Laboratories.

- Is there a possibility to establish a sentinel system for virological surveillance of influenza, so as to enhance surveillance for ILI (influenza like illness) and criteria for case sampling? (ref.: WHO checklist, cap. 2 (surveillance), par. 2.1 (**Sentinel System**))

There is an active sentinel system from year 2000 for virological surveillance of influenza, composed by 22 sentinel units (Bucharest and 21 counties). This system includes 280 family physicians, 23 infectious diseases hospitals, 22 ambulance stations, schools and pharmacies. On a weekly basis, the clinical and epidemiological data and the samples collected are sent to National Centre for Surveillance and Control of Communicable Disease (CNSCBT) and National Influenza Centre-Cantacuzino Institute (NIC-CI). Case definition and criteria for case sampling are compatible with WHO and ECDC recommendations.

- Are all chicken farming sites, including the rural ones, and their operators regularly registered?
- Are there precise prescriptions concerning the performing modality of national protocols for epidemiologic surveillance and establishing roles and responsibilities about :
 - o People exposed to animal pandemic
 - o Health-care workers caring for patients with suspected or confirmed pandemic strain influenza infection
 - o Laboratory workers handling potentially riskful clinical specimens
 - o Contacts of suspected individuals/cases

Yes, there are such prescriptions, developed by CNSCBT and NIC-CI according to WHO and ECDC recommendations.

- Does the Country have a system to perform national protocols of implementation of epidemiologic surveillance, defining responsibility roles concerning:
 - a) clusters of a potential pandemic strain of influenza virus, both through community practitioners and Health-care facilities
 - b) Clusters of unexpected mortality for influenza-like illness and infections caused by acute respiratory illness in health-care facilities

Ministry of Public Health issued an Ministry Order related to these problems

2.2 What kind of weekly monitoring systems do emergency facilities use and how many admissions does a sample of locations (towns/villages) have?

- Possible existing collaboration with a central level for weekly detection of total mortality in a sample of municipalities (villages/towns)

3. Case investigation and treatment

3.1 Is there a local laboratory capacity, and how is it integrated in the surveillance system?

Assess local laboratory capacity:

- in the inter-pandemic phase, all countries should have access to at least one laboratory able to offer routine influenza diagnosis, even if not necessarily strain; funding for laboratory maintaining; protocols for specimen collection and transport; implementation of biosafety protocols; national inventory of laboratories with biosafety security levels 3 and 4; strategy performing for rationing laboratory testing during pandemics; facilities for storing clinical specimens; capacity of sharing clinical material and of interpretation of diagnostic tests

- a) NIC-IC receives from the sentinel system and from other medical units samples from influenza suspected cases. In NIC-IC's Respiratory Viral Infections Laboratory the samples are processed. The usual tests include isolation, antigenic characterisation, molecular detection and characterisation, serological analysis which leads to typing and subtyping. Furthermore, supplementary tests can be performed in NIC-IC such as genetic analysis - sequencing, testing susceptibility to antiviral and others.
- b) In case of avian influenza outbreaks or pandemic threat there are three more Regional Laboratories (Constanta, Timisoara, Iasi) can perform molecular detection. Positive samples are sent to NIC-IC.
- c) Ministry of Public Health is funding the virological surveillance.
- d) Protocols for specimen collection and transport in place where developed by NIC-IC according to WHO and ECDC recommendations. (The WHO Guide for Collecting and Shipping Influenza samples was translated and spread to all relevant institution).
- e) The WHO Laboratory Biosafety Manual was translated and spread to all relevant institution.
- f) The first BSL3 laboratory for human infections is in developing stage in Cantacuzino Institute and should be ready to work in the first months of 2009.
- g) For the time being, in case of human cases suspected of respiratory infections with P3 level microorganisms, like avian influenza H5N1 and potentially pandemic strains, NIC-CI can perform molecular detection tests in his BSL2+ facility. Samples from positive cases or even negative but with high suspicion, are send to the WHO reference laboratories.
- h) During an Influenza Pandemic, NIC-IC will have the following laboratory testing strategy: at the beginning of the pandemic, all cases and outbreaks suspected of pandemic influenza will be laboratory tested. After confirmation of pandemic strains spreading, NIC-CI will monitor by random sampling: susceptibility to antiviral of the pandemic strain, genetic changes of the pandemic strain, vaccine efficiency etc.
- i) NIC-IC has the capacity to store clinical specimens and viral isolates also for undetermined period of time. (-80degrees Celsius freezers or liquid Nitrogen tanks)
- j) NIC-CI shares clinical samples with WHO on a regular basis.
- k) NIC-CI has the capacity to interpret any diagnostic test for influenza.

3.2 Epidemiological investigation and contact management

- Alongside laboratory confirmation, an epidemiological investigation should be carried out to identify how suspected human cases of a new influenza strain became infected, to assess the clinical impact of the disease and to determine the risk that infected persons or their environment may represent for others.(ensure through field investigation of confirmed cases of influenza; designated capacity to carry out epidemiological investigations: update the case report form for epidemiological investigation; ensure a mechanism for daily reporting of cases to national authorities; develop study protocols for basic and enhanced epidemiological studies; provide clear guidance on how to define and manage possible contacts of the case; set up a mechanism of scientific review of results of epidemiological investigation in order to develop or adjust recommendations to prevent further spread of the disease)

3.3 Clinical management

- To ensure effective and safe treatment of human cases of a new influenza strain, it' important that clinical guidelines are ready, supplies are available and staff aware of admission criteria; staff should be aware of and trained in infection control measures (ensure the development or rapid adaptation and implementation of clinical management guidelines for

patients with suspected / confirmed pandemic strain; consider establishment of a clinical working group with experts from the public and private sectors to ensure broad expertise and commitment; ensure access to a designated reference laboratory by regional networking).

Will be developing in 2008.

3.4 Procedures to grant management and assistance for human cases of pandemic influenza strain

- Prepare a survey about the ordinary and extra-ordinary availability of health centres, including centres equipped with assisted respiration instruments, health and assistance centres, primary health-care workers, general practitioners, paediatricians, assistance and medical specialists
- Indicate health/hospital settings, according to their level (primary, secondary, tertiary, emergency and intensive units) where patients should ideally be managed during the pandemic
- Locate possible alternative sites for medical care
- Ensure the availability of supplies, storage and distribution of antiviral drugs (as already requested about their prophylactic use)
- Quote of population beneficiary of home-medical assistance
- Distribution of guidelines for use of antiviral drugs as early treatment

4. Methods to perform prevention and control of infection

4.1 Public health measures

- Are there health-care information plans to promote implementation of routine hygienic rules amongst population and have information campaigns modalities been assessed?
- Has the need Personal protective equipment kit (PPE) and diagnostic kits for medical and paramedical staff, and other staff whose critical functions entail high-risk exposure, been estimated?
 - Have supply and distribution plans been programmed?
 - Are there protocols for PPE usage for riskful professional categories?

Partial, it is not fully establish.

- Have public health measures at a central and local level been implemented, such as isolation of routine influenza cases but with possible suspected simptomatology, at home or in special areas within health-care facilities?

Yes.

- Are there specific procedures on how quarantine and contact tracing and restriction should be carried out?
- Are there any prescriptions concerning schools/places where people gather closure, or revocation of mass gatherings or events, to limit the spread of the disease in the community?

No.

4.2 Treatment with antiviral drugs.

- Designation of a responsible for drugs storage and request strategy plans.
- Designation of regional areas for drugs storage within the Hospital chemists/pharmacies existing in every Region.
- Definition of specific sites as Local sites (responsible for public health conditions) with suitable drugs storage conditions.

- Ensure transport availability at an intra-regional level, granting the possibility of reaching. Within 3-4 hours any location of the region.
- Lists or estimations of defined risk groups (people exposed to high epidemic risks) due to professional reasons.

Is established by the National Plan

4.3 Vaccination

- How to foresee the logistic of vaccine provision

According to government decision and support, Cantacuzino Institute can produce and supply of at least 5 millions doses of pandemic vaccine (depending of various factors, the number of doses can increase significantly).

- Define a list of high-risk groups/people

Is indicated by the National Plan

1. Essential services personnel – government, central and local authorities, healthcare, national security and public order services, essential goods providers (water, electricity, pharmaceutical industry, vaccine producers and distributors, food), coroners, funerary services
2. Young children, pregnant women, chronic disease patients, elderly.

- Procedures expected for local distribution and storage of vaccines
- Establish specialised staff for vaccine administering, granting the respect of priorities and equity
- Determine how receipt of vaccine will be recorded and how a two-dose immunization programme would be implemented in terms of recall and record keeping
- Develop a method (strategy for data collection and analysis) for estimating pandemic strain influenza vaccine effectiveness at a regional/local level and a suitable method for exchanging information within referents of drugs/vaccine surveillance and prevention.

The existing influenza sentinel surveillance system can be used for data collection and analysis, epidemiologically and virologically.

5. Contingency plans to maintain essential health and other essential services

- Prepare a list of essential services on the base of priorities established at a National level
- For each essential service appoint a responsible and ensure the assessment of procedures to vaccinate health-care workers considered essential for replacing vacancies during pandemic spreading.

6. Working out a training plan

- Protocols defined at a national level for a training plan (if existing)
- Regional/local training programme for every target-group. Specific referents with didactic roles, if existing
- Training sessions starting from a national level up to regional/local level

7. Planning suitable communication strategies

- Suitable communication strategies (verify their existence or develop a new plan)

It was developed in 2007, and it will be integrated in the New National Plan of action in flu pandemic (2008).

- Define the communication flow within the Region
- A communication strategy concerning:

- Integrated use of Media on the base of :target, objectives, resources, time, aimed to the unidirectional flow of information (Media, Web sites, information leaflets, documents) and also a bi-directional flow through different kinds of meetings/
- A collaboration with the media through a stable and clear flow of available information
- Use of specific information material for various target groups and constant communications for the Media
- Activation of information sharing with the population (uni- and bi-directional)
- Audio and video conferences between National and local representatives/bodies
- Nominate pandemic spokespersons at the national and regional levels (responsible for all media presentations to the broader community).

Not yet, will be establish in 2008.

8. Progress/efficiency indicators of the adopted measures

- Is there a monitoring plan setting :
 1. targets to define the efficiency level of public health, antiviral drugs and pandemic vaccine
 2. level of safety surveillance of antiviral drugs and pandemic vaccine.

Impact of DSS on process redesign requirements

1. Specific requirements on process redesign concerning the development of the DSS

1.1 Methodology

As it is clear from the section about DSS requirements, that the development of the DSS will require a clear understanding and modeling of emergency management processes.

In particular, apart from high-level organizational processes that have already been taken into account in the specification of DSS requirements and will have only a limited impact on its development, process redesign should focus on acquiring, analyzing, modeling and validating those mid-level decision-making processes that will then be coded into the DSS as intervention plans.

It is important that process redesign can focus on a sufficiently large set of processes, covering a meaningful variety of cases in emergency management. Since each process – coded into an intervention plan – is activated by an event, it will be necessary to choose first the set of events to be considered in the experimentation and, then, to develop the relevant processes accordingly.

It has to be stressed that process redesign is intended here more as modeling rather than optimization. In fact, the many interviews with domain experts carried out in the context of DSS requirements elicitation, have revealed that mid-level decision-making processes are not already available in a clear and structured form, but need to be elicited from the experts, analyzed, modeled and eventually validated. In this activity optimization will also be taken into account when appropriate, but will not be the main concern of the process redesign? task. By the way, it has to be noted that this situation is common to most DSS (and more generally knowledge engineering) projects that are expected to bring significant advances in problem domains that are inherently ill-structured and only incompletely defined.

1.2 Language

An important practical point about process redesign with a substantial impact on DSS development concerns the language to be used in process modeling. It is expected that mid-level decision-making processes will be defined using a semi-formal language that:

- can be clearly understood by domain experts and by knowledge engineers
- is powerful enough to represent all features necessary for the complete description of a process (sequence of actions, conditions, loops, parallel actions, merging points, etc.)
- is semi-formal i.e. it is based on a clear – even though as far as possible intuitive - syntax with a univocal semantics.

These requirements are crucial to allow the correct and effective coding of processes into formal intervention plans, that will constitute the content of the main knowledge base of the DSS.

Several languages are available in the technical literature for process modeling; for example, the following can be mentioned:

- Business Process Modeling Notation (BPMN), developed by the Business Process Management Initiative (BPMI) and maintained by Object Management Group (OMG). [<http://www.bpmn.org/>]
- Unified Modeling Language (UML) – activity diagrams, officially defined by Object Management Group (OMG). [<http://www.uml.org>]
- XML Process Definition Language (XPDL), defined by the Workflow Management Coalition (WfMC). [<http://www.wfmc.org/xpdl.html>]
- jBPM Process Definition Language (jPDL), defined by JBoss community, that include the jPDL graphical process designer [<http://docs.jboss.org/jbpm/v3/userguide/>]
- Flowcharts
- IDEF [<http://www.idef.com/>]
- CIMOSA (Computer Integrated Manufacturing Open System Architecture) [<http://www.pera.net/Methodologies/Cimosa/CIMOSA.html>]
- LOVEM [<http://www-935.ibm.com/services/us/index.wss/offering/bcs/a1006593>]
- PERA [<http://www.pera.net/>]
- ARIS [http://www.pera.net/Methodologies/ARIS/ARIS_Paper_by_Ted_Williams.html]
- MEGA [<http://www.mega.com>]
- BPEL [<http://www.bpelsource.com/>]

At this point of the project, it does not seem possible nor appropriate, however, to propose the adoption of a specific modeling language. From one side, the selection of the language must follow a first phase of process analysis to be carried out in the frame of the planned modeling activity; from the other side, it is advisable that the experts in charge of process reengineering will be free to choose the language they consider more appropriate for this task, assuring however that the above stated requirements are satisfied. The adoption of a graphical language is in any case suggested.

From a methodological perspective, it is suggested that

- initially, process reengineering experts analyze a small set of sample processes and identify the main requirements for the process modeling language
- later, they choose the language they consider more appropriate for this task (with the support of knowledge engineers from WP7) and code the sample processes already analyzed
- the language chosen and the examples are then analyzed by the knowledge engineers of WP7
- if necessary, the language will be further tailored or extended to meet the exigencies of both process redesign and intervention plan coding.

This interactive procedure will assure the highest level of matching of the selected language with the often contrasting needs of process experts and knowledge engineers.

2. Identification of WP6 products necessary for WP7

Basically, WP6 is expected to provide WP7 with a meaningful number of well-represented mid-level decision-making processes. In particular, WP6 is expected to:

1. identify the primary events that may occur during an emergency and that require to be faced through a specific intervention plan
2. develop suitable processes to face the events identifies
3. select an appropriate process modeling language in strict cooperation with WP7 technical experts
4. model each process in detail and represent it through the selected process modeling language
5. validate the process models developed.

Steps 1, 2 and 5 need to be carried out in strict cooperation with domain experts (specifically emergency management experts from ASL Brescia, where the first basic version of the DSS will be developed).

This output is a necessary condition for WP7 to proceed with the following tasks:

- ✓ Task 7.2 Knowledge modelling and conceptual design
- ✓ Task 7.6 DSS Development, and especially the sub-tasks Knowledge acquisition and Development of the knowledge bases.

TRAINING REQUIREMENTS

Methodology

The analysis to process requirements that will have to characterize the training phase was carried out by interacting with the same ASL group of experts whom collaborated in collecting DSS requirements and processes.

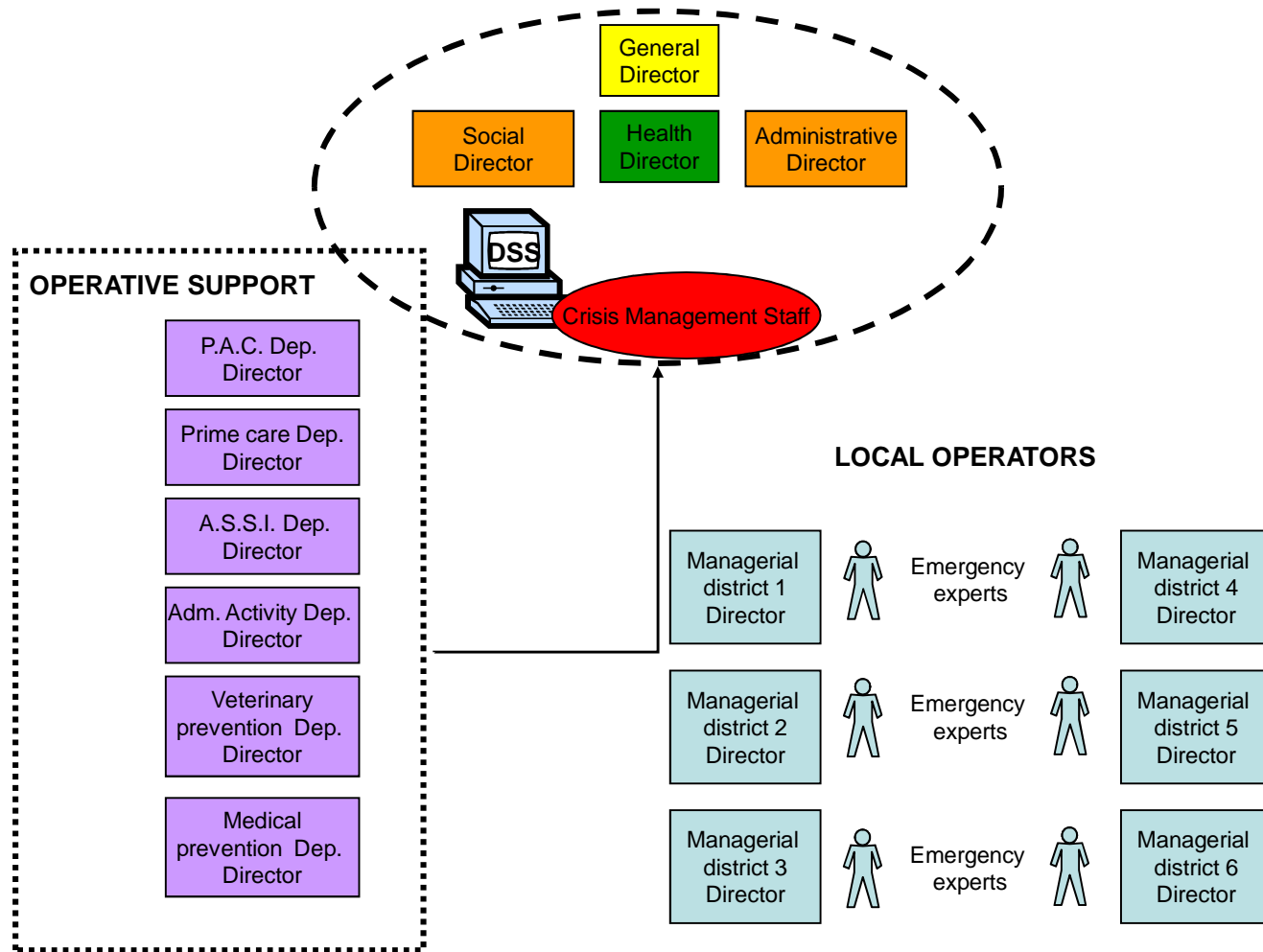
A series of group meetings and individual interviews were carried out. They have contributed to the identification of necessary elements to design a training path which will characterize the activity as part of WP8.

In addition, in order to identify the different training plans contents, the results obtained from the research carried out in WP4 were taken into account. The WP4 included scientific and regulatory documentation with regards to the management of a pandemic flu, its supporting tools and decisions in a scenario of health care emergency.

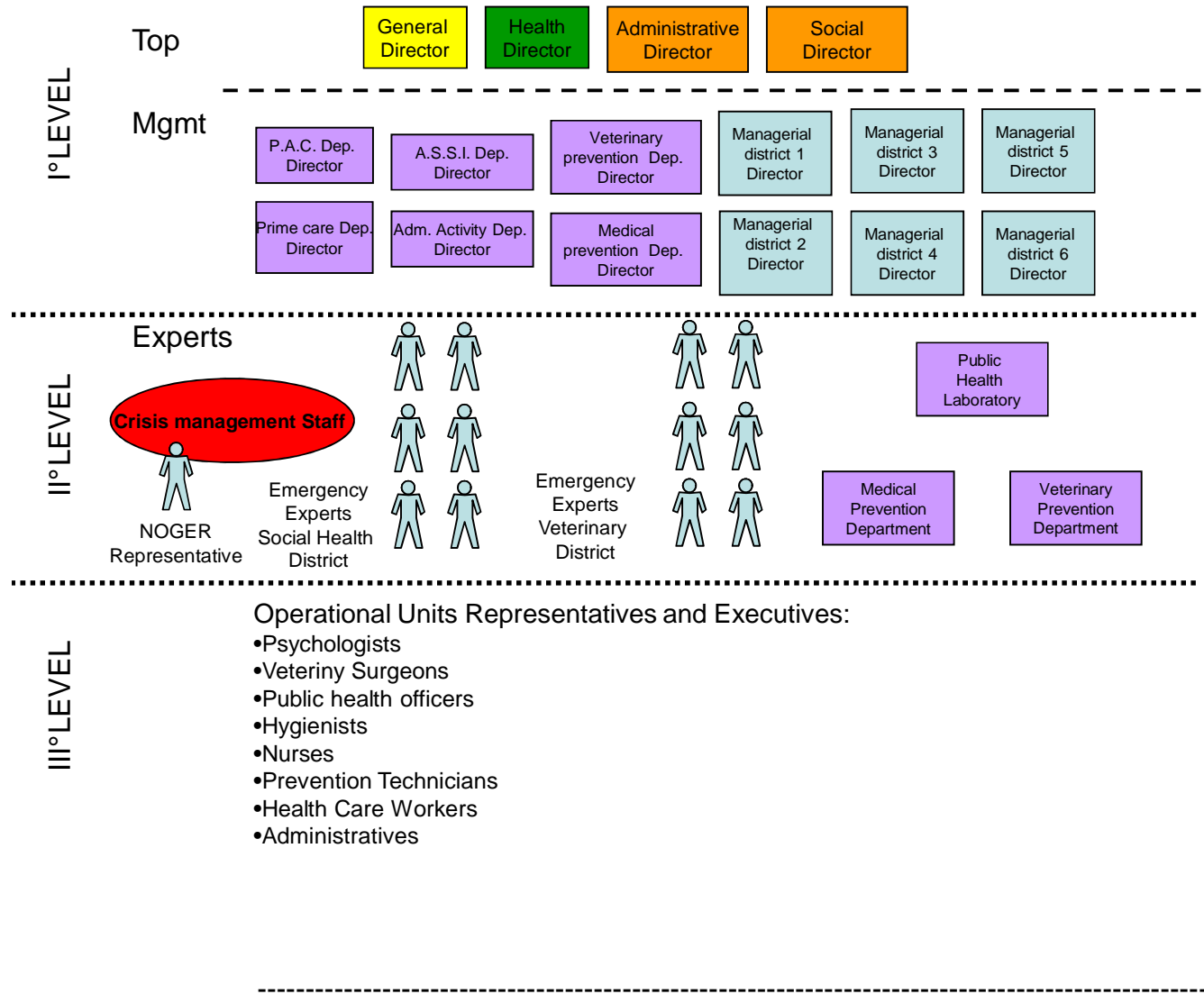
Three levels of professional figures, whom would be heavily involved in the project, have been identified with the aim of achieving a training path that could enable the organization of the health care system to respond effectively and efficiently to a situation of health care crisis. On the basis of what detected, the target of training would be:

1. Management of the local health care system, heads of department and directors of managerial districts
2. All district area managers and heads of service
3. Representatives of operational units

The emergency organizational structure



The training level subdivision



Professional figures characterization

The definition and description of an organizational position comes from a detailed analysis of the company organization focused on one of its specific segment. The resulting sheet, called Job Description, is used essentially to:

- document;
- clarify the location and interaction of different positions;
- explain purposes and content of the various positions taken into consideration;
- allow to define the skills required to effectively fill a position (such as knowledge, processes and crossed skills);
- provide support to countless management processes and human resources development.

A proper positions definition and description has a communicative purpose. It takes into account what must be done in the company in terms of activity and draws a clear and sufficiently precise picture of the way a company actor has to perform its own role. It is important not to confuse position with the person that holds it. This is an ideal representation, therefore, single individuals with their commitment and their possible difficulties must not be taken into consideration.

Core elements of a POSITION	Reading Keys of a POSITION
AIM	
The institutional mission or rather the position purpose. It represents the position existence reason and key purposes featuring it. It foresees a brief description.	Key question: what would happen if it did not exist?
RESPONSIBILITY / ACTIVITY	
Which objectives need to be achieved, which activities should be carry out and which levers can be used.	A essential representation of the responsibilities and related activities must highlight the following process: <ul style="list-style-type: none"> ➤ received input ➤ directly carried out activities ➤ coordinated activities ➤ provided output in terms of objective to be achieved and levers to be used.

Useful tools in the Job Description compilation are certainly the action verbs indicated into the positions description chart. If used properly, these verbs can provide a clear reference to understand the activity, what it is about, the execution methods as to achieve the expected results.

We present below a short list of main used verbs accompanied by a definition:

Type of verbs	Way to use them
<i>Verbs of direct action</i> such as: <u>perform</u> , <u>control</u> , <u>check</u> , <u>draw up</u> , <u>compile</u> , <u>study</u> , <u>compare</u> , <u>carry out</u> , etc..	They can be used to indicate the activities carried out personally by the person occupying the position.
<u>Provide</u>	It can be used to indicate the activities carried out under the responsibility of the person which occupies the position, to some extent directly and partly with the contribution of other positions holders, usually employees.
<u>Ensure</u> (<i>ensure the implementation, ensure the performance, guarantee the activities, guarantee the operations</i>)	It can be used to indicate activities that take place under the patronage of whom occupies the position, but without his direct participation.
<u>Supervise</u> (<i>supervise the operation, supervise the activity</i>)	It can be used to indicate coordination activities on organizational units or positions that move independently.
<u>Assist</u> (<i>assist the top position, assist the organizational unit</i>)	It can be used to indicate the consultancy activities supplied from the position to its superior and/ or to other organizational positions within its units or other units.
<u>Depend</u> (<i>depend on the position, replies to position</i>)	It can be used to indicate the hierarchical dependence from a specific location, regardless of the intensity of the relationship.
<u>Be under control</u> (<i>under immediate control, under the guidance of</i>)	It can be used to indicate that activity is subject to supervision and guidance of the superior. Control and guidance not necessarily systematic.
<u>Being able to perform</u> (<i>may perform, may substitute</i>)	It can be used (usually at the beginning of the sentence) to indicate activities that can be required occasionally to someone at a certain position.

Skills model

After having defined the Job Description we can develop a skills model description, required to be able to cover a position.

However, it is appropriate to refer to certain classifications for the definition of different roles. The used model includes three items, such as:

Knowledge	Processes	Crossed Skills
They are: - Knowledge, specialized and technical knowledge, learned	We mean the know who within a work activity, which involves the use of both knowledge and	They are: - behaviour skills if linked to the relational field or mental

<p>academically then implemented with its application to the working sphere; - Knowledge closely linked to the role played within the company, considered of great importance to the company, so as to often constitute distinctive knowledge.</p>	<p>crossed skills, and within the operational methods which a company works with.</p>	<p>behaviour such as programming; - intellectual/ cognitive skills. They characterize the way of action and with extreme importance the results of the work.</p>
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Based on the consultancy experience carried out on many businesses, we present a classification of crossed skills. This covers a wide enough range to be used to describe every working activity.

Crossed skills & definitions

Management		
1	Decision	Ability to make choices among different options, taking responsibility for consequences, assessing risks and trying to take advantage of all opportunities, discerning the order of importance and setting priorities, deciding even in the absence of complete information, coordinating timely actions, even under pressure, uncertainty and complexity.
2	Entrepreneurship Initiative Tenacity	Ability to intervene in the course of things to influence and address them and to obtain necessary resources to achieve their objectives without waiting for events and contingencies, and above all without following its course. Entrepreneurship involves initiative, unsolicited action, active propositivity, and perseverance not to get frustrated from events and failed attempts. Transformation, discipline, patience and sense of responsibility and of course enterprise.
3	Orientation to results	Ability to direct, to guide with perseverance one's own activity and the one of others to achieve foreseen objectives. We need tenacity and implementation ability, capability to engage in a task aiming to its development without discouraging, extending to other all inputs needed to achieve that task.
4	Planning programming organization	Ability to organize and plan one's own time and that of others. To have an overall vision and to display processes in a simple and effective way, to define tasks and priorities, to understand available resources and to compare their skills with tasks, to assign responsibilities and timetables, to organize working programmes and to monitor the project development, to identify opportunities for synergies and integration. There are managerial, relational and intellectual descriptors but also formalism and respect of rules.
5	Control	After programming it is necessary to identify a timeline where to conduct evaluations on the success key factors to understand the measurement system, to comprehend the difference between the projected part and its slippage during the implementation of the plan. It means deciding ex ante the evaluation criteria, yardsticks, conditions, timing and mode of control. It means to carry out evaluations on agreed times and to intervene in the case of divergences and unpredicted variables.
6	Undertaking responsibility	Ability to take care of people, situations, decisions and taken positions. It means a considerable self-confidence, a significant degree of independence, a defined charisma, although not necessarily those who can assume responsibility need to have leadership vocations. You can count on whom can take responsibility, does not feel the need to justify itself, it is not uncomfortable where it has to act alone, it faces difficult conditions, it knows how to support and be consistent with a taken position or decision even when that was no part of the usual behaviour.
7	Action orientation	It might be understood as a sub-ability results orientation, but it differs from that because it is not determined in the long term, it often brings a certain degree of irresponsibility, lack of discipline and respect of rules, but it is an effective capacity, with qualities of courage, challenge, opportunities collection, transformation.

Relational/ Emotional		
8	Stress management	Ability that comes from the basic self-confidence which means to be able to count on oneself in difficult situations, seeing opportunities and solutions. This implies awareness of one's potential as well as an innate optimism linked to clarity of mind. The person who can count on self-confidence can also develop anxiety and insecurity management, maintaining operational stability and performance. This person reacts with transparency and balance, does not panic, does not alter behaviour in situations of stress or conflict, but maintains a controlled and soothing behaviour without losing sight of the situation and objectives. This individual supports pressure and does not get depressed from frustrations.
9	Availability to interpersonal relations	Ability linked to empathy through the understanding of needs, feelings, perceptions and attitudes of others that usually occurs through listening to others' point of view through active listening and use of questions, knowing how to adjust one's attitudes to the situation and characteristics of partners, raising on personal principles by setting relationships based on cooperation, fairness and above all transparency. In this way, this ability allows a positive and constructive interaction with others.
10	Verbal communication	Despite knowing how to speak in public, this ability brings into play the use of language, the exposition clarity, the adjustment to the type of person you are talking to with regards to contents and vocabulary. Not last is the constant care of communication investigation through the stakeholders reaction, especially the body language, knowing how to adapt or change route in order to leave a trace of what you want to communicate.
11	Conviction assertiveness	Despite knowing how to speak in public, this ability brings into play the use of language, the exposure clarity, the adjustment to the interlocutors with regards to contents and vocabulary. Not last is the constant care of communication investigation through the stakeholders reaction, especially the body language, knowing how to adapt or change route in order to leave a trace of what you want to communicate.
12	Group and meeting management	Ability to coordinate a group of people and direct them to work together on the basis of common needs, although not necessarily in harmony. It means knowing how to stimulate the interlocutors to constructive confrontation, encouraging dialogue towards the result, knowing how to identify priorities, focus on them in order to guide the group action in respect to the objectives to achieve.
13	Coaching managing human resources	Ability to direct and guide co-workers activities as for planning, the difference is not only the achievement of the objectives but also the growth, development and motivation of employees. It is the ability to set objectives, guidelines and benchmarks, to explain them clearly, to seize personal employees attitudes and motivation, to project and listen to ideas and encourage them, to assess fairly supplying negative feedback at appropriate timing and in such a way to be useful to learn from errors, make employees feel that what they do is important.
14	Team Working	Ability to work in a team, integrating energies, expertise, knowledge and contributions with those of others, without wishing to arise when there is no need, leaving everyone free to give their contribution, developing cooperation on dialogue and listening, giving value to others' inputs, without losing sight of the common goal.
15	Conflict resolution	Ability to suspend the judgment on contents level and to understand that the conflict is being held at a personal level. Conflicts generate increasing tensions and foot in matters of principles. Who knows how to face them, is able to enlighten others by finding common ground on which to dissolve the conflict. This person does not let others discourage him, he is able to identify tensions and to govern them, even when directly involved, so he does not attack but instead he is understanding and at the same time steady.

16	Listening	Important foundation ability in interpersonal relationships, in the integration of work with others and in relationship with others. Generally those who have developed this capability are attentive, they listen without interrupting, they know how to summarize what the other says and when the other asks for confirmation of understanding, showing active attention, it knows how to use others contributions, it tries to understand without interrupt even when he disagrees, but above all it knows how to communicate effectively. The communication depends on the ability to listen.
17	Customer advice	Ability to understand and identify the needs of others. Who has this capacity well developed can explain the needs of others better than the others themselves could. This does not mean that his belief prevails on the needs of others. It is an ability to listen, forecasting, action meant for others' interest, getting in charge of the problems of others, work focused on the process and not on the task, it has a large dose of pragmatism without giving in to meet demands and this, which may seem a rigidity, is in fact a form of altruism, in defence of what is believed useful to the customer.
18	Negotiation	Ability linked to listening and to availability for interpersonal relations, it brings into play a better understanding of the context and strategic competence as to be able to forecast the context and essential contents, composing them if necessary, and in this way you set , conduct and conclude the negotiation in the set margins framework, coming out from the logic of bargaining, to enter the win one. This capability allows you to seize and search the negotiation boundaries and to know how to use them in all situations where you must achieve a result of any kind in a context where different interests are at stake and sometimes set against by other people or groups. This person searches for margin of manoeuvre, identifies, proposes and accepts alternatives, it terminates agreements obtaining others' appreciation.

Intellectuals/ Cognitive		
19	Analysis	Ability to decompose, detail, connect, create analogies and discover differences, to identify in a systematic way the relationship between causes and effects of a complex system elements. Ability to identify points and passages inside processes. Method, discipline, perseverance, love of truth are needed. A good researcher has a considerable amount of analytical skills.
20	Synthesis	Ability to remove, reduce and describe the essential elements of a complex of phenomena, problems, logical elements, objective details, developing a logical concatenation reasoning of cause/ effect that leads to the formulation of solutions and alternatives. It means to extract key elements, to grasp connections and knowing how to conceptualize them and then reducing them in an essential and understandable exposure. At last to build consistent conclusions capable of redefining terms of issue or problem.
21	Problem Solving	Ability that requires ANALYSIS and SYNTHESIS. This is a methodological capacity, in other words applying with method the ability to perform analysis and to articulate synthesis. It is also a mix of intuitive attitude with sequential method, to seek the most appropriate and effective solution to complex problems, in real time and trying different proposals. It means identifying advantages and disadvantages, constraints, opportunities and risks, costs and benefits. To be able to have a perspective vision of issues, to establish connections between different fields, to project into the future the problem, solutions and possible changes to prefigure different scenarios.
22	Prospective thought	Ability to see in a prospective way, under a global profile, differentiating the different levels but identifying correlations. To take a holistic and integrated view, being able to identify the implications and to draw one or more scenarios in perspective. To submit to examination multiple possibilities, identifying eventual future implications. It is a strategic capability that is based on the current situation and the design of future scenarios even when there is a lack of reference details. It means knowing how to capture signals of change, knowing how to bring into question present situations and decisions, how to foresee hypothetical configurations with possible trends and developments in terms of "if then".
23	Positive Vision	Ability to see opportunities, positive aspects, possibility of action, to have confidence to the detriment of obstacles, negativity, difficulties, without losing critical sense and also the ability to realistically assess one own and others' capabilities. Optimism and faith are key words. Who owns this capacity does not complain long of a situation because it can glimpse positive aspects and freedom of action within it, consequently this person will not blame all the worse on others or on the outside world that will not be seen as dark and negative.
24	Flexibility	First it is the ability to grasp situation and people changes, then it is the ability to adapt one own behaviour and positions in an appropriate and effective way to the new dimension. It means knowing how to compare ideas, mental schemes and preconceptions without settling on personal prejudices. Therefore you can change your mind, grasp different points of view, neglect issues of principle, change behaviour, knowing how to see the positive side of changes and a certain dose of tolerance and understanding towards ambiguities and contradictions.
25	Creativity	Ability to generate new ideas, unusual paths, surprising associations, original and effective solutions, often surrounded by extreme simplicity. The innovative level is precisely the difference in the sense that produces unexpected ideas and the link between situations that seemed not comparable. This ability also implies the acceptance and use, even partially, of others' ideas, a fast learning in front of problems and new situations, a sense of challenge to the new and analysis of failures and successes to learn from experience.

Professional figures skills definition in the management of a crisis caused by spread of pandemic influenza

Job Description of level I

Directive figures can be divided into two categories:

- 1) ASL management made by
 - ✓ General directorate
 - ✓ Health directorate
 - ✓ Administration directorate
 - ✓ Social directorate
- 2) Heads of department (6) and Management Districts Directors (6), of which will be considered three professional and strategic figures in a health situation of crisis:
 - ✓ The director of medical prevention department
 - ✓ The director of veterinary prevention department
 - ✓ The director of managerial district

The Management

Decision makers have a greater liability in situations of crisis management because they have the responsibility to decide in the short term, in uncertainty of information and scarcity of resources, but mainly because from their mode of communication it will largely depend the intervention ability of their employees and the management of external communication. The managerial figure does not perform tasks personally but it is called to take difficult and risky decisions, relying on competent people to carry out specific tasks compared to the crisis scenario, including a control function of their work.

- ✓ **Aim**
 - Crisis management representative
- ✓ **Responsibility/ activity**
 - It holds the direct responsibility of strategies, choices, decisions, orders and management of crisis;
 - It is responsible for action plans and results;
 - It is responsible for both internal and external communication, style, contents and methods used and supplied; for relationship with public bodies, with media, with local communities;
 - It mobilizes personally, taking over functions of moral authority and solidarity, some cohesion and consistency functions both internal and external showing dignity and responsibility;
 - It mobilizes personally if necessary in the territory and to support its resources, its crisis unit and its actors working in the front line;
 - It assumes leadership positions in the crucial and risky decisions, leaving broad power to operators and secondary decision makers, giving them liability towards the continuity of the action, and still exerting a constant vigilance;
 - It follows all signs leading to risk situations, controlling what is decided from early reactions and following closely major errors or trajectory mistakes;

- It is responsible for the administration methods of the situation after the state of crisis;
- It is responsible for the prevention phase during which reflections on the crisis, on its management, on alternatives, with particular attention to feedback that may arrive from outside, are taken into account. At this stage it assumes the role of encouraging people and activities in preparation for crisis management.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ A broad but no detailed base of the organizational structure knowledge, its functioning and ways of intervention ○ A broad but no detailed base of action plans, individuals, working and communication methods knowledge 	<ul style="list-style-type: none"> ○ Decision making processes ○ External communication processes ○ Delegation processes ○ Control processes ○ Recovery processes ○ Relationship with other institutions involved in managing the crisis management processes 	<ul style="list-style-type: none"> ○ Leadership ○ Decision ○ Planning ○ Control ○ Undertaking responsibility ○ Stress management ○ Verbal communication ○ Assertive communication ○ Groups and meetings management ○ Problem solving ○ Prospective thought

The Director of Medical Prevention Department

The Director of Medical Prevention Department works normally in the hygiene and public health care sector, ensuring:

- the service of hygiene and public health;
- the service of food hygiene and nutrition;
- the service of preventive medicine for communities;
- the service of health protection for sports and the campaign against doping;
- the service of mortuary police;
- the prevention compartment and work safety;
- the service of work medicine;
- the service of work security;
- the activities of judiciary police on behalf of the judiciary.

While carrying out these activities we coordinate with the public health laboratory, which operates as crossed structure, with the NOGER in case of emergencies and with ARPA in case of environmental projects. The activity is conducted through a routine programme, interrupted only by major events.

✓ **Aim**

To ensure operations continuity by establishing an order of priorities and to deal with emergencies arising from crisis management.

✓ **Responsibility/ Activity**

- It responds to the health director and it reports the situation performance to internal communication organs;
- It manages and coordinates all available resources deciding the event planning;
- It coordinates activities together with the public health laboratory and disinfection station properly equipped for interventions in 2nd level emergency and sampling situation;
- It is responsible for the proper protocols implementation.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Good knowledge of the organizational structure, of people and their skills ○ Good knowledge of intervention protocols and methods by which activities are carried out 	<ul style="list-style-type: none"> ○ Processes optimization in locating resource ○ Decision making processes ○ Relationship with other institutions involved in managing the crisis management processes 	<ul style="list-style-type: none"> ○ Leadership ○ Decision ○ Planning ○ Control ○ Problem solving

The Director of Veterinary Prevention Department

The director of medical prevention department works normally on three macro directions:

- the service of animal health;
- the service of food hygiene of animal origins;
- the service of livestock production hygiene.

✓ **Aim**

- To ensure service continuity and activities dictated by the crisis.

✓ **Responsibility/ Activity**

- It responds to the health director and it reports the situation performance to internal communication organs;
- It manages and coordinates all available resources deciding the event planning;
- It coordinates emergency assistance on request by organizing and activating the operational units and the specific activities to carry out, whether on livestock farming, animal food or epidemic situations occurred as emergency side events;
- It is responsible for the proper protocols implementation.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Good knowledge of the organizational structure, of people and their skills 	<ul style="list-style-type: none"> ○ Processes optimization in locating resource ○ Decision making 	<ul style="list-style-type: none"> ○ Leadership ○ Decision ○ Planning ○ Control

<ul style="list-style-type: none"> ○ Good knowledge of intervention protocols and methods by which activities are carried out 	<ul style="list-style-type: none"> ○ Relationship with other institutions involved in managing the crisis management processes 	<ul style="list-style-type: none"> ○ Problem solving
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The Director of Managerial District

The ASL district plays the primary function of analysis and government of the demand on the territory of reference. Its main functions are: health education, hospitality, information, citizen guidance, primary medical care, home care, health certification, the prevention of infectious diseases, nutrition hygiene, protection of drinkable water, diseases related to environmental pollution risk prevention, protection of maternal-child health, prevention and treatment of alcoholism and drug addiction, medical-legal services and evaluation of disabled interventions.

✓ **Aim**

- Responsible for the management and the coordination of resources and operators, assigned to the district to perform all tasks described above.

✓ **Responsibility/ Activity**

- It responds to the director of health, it maintains relationship with businesses directions and departments, and guarantees communication and relationships with the outside world;
- It is responsible for resource and budget management;
- It maintains relations with sponsors and supports the contracts design with them;
- It is responsible for managing the crisis at a local level in coordination with the management.
- It is responsible for the continuity of the health care service, the security of existing practitioner locations and to find and negotiate for alternative sites;
- It is responsible for the service communication with the public;
- It coordinates with the competent authorities with regards to emergency when necessary to manage the crisis.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Good knowledge of the organizational structure, of people and their skills ○ Good knowledge of intervention protocols and methods by which activities are carried out 	<ul style="list-style-type: none"> ○ Processes optimization in locating resource ○ Decision making processes ○ Relationship with other institutions involved in managing the crisis management processes 	<ul style="list-style-type: none"> ○ Leadership ○ Decision ○ Planning ○ Control ○ Negotiation ○ Problem solving

The Director of Public Health Laboratory

(as director of medical prevention deputy)

The laboratory is a multipurpose specialized structure that integrates ASL activities, in coordination with the Department of Medical Prevention and taking the necessary skills to prevention, it is divided into two operational units:

- Operational unit of chemistry and pharmacology
- Operational unit of microbiology and serology

It includes and coordinates the disinfection station activity, equipped for action in emergency situations with samples of 2nd level.

✓ **Aim**

- To ensure the systematic, planned and controlled management of the following activities:
 - Acceptance of the request and its related sample
 - Analytical activities schedule
 - Execution in the short term
 - Report and test report issuance

✓ **Responsibility/ Activity**

- It responds to the Director of the Prevention Department;
- It is responsible for managing the necessary resources to carry out the laboratory functions;
- It plans activities with the allocated resources to achieve health results in accordance with the noticed needs and following the programmatic and technical professional information defined by the departments.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Good knowledge of the organizational structure, of people and their skills ○ Good knowledge of intervention protocols and methods by which activities are carried out ○ Chemical research on food, drinkable water, pharmaceuticals, cosmetics and drugs ○ Preventive microbiology ○ Food, water and cosmetics microbiology ○ Biochemical analysis with a preventive purpose on human matrix ○ Molecular biology surveys with preventive, epidemiological and bio-security purposes. 	<ul style="list-style-type: none"> ○ Withdrawal and acceptance of samples ○ Supplies management and monitoring ○ Service management and monitoring ○ Tools management ○ Quality control management ○ Information management 	<ul style="list-style-type: none"> ○ Planning ○ Control ○ Flexibility

Job Description of level II

These are the figures of support to decision makers in crisis management. These are the most critical figures to define, because their skills, in a crisis management scenario caused by the spread of a pandemic flu, become the key factors of success. Indeed, despite the support of DSS, these figures pass crucial information filtered by procedural and organizational skills that allow to undertake efficient decisions.

The ASL of Brescia is equipped to handle major events, crossed from districts and departments; there is, in fact a structure, The NOGER; more technical than medical. The Department of prevention offers it to districts as support to relevant events management exceeding the intervention capacity of each single district.

In case of an health emergency, a specific task force is activated inside ASL Brescia called SACE - Struttura Aziendale Comando Emergenza (Emergency Control Group). It includes:

- ✓ The Health manager (the manager of the Health Direction): he starts-up and manages all activities of SACE under the supervision of the General Director; he can start up a Unità di Crisi Locale (Local Crisis Unit), if necessary;
- ✓ Department Managers (or their representatives) of all Departments involved in emergency; each Department Manager has a collaborator who acts as central crisis manager;
- ✓ The Responsabile del Servizio Prevenzione e Protezione (Manager of Prevention and Protection Service), a service of the General Direction;
- ✓ The Medico competente (physician in charge) – a function of Servizio Medicina Preventiva (Preventive Medicine Service) of the Health Direction.

We must now clarify the difference between crisis and emergency. Taking what is written in the glossary project, we define as *emergency* a *consequence of an event, actual or potential, which occurs suddenly, it requires immediate action and can cause damage to people and/ or properties*; as *crisis* a *condition that develops in an organized system accordingly to a sudden and unexpected event that undermines its smooth functioning. The crisis situation is characterized by a mismatch between available resources and those required to face the event.*

The staff expert on crisis management

This professional figure was created in 1999 with the aim of working to finalize the emergency plan which includes the following activities:

- Finding information
 - Description of emergency procedures
 - Identification of intervention actions
 - Knowledge of organizational structure and reconnaissance of resources
 - Trace and establish the databases reliability
 - Describe coordination activities with other departments
 - Implementation of the Continuity Plan for the emergency management with examination of the ASL functions and establishing priorities for each function in case of emergency.
- ✓ **Aim**
- Do not let the organization enter into crisis by supporting the system representatives in making decisions.

✓ **Responsibility/ Activity**

- It supports the Company Directorate with advice regarding decision sustain in times of emergency/ crisis;
- It provides the Company Directorate with its knowledge in order to overcome the state of emergency and to allow the system not to get into crisis;
- It is on call at any time, available day or night shifting with other leaders;
- It activates immediately and it alerts other professionals of the action plan;
- It contributes to the establishment of CCS (Assistance Coordination Center) and it is an integral part of the team managing the crisis set up by SACE;
- It supports the S.A.C.E. staff during the crisis management by providing useful information to make decisions;
- It collects information from districts and distributes them after a suitable job of filtering, sorting and processing, also with the DSS support;
- It links emergency experts located in different districts and it coordinates with them to keep up to date the whole system of information exchange;
- It keeps contacts giving and receiving information to all members of SACE;
- Outside the state of emergency: it constantly updates the database, the operational plan, the organizational structure, the staff data, the programmes, etc.

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Deep knowledge of ASL functions and of carried out activities, of the organizational structure and where resources are allocated to understand the workability and the adequacy of resources in times of emergency ○ Deep knowledge of intervention procedures foreseen by the Health Care Continuity Plan and by other regional and ministerial procedures ○ Knowledge of DSS use 	<ul style="list-style-type: none"> ○ Choices guidance processes through the structuring of organizational solutions and of optimal resources allocation taking into account procedures, means of intervention and available resources; but also the situation analyzed on the basis of information received 	<ul style="list-style-type: none"> ○ Team building ○ Problem solving ○ Flexibility ○ Stress management ○ Assertive communication ○ Undertaking responsibility ○ Action orientation

The NOGER representative

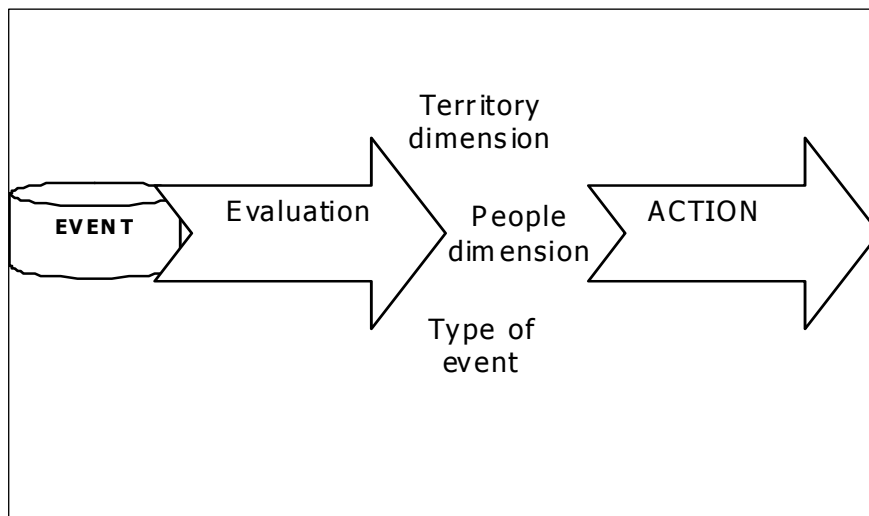
The NOGER (Important Events Management Operational Center) is a simple operational unit in the department of medical prevention composed by a doctor, a prevention technician, three operational technicians and a nurse. NOGER tasks are immediate intervention in emergency situations, therefore the NOGER expert brings a professional expertise and experience of interventions during emergencies.

✓ **Aim**

- To satisfy the company needs as a first intervention during emergencies, so as not to leave gaps

✓ **Responsibility/ Activity**

- During emergencies is absorbed by SACE and holds a similar role to the SACE expert (only the Head of NOGER is part of SACE)
- At normality:
 - It supports the prevention department director in formulating intervention decisions
 - It supports districts in managing noticed events
 - It collects information on the territory, going on site if necessary to understand the types of intervention:



- It coordinates technicians during work
- It holds contacts with district directors and heads of department to inform them and share interventions
- It is responsible to update the annual continuity plan: people, places, operational units, aqueducts, hazardous industries, etc.
- It performs monitoring activities, routine control of contaminated areas

✓ **Skills profile**

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Sector of knowledge covering a wide area of competences both organizational and operation: ○ Territorial ○ Environmental ○ Health (as support to the district activity) ○ Collaborate with veterinary prevention 	<ul style="list-style-type: none"> ○ Allocation process of technical resources as appropriate operational procedures 	<ul style="list-style-type: none"> ○ Team building ○ Problem solving ○ Flexibility ○ Action orientation

interventions ○ Infectious problems ○ Distinct event checks ○ Supervision		
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Operators of the operational level

They work in simple or complex teams on a departmental and district basis to ensure the smooth delivery of service, performance and surveillance activities on public health.

It was not considered suitable to go into detailed descriptions of individual skill profiles since in crisis management it is required to operate within the knowledge, processes and crossed abilities which are already part of the professional background employed in everyday life.

✓ Aim

- Fulfil the objectives set out by management

✓ Responsibility/ Activity

- They respond to their immediate superior on the achievement of assigned objectives and tasks;
- They can also coordinate resources, promote initiatives in order to pursue the objectives outlined by the district or department director;
- They maintain contacts with other organizational structures,
- They transmit knowledge and information within their working group;
- They raise information needed to perform the assigned task.

As an example we describe only one of the professional figures:

The health coordinator of the district

It uses and coordinates resources and operators assigned to the district for the regular services provision in the district and on the knowledge of local realities, it also covers needs arisen during emergency.

✓ Aim

- Government of health personnel and activities coordination, particularly those of hygienist doctors towards medical functions in communities.

✓ Responsibility/ Activity

- It responds to the district director;
- It retrieves, coordinates, distributes personnel and services to cover required services and points of delivery. It checks on availability and it reorganizes planning in order to meet demands, in case of unpredictable events (medicine, accidents, emergencies);
- It supports the General Director in managing the crisis and in resolving problems related to the event: venues fitness check, alternative locations search, relationships with operators, service schedule revision, relationship with customers;
- It organizes, coordinates and directs public health and primary care activities with regards to problems created from emergency (aqueducts extraordinary controls);
- It prepares working timetables and takes part personally to overtime shift of medical coverage to COM with daily presence and nights on call.

✓ Skills profile

Knowledge	Processes	Crossed Skills
<ul style="list-style-type: none"> ○ Deep knowledge of the ASL functions in its district and its carried out activities, of the organizational structure and where they allocate resources to understand operation and adequacy of resources ○ He knows health care needs in the territory, where they are located and who normally provides the service 	<ul style="list-style-type: none"> ○ Tasks distribution among resources ○ Contacts with local entities ○ Evaluate criticalities to the district director 	<ul style="list-style-type: none"> ○ Planning ○ Control ○ Action orientation

Training plan suggestions

Training needs analysis of LEVEL I

The top-level figures in the management of a crisis can be divided into two groups with different purposes, on one hand the top management with the aim of managing the whole situation of crisis; on the other hand the various departments directors which, in the suggested scenario, have to manage the continuity of service and to support the managing of the company.

This second group presents the need to have the knowledge already in use in carrying out their duties, together with a deep knowledge of their organizational structure and methods of intervention that make effective all decisions to be taken.

In addition, to manage continuity during crisis it is necessary to have the proper knowledge concerning the crisis management, communication management during emergency, information flows, intervention laws and security plans. The representative also has to have the crossed ability that allows to maximize its potential: decision making processes to maximize time, cost and resources allocation and the leadership to be able to keep cohesive the working group during crisis.

During the analysis of health manager role, main required knowledge focus on knowledge of how to manage crisis, in particular on aspects of internal and external communication. Particular emphasis is given to the role of the head, drawing heavily two crossed skills: leadership and decision making.

Training needs analysis of LEVEL II

As part of level II the SACE role is fundamental, a core of people involved directly in managing the crisis as support to decision-making processes of the corporate management. They are to be considered responsible for specific functions whose role is to ensure continuity in emergency situations.

The training needs are therefore very similar to those previously exposed in level I with regard to

knowledge, with a significant differentiation on educational goals: if in fact level I has to develop a broad knowledge on action procedures and modalities, level II needs a deep and specific knowledge since it has to be able to provide solutions based on this knowledge.

The difference becomes substantial in the case of crossed skills, where professionals identified in this level have to develop problem solving and team working capabilities. Therefore, the team building configures itself as one of the fundamental crossed skills to be considered in this training.

In addition, aspects related to external communication in crisis situations will have to be focused in a different way compared with the course addressed to the first level: if within a leader responsibility is strongly present a communication ability related to the appropriate lines, the second level will be more accountable for processes and risks to avoid.

Training needs analysis of LEVEL III

In regards to managers and operators of the third level it was not considered appropriate to go into detail of individual description in terms of skills profile because in crisis management is required to operate within their knowledge, processes and crossed skills already in use in their daily activities.

The professionals identified for the training of the third level are:

- Psychologists
- Veterinary Surgeons
- Hygienists
- Nurses
- Prevention technicians
- Health care workers
- Public health officers

Such a difference in quantity and diversity of roles and consequently of skills also means that the third level presents the necessity to be informed rather than having to follow a proper training.

However, in general, is certainly useful to have in the management of its activity in case of pandemic influenza spread, an overview on some issues: what is a state of crisis, how it is managed, which figures are involved, how does the chain of command work, how are the information flows organized and what are the techniques of triage in decision making, in which psychological state incur the victims and how we can give them a first support, what psychological state operators in conditions of prolonged stress could have to face.

Technical training of Spanish, Rumanian, and Slovenian partners about the structure, implementation and localization of the DSS

In order to allow effective execution of Task 7.7 it will be necessary to held specific technical training sessions for the partners involved in the experimentation, namely Spain, Rumania and Slovenia.

To this purpose, after the basic (Italian) version of the DSS will be fully completed and tested, a full immersion technical training program will be held in Milan and/Brescia to which technical experts from Spain, Rumania and Slovenia will be invited. The choice of holding the training sessions in Italy is motivated by the need to work in direct connection with the development laboratories and to have immediate access to all useful resources.

The draft program of the training sessions will be as follows:

- Basic DSS concepts (principles and conceptual organization)
- Practical experimentation with the DSS at user level
- DSS software architecture
- Implementation techniques
- How to localize the DSS
- Changing language
- Changing knowledge and data bases
- How to connect external data bases
- Extending the system with new functions.

The training path will designed by experts from University of Brescia and Argonet and will be shared with the involved partners.

The training program will require 4 to 5 days full time, in one week.

It is expected that each partner will send two experts to the training session, with a substantial background in knowledge engineering, innovative/advanced application design, database management systems, object-oriented and web programming, in addition to an overall knowledge of the Healthreat project and of its achievements (especially the documents produced in WP5, WP6 and WP7). The involved partners are kindly invited to send the CV's of intended participants in advance.

The participants will acquire the fundamental knowledge necessary to understand the main technical features of the DSS and to develop the specific localizations in their own countries.

Annex

Annex 1: Strategies for the management of the Epidemic-Pandemic stages of Avian influenza among illegal Migrants (project Str.E.A.M.)

Annex 2: The role of non-profit organizations in crisis management

Annex 3: Meeting Minutes

Strategies for the management of the Epidemic-Pandemic stages of Avian influenza among illegal Migrants (project Str.E.A.M.)

The following document is an ASL contribution to collection and documentation of process requirements and analyses the possibility to provide the Local Health Centre with an integrated plan for the management and the implementation of procedures during an influenza pandemic among irregular migrants.

Introduction and rationale

The current era of globalization and human mobility has produced big changes also for world health. All Countries in the world and their own health systems have to face a phenomenon which is not new but certainly different from the past: the international transfer of health risks and the diffusion and evolution of communicable diseases. The possible outbreak of avian influenza pandemic is a typical example of global health emergency. Public health practitioners should become aware that health phenomena have nowadays a global extent but, at the same time, a vast organization is needed also at a local level. It is necessary to define new organization models of public services to face the challenges of globalization related to practitioners' specific skills, intervention strategies and health priority activities to be carried out.

It is generally recommended to conduct epidemiological studies before starting any prevention or health promoting project, in order to recognize health threats, to identify high risk populations, to analyse different solutions and to organize prevention and control measures. It is useful to observe the evolution of each phenomenon in time and space, in order to focus on each specific problem and be able to prevent the next one.

Outbreaks of avian flue have become endemic among birds in Far East by the end of 2003 and joined Europe in 2005. The serious clinical cases occurred among humans made the risk of pandemic flue more and more concrete. For this reason, in compliance with WHO's directives, all Countries have defined strategies for the management and control of avian influenza pandemic.

Seasonal flu affects 5-10% of the population worldwide and causes 8,000 deaths a year while influenza pandemics affect a greater number of people and cause more deaths (20,000 deaths/year were registered during the last pandemic from 1978 to 1980). The elder population is mostly at risk

because of severe complications from seasonal flu, while during influenza pandemics individuals at higher risk are young people (0-14 and 15-64).

For these reasons it is clear that influenza pandemic needs to be considered as a health emergency that must be addressed also considering demographic characteristics of the population. An emergency plan needs therefore to include migrants, regardless of their country of origin, socioeconomic and legal status, otherwise neither migrants health nor public health would be guaranteed.

Nowadays irregular migrants represent a significant portion of the whole population but they are “socially invisible” and cannot be included “tout-court” in general programmes defined for the Italian population and for the legal migrants. This “hard-to-reach” population mostly consists of young adults, the ones at highest risk during influenza pandemic. Creating ad-hoc strategies for this group would definitely support a successful national plan.

The Italian national strategy for pandemic influenza clarifies the roles and responsibilities of national and regional health authorities and provides intervention strategies for each pandemic phase. All these measures are included in the Italian minimum essential assistance (Livelli Essenziali di Assistenza – LEA) and must be guaranteed to everybody living in Italy, regardless the legal status of the person.

The aim of this project is to develop a strategy model to prevent and manage an influenza pandemic among illegal migrants in Brescia. The strategy model could be extended and used at a national and European level by public authorities.

The plan will identify the clusters of high risk groups (according to age, country of origin, social conditions, pre-existing diseases...) and will implement specific actions to contain outbreak and limit the diffusion in each group. Multilanguage written information and health education programs will be available and will culturally adjusted to the specific target populations, in collaboration with communities’ leaders and linguistic-cultural mediators.

The following actions are needed to implement the project:

- 1) Definition of the dimension of irregular migration locally, in Italy and in Europe.
- 2) Knowledge of health conditions and risk factors of a large proportion of irregular migrants: since they don’t appear in official surveys we just have now few information on them.
- 3) Collection of all information about European legislation on health care for migrants, with a focus on the irregular ones.
- 4) Adoption of a standardized method to ensure uniformity of intervention in different geographical areas.

- 5) Inclusion of at least 60% of irregular migrants in the implementation plan. This quota represents the minimum threshold identified by international authorities for the control of the influenza pandemic in a targeted population.

Health identikit of migrants and epidemiology

Migration is a global phenomenon characterizing our era: there's no country in the world which is not involved in migration movements. The number of migrants is growing steadily on a global basis: in 1960, 76 million people lived outside their country of origin, in 2000 this number has more than doubled reaching 175 million. Nowadays there are 191 "migrants in the world" (nearly 3% of world population), 15-20% of whom is estimated to be irregular. According to the United Nations' estimates, in 2005 Europe had approximately 64 million migrants, about one third of the total.

Italy is historically a country of emigrants. From late sixties to early nineties migration flows changed their trend: people entering Italy were more than those who were leaving. According to official data of the Ministry of Interior, at the end of 2005, 3,035,000 foreigners were legally residing in Italy, plus approximately 500,000 irregulars. New estimates (January 2007) show the presence of 3.892.000 migrants in Italy (about 6% of the Italian population), distributed over the whole country with a greater concentration in the North of the country (59.5%) compared to the Centre (27%) and the South (13.5%). Next to Rome and Milan, which are the capital of migration, Brescia is among the cities with the highest migratory pressure. Nearly 150,000 migrants (20-30,000 of whom irregular) are living in the Province of Brescia attracted by better economic conditions and by job opportunities. The migrants represent 14% of the population.

Migrants legally residing in Italy are mostly young people (70% is between 15 and 44 years old). The number of minors is increasing, accounting for a fifth of the foreign population. 10% of new born are foreigners and the birth rate in this population is higher than in natives (2.4 compared to 1.2). Foreign students in Italian schools are 424,683 (1 out of 20). The distribution between the sexes is substantially equal and more than 50% of migrants are married. Their country of origin are extremely diverse (more than 130 different countries): 5 out of 10 are European (from Eastern Europe), 2 African, 2 Asian and 1 American. The predominant religion is the Christian religion (49.1%), followed by Islam (33.3%) and Eastern religions (4.4%). With regards to the labour market, foreigners are also increasing. One worker out of 10 was born in a foreign country and migrants account for a sixth of annual recruitments.

Available data show that migrants are generally people in good health when they arrive, thanks to a natural selection in pre-migration time. Among all potential migrants, the ones who leave their

country of origin are those who are able to bear the physical, economical, emotional and psychological impact of the migration project. The migrant is therefore generally healthy, young, motivated, educated and able to speak or learn different languages. This observation is also sustained by the finding that, in most cases, the first request for health care by migrants comes some time after arrival; it is the so-called "range of wellness" , corresponding to not less than 12-18 months on average.

Sooner or later a migrant will need health care. There are indeed other risk factors linked to pre-migration phase, to migration process itself or to the phase that follows the arrival, that gradually weaken the foreigner's health conditions.

To plan health policies both at national and local level it is essential to know as much as possible about health conditions and risk factors of migrants. A national epidemiological observatory on migrant's pathology is missing in Italy, especially with regard to irregular migrants which represent a big share of foreigners. These people are potentially more vulnerable since they often live in extremely poor conditions, they are hard-to-reach by prevention campaigns and they face problems to get access to health facilities. In our country, migrants who do not get access to health facilities represent nearly one third of the approximately 4 million foreigners living in Italy: this population is represented by the illegal migrants and the legal ones who are not enrolled in the National Health System for different reasons (15% to 40% of total legal migrants in Italy, depending on the geographic area). The socio-medical assistance to migrants who are not enrolled in the National Health System (SSN) is provided in many different ways: voluntary social structures and no-profit associations have a crucial role. There are also some organization based on the cooperation between private and public services that seem to be able to deal with the growing social and health needs of the migrant population.

The Local Health Unit (Azienda Sanitaria Locale - ASL) of Brescia has founded the Centre for International Health and Transcultural Medicine (Centro di Salute Internazionale e di Medicina Transculturale - CSI), with the purpose to ensure an adequate response to health issues related to migration, international travels and human mobility. The CSI could be the right place to implement a strategy to control avian influenza addressing migrants. The CSI is a unit of the ASL Department for Prevention and a "Local epidemiological observatory on migration" has been activated. The CSI uses an electronic database in order to collect socio-demographic and health characteristics of the population addressing the outpatient department.

Thousands of irregular migrants got access to the CSI and the number is steadily growing. The stratification of patients by gender and age, shows a prevalence of male and young people. Patients

accessing CSI are from more than one hundred different countries.

According to the literature, the most frequent diseases are those affecting the respiratory, digestive, osteoarticular and genito-urinary system and the skin. They mainly consist of arthritic or rheumatic diseases or flu-like syndromes, skin diseases associated with overcrowding conditions and promiscuity housing, diseases of the genitourinary system such as cystitis and aspecific urethritis and traumatic injuries, mainly attributable to work or road accidents and, sometimes, violence. Psychological disorders due to the migration process as a stressful event and the following transcultural path are less represented. These neuropsychiatric disorders and some gastrointestinal diseases (irritable colon, gastritis, peptic ulcers), must be considered not only from a physical point of view but also as symptoms of psychological discomfort. Chronic degenerative and neoplastic diseases are almost absent, probably because of the young age of patients. Infectious and parasitic diseases represent a small percentage of total diagnosis, mainly represented by latent tubercular infection. Mycosis and ectoparasitic skin diseases such as scabies are widespread, as well as viral infections in general.

The CSI actually represents the local reference Department for health assistance to illegal migrants, having a wide and deep experience in the field of Migrants' Medicine. In this context, the CSI is able to provide effective and transcultural services to guarantee individual and public health. The CSI could represent the territorial unit of reference (TUR) for the implementation of a plan to manage an avian influenza pandemic among the illegal migrant population.

Regulatory aspects

It is important to stress that the condition of equality in law among national citizens and foreigners does not necessarily correspond to an equal accessibility to health services. There are indeed many obstacles limiting migrants in getting access to health services, including economic, administrative, linguistic and cultural barriers. Only few developed countries recognize the importance of migration phenomenon implementing active management policies, while the majority of European countries shows a passive attitude. With regards to the access to health services, data indicate that migrants exploit the benefits of health structures less than natives. In countries where public health insurance is not available but the health assistance is based on private insurance, migrants show a very limited access.

Health care is denied to illegal migrants in almost all European countries, with the exception of urgent treatments. In Italy and in only few other European countries, the Right to Health is extended to all individuals living in the territory, regardless their legal status. The current Italian legislation

on health care for migrants allows illegal migrants to access urgent and essential health care services, for accidents and illness and health prevention programs, in order to guarantee individual and public health. It also provides vaccinations, international prophylaxis, diagnosis and treatment of infectious diseases. These “essential levels of care” (Livelli Essenziali di Assistenza, LEAs) include the national strategies for influenza pandemic.

Health care for migrants in Italy is regulated by 3 different laws:

- Law No. 286, July 25, 1998, Arts. 34, 35, 36, which represents the first real immigration law, then corrected, but only for semantic or marginal changes, by Law No 189, 30 July 2002 ("Bossi-Fini Law")
- An implementing regulation (d.P.R. No. 394, August 31, 1999, Arts. 42, 43, 44)
- A ministerial directive (No. 5, March 24, 2000)

Art. 34 L.286, art. 42 d.P.R. and the first part of Directive No 5 refer to *legal migrants* acknowledging their right to have the same health benefits as Italian citizens. It defines some categories of people who are required to join the Italian National Health Service (INHS), specifying that the coverage is also extended to their family. People who do not belong to these categories have to join private health insurance systems or INHS at their own expenses. Neither residence nor current domicile are requested for the registration: the place indicated on the residence permit will be taken into account. The deadline for registration to INHS is no longer annual, but valid for the duration of residence permit. For those who seek political asylum, the validity will coincide with the duration of the legal proceedings. These articles also specify that the right exists for the mere presence of the requirements, this means that health services must be provided to the individual even if the papers have not been carried out yet.

Art. 35 L.286, art. 43 d.P.R. and the second part of Directive No 5, refer to *foreigners who cannot join the INHS* (e.g. tourists) and to *illegal migrants* (Stranieri Temporaneamente Presenti - STP). The first ones have the right to access health services but they are obliged to pay for them. While for the second group (STP migrants), the law defines

- Access to urgent or essential care. “Essential care” stands for all those interventions for diseases which are not immediately dangerous for the life, but may lead to higher damage to health or risks to life, such as complications, chronicity, worsening.
- Protection of pregnancy and maternity.
- Assistance to minor migrants and the elderly.
- Access to health prevention programs.

- Prevention and care for infectious diseases

For illegal migrants, the law specifies:

- All the health services are not free, but illegal migrants has to pay a ticket as the Italian population does.
- No commitment to the judicial authorities
- Assignment of STP code by the Department performing the service. The STP code give the Department the possibility to have the reimburse of the services performed to the migrant, it has a validity of 6 months and it can be used in all the national territory
- Duty for the regions of providing essential health care services.

Art. 36 and Article L.286. 44 dPR concern, finally, the entry and residence of foreign workers for medical treatment. Each individual must identify the structure of health support, upon agreement with the structure and payment.

The current legislation seems to be valid and well structured, although it shows several problems in application. The fact that each region has the power to identify essential health care units for illegal migrants, creates deep differences at a national management level, showing considerable troubles because of this decentralisation.

Anthropology and relational aspects in transcultural approach to migrants

How is it possible to manage the spread of Avian Influenza Epidemic involving the irregular migrant population through a conscious transcultural approach?

As Andrea Caprara says (2001), Western societies recognize bacteria and viruses as a cause of disease that can be transmitted from one individual to another. However, what is the idea of disease transmission from a non-Western culture point of view? What is the idea of body, life and death? It is fundamental to have a cultural approach to health and disease.

Individual and social representation of health and disease are so different and complex that clinical and psychological intervention, meaning the doctor-patient relationship, results more and more complicated, especially referring the concept of prevention (Moscovici, 1981).

The basis of the concept of health are multiple: food, housing, education, income, a stable ecosystem, continuity in resources, justice and social equality are just some of them.

The illegal migrant population lives in extremely vulnerable and precarious conditions. These individuals have to face emergencies on a daily basis, without time to think about other “secondary” problems. Prevention is one of these problems which are not at first place in a migrant’s life (Berry 1992).

Anybody dealing with different cultures has to consider the different approaches of individuals to life, so as to find a way to mutual understanding and to achieve common goals (Tajfel, 1981).

How is it possible to reach all those populations at high risk of this epidemic? How should we change our therapeutic and welfare devices in order to get really in contact with the interpretations of these populations about the contagion? How can we use traditional therapies if there is a contrast between the therapeutic systems? Are our teams able to accept the way of thinking of the traditional world, to understand the different requests for help, the use of magic, therapeutic rituals, amulets, prayer groups and any sort of protection?

The operator has to reprocess the classical ways of intervention and sacrifice some reference in order to communicate more effectively, for a better treatment and protection of the patient. This means to comply with some critical elements of intercultural approach, which should not be centred on Western medicine systems.

As Mara Tognetti Bordogna says (2004), first of all the system should get closer to the patient, and weaken its classical settings through listening and exchange. It could be useful to create a work team (doctor, nurse, psychologist and anthropologist) to manage requests, needs and different ways of communicating and to learn from migrant patients. It is clear that an effective communication for health prevention is really important in this context.

The main idea is that inside the doctor-patient relationship, everyone interprets the situation with reference to his own cultural background and acts as a consequence of it. Communication must therefore take into account many different factors that can make it effective, such as exotopia (cultural distance that allows you to accept diversity), cultural decentralization, conflict management and multilingualism. All these can represent a bridge connecting a message to its recipient point of view (Bourhis, 1999).

It seems to be important to consider the recipients' mental representations and create specific intervention models to bring the interview to an "intimate" level, deeper than the mere communication of information about risk factors. This means acting in a space between opinions and attitudes and then between ideas and behaviour. But it also means motivating the individual to face the contradictions between thoughts and actions and reduce the discomfort arising when there seems to be no possibility of coherence between them.

The improvement of these aspects of the relationship could be useful at three levels:

Training for the operators who will be in contact with the foreign population and have to manage communication, care and emergencies. This training will include some elements of medical anthropology, transcultural medicine, clinical social science, anthropology of contagion and aspects

of intercultural communication, including lessons and working teams to bring out the information and any difficulties deriving from stereotypes and prejudice.

Analysis of the main characteristics of the target population. Community leaders and cultural mediators can help to identify attitudes and opinions about health and disease, the concept of contagion and health prevention of their communities.

Anthropological and clinical-psychological intervention on migrant population for both prevention and emergency, to allow patients to prevent infection, avoid risky behaviour, develop and use bio-psychological resources, reduce anxiety associated with illness, cooperate with prevention program.

Implementation Plan

The goal of this section is to provide the Local Health Centre (ASL) with an integrated plan for the management and the implementation of procedures during an avian influenza pandemic among irregular migrants.

The main objectives are:

- To identify one or more ad-hoc structures to manage and coordinate interventions for the control of the spread of avian influenza among migrants in order to reduce the improper access to other health facilities.
- To quickly identify avian influenza cases in migrant population.
- To minimize the risk of spread within the community of migrants and the general population.
- To ensure proper training to operators involved in the management of pandemic in migrants population, also at transcultural level.
- To ensure specific information according to linguistic and cultural characteristics of different migrant communities.

The key actions to reach the goals of this project are:

1. To identify a territorial unit of reference (TUR) and to set up its emergency plans for the crisis.
2. To activate epidemiological surveillance in illegal migrant population.
3. To implement measures to prevent and control the spread of infection within illegal migrants population through public health interventions, antiviral drugs prophylaxis and vaccination.
4. To ensure health care to symptomatic migrants.
5. To develop specific training plan for health operators, linguistic-cultural mediators and leaders of communities.

6. To improve adequate communication strategies, specific for the linguistic and cultural characteristics of the migrant population.

1) IDENTIFICATION OF THE TUR AND SET UP OF ITS EMERGENCY PLAN

For a specific and effective intervention it is essential to identify a territorial unit of reference and define an emergency plan. In the province of Brescia, the CSI has all necessary requirements to perform this function. Where a similar unit is not present, a public or private unit should be identified with the following characteristics: low threshold, free access (without reservation), well known location and easy to reach by the target population.

The emergency plan to maintain the efficiency of the TUR during the crisis should take into account:

1. Identification of the staff that should be moved to the TUR to provide health care in the event of an influenza pandemic.
2. Identification of a list of activities carried out by TUR operators during the influenza pandemic and designation of a team leader.
3. Development of procedures to cover absences of TUR operators during the influenza pandemic.
4. Creation of a list of people within the TUR whose absence would interfere with an adequate response to the influenza pandemic. These operators must have priority for vaccination.

2) ACTIVATION OF EPIDEMIOLOGICAL MONITORING

1. Epidemiological surveillance of influenza syndrome in the migrant population attending CSI out-patients department should be activated during pandemic alert period. Cases of flu syndrome in illegal migrant population will be periodically evaluated through CSI database, defining its seasonal pattern, differences compared to what was expected and clinical and demographic characteristics of the population involved.

2. Development, updating and spread among health workers of TUR of the description of “possible”, “probable” and “confirmed” case of avian influenza.

3. Development and implementation of surveillance strategies for avian influenza, towards illegal migrants just coming from endemic areas.

4. If there are suspected cases of avian influenza in the migrant population, immediate epidemiological investigation of their family and/community contacts must be activated.

5. Monitoring of the number of accesses to emergency departments and hospital admissions

because of influenza syndrome in the illegal migrant population

6. Monitoring the number of hospital admissions for flu syndrome with final death of the illegal migrant.

3) IMPLEMENTATION OF MEASURES TO PREVENT AND CONTROL THE INFECTION

a) Public health measures

1. Promoting health education and hygiene standards to reduce the transmission of infections in communities of migrants, through a transcultural approach with the involvement of language and cultural mediators and community leaders.

2. Organizing appropriate measures to control the transmission of infection within the TUR, through protocols of supply and use of individual protection devices and the identification of standard protocols of action for suspected cases.

3. Identifying “non-institutional” meeting places for migrants (i.e. parks, squares, pubs,..)

4. Isolation of illegal migrants with suspected symptoms in a properly equipped unit, since their housing conditions usually do not allow proper management of the case.

5. Health education and information for suspected cases and their families with the support of cultural mediators.

6. Information campaigns to promote early recognition of the symptoms by migrants themselves, to reduce the time interval between the onset of symptoms and the access of the patient to TUR.

7. Defining a protocol for the monitoring of the case contacts, by the TUR operators.

8. Considering to close communities and/or meeting places of migrants, to reduce the spread of infection.

b) Pharmaceutical devices

1. Creation of a stock of antiviral drugs in the TUR, on the basis of the number of illegal migrants in each territory, potentially target of antiviral prophylaxis.

2. Identification of a person, among TUR staff, in charge of the stock, of its maintenance and the procedures for antivirals request.

3. Prophylaxis with antivirals at the TUR of all illegal migrants defined as “close contacts” of cases. Monitoring of drugs adverse events.

4. Prophylaxis with antivirals is not useful during the pandemic period.

c) Vaccination

1. Creation of a stock of vaccines within the TUR, on the basis of the number of illegal migrants in each territory, potentially target of vaccination.
2. Identification of a person, among TUR staff, in charge of the stock, of its maintenance and the procedures for vaccine request.
3. Identification of staff working at TUR to be vaccinated
4. Identification of illegal migrants accessing to TUR at high risk for severe or fatal flu complications, in order to vaccinate them. Monitoring of adverse events.
4. Vaccination should be extended to other groups (children, adolescents, healthy adults) on the basis of the virus epidemiological characteristics.
5. Monitoring immunization coverage in the illegal migrant population.

4) GUARANTEE OF CARE FOR MIGRANTS WITH AVIAN INFLUENZA SYMPTOMS

1. Definition of the levels of all health units where illegal migrant should be treated during a pandemic (i.e. first level TUR, second level Emergency Dpt, third level Specialist Dpt).
2. Identification of facilitated paths to health units for symptomatic migrants.

5) CREATION OF SPECIFIC TRAINING PLANS

Training will develop on two different levels.

The **first level** is based on lessons for health workers dealing with migrants during an influenza pandemic, on specific topics such as principles of medical and contagion anthropology, transcultural medicine and intercultural communication.

This first part of the training will consist of following six units, lasting 3 hours each.

1. Elements of Medical Anthropology
2. Intercultural Communication
3. Individual elaboration of the disease
4. Transculturale Medicine
5. Cultures of the health
6. Anthropology of contagion and social suffering

The **second level** includes the activation of working groups to give operators a realistic and logical basis for the development of teamwork methods (Heap, 1985). These working groups will last about three hours and will be managed by a psychologist and an anthropologist.

6) IMPLEMENTATION OF ADEQUATE STRATEGIES OF COMMUNICATION

Dissemination of information

The "opinion leaders" could be the right channels to influence migrants behaviour. The effectiveness of communication depends on the ability of the operator to be in harmony with the culture of the recipient.

Community leaders are a source of information similar to the target, operators have to identify and contact these leaders.

The phase of infection, the psycho-social intervention in emergency situation

Psychological problems in emergency situations can occur in the acute phase or later, gradually developing over long periods. In extreme emergency, the protective factors usually existing within a group, may be missing. This is why it is important for health operators to know very well the characteristics of the population they approach with the support of a psychologist and an anthropologist. The team will be ready to operate as soon as influenza pandemic will begin.

The team will manage critical situations and give information in response to practical needs of the population. In particular, the activities will be the following:

Reception: to reduce the exposure to traumatic events, to facilitate the expression of emotions and share of experiences and to keep the situation under control.

Information: to provide adequate and reliable information on the effects and evolution of the situation, on available emergency facilities, on the relatives health conditions.

Psycho-social intervention: individual and/or group psychosocial activities implemented through standard techniques.

The role of non-profit organizations in crisis management

This document is a contribution of the Non-Profit Association “Disciplina della Solidarietà”, which analyses the role of non profit organisations in crisis management at a local level during the pandemic influenza spread.

1. INTRODUCTION

Contemporary society presents quite different and in many respects unprecedented characteristics. A general and irreversible process of great social and cultural transformations is taking place in the whole planet, although with varied rhythms and developments that are not immune from contradictions.

It is the concept and historical event represented by globalization, a concept to a great extent still indefinable, with unpredictable outlines in its manifestations and evolutions.

The current globalization process, considered in its widest meaning, goes beyond the restrictive concept that refers to economic roots and the global market of goods and, unfortunately, not rarely people too. The process is now more and more transcending into the social and cultural dimension of radical change in the life of people, nations and as a consequence the whole world.

In this perspective, also the concept of complex society, that is currently seeing a reorganization in the widest and most irreversible globalization perspective, needs rereading and reinterpreting.

Post industrial society was progressively characterized by more and more articulated social relations, competence specialization in every single sector, the most variegated articulation of public institutions in response to an increasing and inconstant need of services and people's participation in choices in which they are directly concerned.

Complexity and globalization become therefore the new cultural paradigms nourishing the social living not only in the big planetary dimensions, but also in the national ones, up to the more peripheral local communities, including communities composed of every single individual.

In fact, as we can easily understand and realize, the most representative variables of the globalization are present in daily life: relations with foreign citizens - nowadays familiar but in the past unrelated to the local context - the unavoidable comparison of different cultures and behaviors, communication in different languages, new forms of socialization associated with new generations, the spread of mixed marriages or mixed common-law marriages, the discovery of universal values belonging to the whole mankind as precious human awareness.

Coincidentally with the irreversible decline of the ideologies that characterized the difficult period of the twentieth century, other cultural perspectives concerning social living dimensions emerged; these new perspectives have allowed a release of new energies and synergies in social fabric and local communities that would have been unthinkable in past times. Not only all the nations -in particular the European ones- have benefited from this important process of cultural reinterpretation, but also the institutions – representation of democracy.

Paired ideologies that governed the political choices of the European nations, actually of the two post-war “Europes”, have given up in front of the reasons of democracy, of the social and not antagonist coexistence, of the increasing people's need of social participation.

Recent history is actually the celebration of this new process that in Italy has become more and more well established since the 90s, maybe not casually coinciding with the historical fall of the Berlin wall, by now considered the symbol of the new historic course.

Nowadays public institutions are taking the more profound approach in relation to their role within the State and their role in the service to citizens.

It's a beneficial process that, even if still unfinished, has enabled a reinterpretation of roles and tasks of the public administration trying to bring them back to their original function and recognize the citizens' full right to take active part in the democratic life of the country and, in particular, to regain operating spaces in which they can exercise the right of social participation.

Contextually, in the reassessed civil society, originates a long new path of social participation considered as the citizens' right and duty to create a new model of society founded on solidarity and social cohesion, on the convinced willingness to operate for free at people's service, without neither hesitation nor ideological heritage.

Along this new path take their first steps the different realities and associations nourishing what will be defined as the third sector: it will progressively express itself in a variegated and multifaceted micro and macrocosm of social, cultural and professional vitality.

The non-profit context is wide, as well as the commitment to cover intervention areas only public institutions used to deal with. Such areas are now developing economic and professional activities having no thought of material gain.

The third sector, thanks to a huge growth in the last ten years, can be rightly regarded as a new social subject capable of innovation, a strategic and increasingly irreplaceable factor in the complex scenario represented by services and social organization systems.

Public opinion and country system have progressively given the third sector credit as social and operative reality that is fully reliable, credible and able to produce meaningful changes in the

system and in the organization of services to the person, social groups and the whole community. Today public institutions and third sector are the mainstay for the complex organizational system as far as erogation of services to citizens in each sector is concerned, included the delicate sector represented by Health Care. As it will be discussed more extensively further on, the Italian Health Care system has progressively joined a large number of different realities operating in the third sector: in particular the many and widespread associations of social voluntary work having religious or secular nature and often operating free of charge to lend aid, to help people get their medical treatment , to assist the disabled, the elderly, etc.

In addition to these, there are several service cooperatives in the Health Care sector and big organizations all along committed to deal with issues concerning social and health ambits, like for example the Red Cross. Despite this universe of opportunities, it is still possible to notice a lack of attention and intervention planning as far as the third sector is concerned, in the field of high-risk events that can occur in the Health Care sector characterized by a diffusion rate much higher than in the past.

As previously mentioned, globalization associated with the planetary phenomenon of millions of people's migrations and with the increased and unrelenting world mobility due to business trips, study trips, tourism, sport trips, etc. provokes an increase in the number of occasions of contact and exchange that objectively help diseases spread with social and health repercussions that would have been unthinkable in the past .

Today, pandemic represents an event that is very likely to occur any time concerning both people and animals; prevention, although irreplaceable, is not always able to fully oppose the fast diffusion of this phenomenon with incalculable consequences for the whole mankind.

Italy, like most European nations, is provided with national plans in order to deal with high-risk health situations. These plans provide for an organizational structure in charge of running high-risk events as far as mass population is concerned.

The hypothesis of pandemic as potential event has been presented quite recently in conjunction with the risk of avian pandemic that spread in Asian regions. This event urged the preparation of the well known “national Plan of Preparation and answer to a pandemic flu” that presents the conceptual orientation, the objectives and all the several necessary actions to detect the phenomenon.

Although the national plan is certainly remarkable, it is evident that the only interlocutor and the management representatives hold important posts as the country's highest authorities and intermediate Local Government Units, without neither remarkable references to the wide reality of

the third sector nor organized or informal voluntary work. Very likely is the hypothesis according to which such an exclusion was not prejudicial, but rather a summary analysis of the pandemic phenomena still considered as an event pertaining to Health Care, an emergency that can be properly faced by resorting to the Health Care system own resources.

Only rarely and incidentally is mentioned the potential of additional resources represented by the third sector and the organizations of social voluntary work.

Some directives concerning the use of voluntary work can be found in the “Pandemic Planner” elaborated in the Health Plan of Ontario - Canada – that provides for categories of voluntary workers.

In a pandemic, in addition to current health care workers, health care tasks may have to be undertaken by personnel who would not normally perform these tasks. For the purposes of assigning tasks, training, support, insurance and other issues human resource planners and managers must be aware of the following types of workers:

- paid health care professionals
- paid health care workers who are not licensed professionals
- paid non-health care/non-medical staff (support, maintenance, etc.)
- volunteer health care professionals
- volunteers trained in medical tasks, but who are not licensed professionals
- volunteers not trained in medical tasks, but can provide other essential services to health care sites– e.g. electricians, who help set up the NT site.

In case of pandemic emergencies, the World Health Organization allows Associations to have spaces of possible intervention, as long as these organizations are important national or international groups.

Given the particular potentiality of the service, the widespread distribution of the third sector and the various realities of social voluntary work actively operating in Italy, it is advisable and necessary to identify forms and methods to make systematic and planned use of them within the complex national pandemic plan.

However, the reference to this impressive mine of social solidarity and human resources will not be an instrumental, subordinate resort, but will have to result as an unavoidable resource having great social impact at the service of the community.

Moreover, social voluntary work in its variety of expressions, competences and strengthened professionalities deserves formal recognition and full legitimization by the State and public institutions: it needs to be regarded as operative partner in the management of a pandemic.

2 THE THIRD SECTOR

The Third Sector, or Third System, as the European Union prefers to call it, defines an emerging reality between the two pillars represented by State and Market. The third sector, also from a juridical point of view, is represented by different institutions and organizations, such as associations, mutual aid associations, voluntary work organizations, charitable institutions, foundations, social cooperatives, cooperatives and non profit societies tout court.

The mission of most organizations is to provide goods and services. As a consequence, they deal with economic activities. However, they tend to be different from traditional companies as they do not have any purpose of profit. On the other hand, their private character makes them different from the State sector. The term "Third system" tends therefore to define all those organizations that belong neither to the State sphere nor to the world of companies for profit. Non-profit subjects present both characteristics of companies (organization, service production, necessity to have an economic and financial balance) and aims typical of the State, such as socially meaningful activities (assistance, charity, culture, attention to free time, sport, etc.)

The designation of Third Sector has however historic value and remains a synthetic formula to express a new phenomenon that is difficult to describe using only a word. The non-profit phenomenon has age-long history; examples are the many Christian institutions whose mission was assisting people, the several cultural institutions, the hospital corporates and private care ones, etc.: non-profit history is strictly linked to the history of humanitarian interventions over the centuries.

In general, the image of the Third Sector refers to aspects, such as a great subjectivity and operativeness, linked to resources -material and immaterial- brought to in terms of active solidarity, relations and self organization, cooperative and social entrepreneurship. These characteristics make the non-profit world a widespread reality, whose importance is also represented by its employment data.

The Third Sector, made up of a plurality of subjects, is characterized by organizations whose aim is problem solving rather than chasing new market segments. As far as the perspectives and sustainable economic evolution are concerned, the Third Sector is currently showing a favourable trend in comparison with other sectors. In particular this sector would represent, according to some analyses carried out in Europe, about 6% of private companies, with an employment share ranging from 4,5 to 5,3%. Non-profit companies have acquired a great productive capability and must therefore be considered as an economic-financial driving force. Given the lack of the combination "economic progress" and "employment development", in addition to the exponential growth of needs and social emergencies, the Third Sector is an important "actor" as far as the creation of new

employment opportunities is concerned, in a logic of meeting the real needs of peoples and communities. The development of the Third Sector takes place thus not only from a welfare viewpoint, but also in a dimension of development of the economic and financial fabric. There is a renewed and increasing interest in the "non-profit business" meant as "profit deriving from non-profit". A further successful factor is the skill to anticipate people's needs and the organizational management. Several analyses of the Third sector have proved it is an area that often developed to meet needs the traditional private sector or the State could not satisfy. Moreover, the peculiarity of its services has contributed to guarantee a certain organizational flexibility in comparison with the traditional forms of structure and legal arrangement. The evolutionary tendency of the social system is more and more aiming at a culture of centrality represented by the model of the Third Sector, through the promotion of social companies participation and the key role of associationism. Although no classification has been adopted so far, it is useful to operate a schematic synthesis that appears particularly interesting in the ambit of a project in a crisis in the Health Care sector. In this perspective is the classification elaborated by the University of Bologna, faculty of Economics in the person of Valerio Melandri, whose main syntheses are reported. The following are the five main homogeneous groups of non-profit societies operating in Italy.

Voluntary work and spontaneous non-profit

This first group of homogeneous associations can be defined as Voluntary work and spontaneous non-profit, with reference to economic equilibrium. From a statistical point of view, this group is made up of about 12.000 (less than 6% of the total) institutions characterized by the same type of company dynamics. In this group operates 18% of the volunteers but only 1,1% of the workers are paid, on average, 5,9 active volunteers per institution and only 0,6 paid people.

As far as the institutional form is concerned, in the group are obviously prevalent voluntary work organizations, committees and associations with a massive presence of volunteers. The leading specialization sectors are religious education, economic and humanitarian support and assistance services in emergencies. Most of the sector (more than 93%) includes «no market» groups whose presence is more concentrated in the North rather than in the rest of the country.

The factor homogenizing these non-profit associations is voluntary work as main, if not exclusive, source of work. Moreover, donations represent the most important, if not the exclusive, source of income. The consumption of the resources takes place, therefore, with the use of productive factors given mostly for free in the productive process (volunteers and donations). Both the service erogation and the supplying of productive factors are mostly free of charge.

Associationism and social promotion: culture, sport, recreation

A completely different situation is represented by the group of companies that can be defined as Associationism and social promotion: culture, sport, recreation. From a statistical point of view they constitute the largest group with about 132.000 institutions (64% of the total). All the same, this large number of organizations has an income inferior to 9% of the total income of the non-profit sector, with an average of 35.000 euro a year per institution (171 thousand euro of the sector altogether).

These organizations have rather small dimensions, and tend to interact weakly with the public sector (less than 4% of the total public income free of charge and less than 1% of the income derived from contracts and agreements with public authorities).

The supporters' help plays a pivotal role: the income derived from the members shows almost a double incidence compared to the average of the sector and amounts to nearly a third of the global resources. The specialization sectors concern culture, sport, recreation and political activities. Such organizations provide in particular their supporters with services and finance themselves by selling goods and services on the private market (especially to their members).

Non-profit of highly professional services and services of important Health and University Institutions

From a statistical point of view, highly professionalized organizations are identified in this group (about 18% of Italian non-profit institutions, that is over 36.000 organizations), whose percentage is really high as regards the total income, as it equals to 53% of the total (on average about 763.000 euros per institution), as well as the members' percentage.

In this group the paid staff equals to 60% of the sectorial total (on average 16,7 employed) and very few volunteers (mostly absent). The companies in this group refer especially to incomes deriving from private sources and are particularly market oriented, as it is showed by the high level (about 65% of the nonprofit total) of income deriving from the sale of goods and services.

This group often operates under the corporate designation of charity but, unlike one could think, the financial element has very little influence in terms of income investments to favour the economic equilibrium and, as a consequence, the re-establishment of richness.

The main specialization sectors are primary and secondary education, university education, labour protection, training and preparation for professions or legal services. The main «actors» of this group can therefore be found in operative charities, social cooperatives, especially « type b » employers' trade unions, catholic churches and aid societies, all the subjects that supply highly

professional services having additional benefits, and are able to find an effective paying demand on the market.

Non-profit of the services of territorial welfare: cooperation and assistance

From a statistical point of view these organizations constitute a group of over 25 thousand units (about 236 thousand euros of turnover per association) employing about 19% of paid staff and volunteers (on average, respectively 5,6 and 2,8 per institution).

The peculiarity of this group is represented by the fact that its institutions cash about 33% of the total of the public income free of charge and 31% of the whole non-profit sector for contracts and conventions. Cooperatives appear as the most important corporate designation and the prevailing specialization sectors are health services different from hospitals, civil protection, environment, social assistance and professional training. This group is quite market oriented, while its geographical allocation follows quite faithfully the sectorial one. These organizations deal with takeovers partly at market price (from the State) and partly free of charge (State contributions), sales at a price inferior to the market price.

The non-profit associations here described are characterized by the fact that they receive almost 90% of the total income from the public authority: half is erogated for free (that is, as contributions aiming at supporting disadvantaged workers in their work placement, developing areas, or more generally, projects financing) and its erogation takes place through contracts and conventions.

Social cooperatives have largely benefited from the partnership development between the cooperatives themselves and local authorities, and from an innovative organizational structure that guarantees qualitative services, creating a network system between producers and consumers (and/or between workers and organization) based on trust. The participation of these organizations in different types of social situations has showed how some social needs can be better satisfied through the production of services, rather than money transfers, giving a precious contribution to the transformation of the Italian social safety system, and improving the ability to meet the real needs of disadvantaged people. These organizations have played a key role in the process aimed at improving the effectiveness of public institutions, determining an increased flexibility and a more rational use of resources, characterized by good relations and introduced by social cooperatives.

Bank foundations and grant making foundations

Grant making foundations are particular institutions widely developed in Anglo-Saxon areas and

far less in Italy. The main source of wealth is primarily represented by the collection of proceeds derived from the asset and liability statement. These associations, despite being economically important, are relatively few. They include Bank foundations that have supplied in 2002 about 1.076 million euro and a few dozen grant making foundations present in Italy. Although the present classification is quite coincise, it is evident the key role played by Italian associations and the substantial covering of all the institutional and social spaces present in the territory. The awareness of this huge social wealth must be the starting point for collaboration projects concerning prevention and intervention in situations of health crisis.

3. VOLUNTARY WORK IN HEALTH CARE

Voluntary work organizations operating in Health Care have many relations with public authorities: 53,3% of these organizations are operating with the National Health Service and 39% of these collaborates with public services on specific projects.

This sector is mainly represented in the regions North-West (32,7% in comparison with 26,2% of the population), whereas it is active in a proportionally halved measure compared to the population in the Southern regions (12,5% compared to a demographic dimension of 24,6% of the national total). The ideal roots inspiring this type of voluntary work is mostly secular: it concerns 80,2% of the organizations. The volunteers of this sector are mostly adults: 72,5% of them is between 34 and 50. The organizations of this sector focus on only a type of beneficiary (the sick or the injured) and tend to specializations as far as their performances are concerned: 40,4% supplies only a type of service.

Almost all the fields - social, welfare, educational, civil protection, environmental protection, cultural protection, international cooperation- have connections with the health field: examples are the integration between social and health, the importance of the educational field for health training, the civil protection for the health protection in calamities, environmental protection in the prevention, international cooperation for the promotion of poor populations' health.

On the other hand, before talking about voluntary work in the health ambit it is necessary to talk about voluntary work, pointing out straightaway some considerations and clarifications in general, as voluntary work in the health care ambit suffers from issues and unavoidable ambiguities of a phenomenon that had an unexpected and unconceivable explosion in the 80s, and that is currently seeing a fast and continuous development. Reflecting upon the identity of voluntary work does not mean to claim purity, but wants to clarify some underlying criteria, in order to allow a broad guideline.

First of all: it's not the presence of volunteers that automatically makes the organization a voluntary one, but the conformity of its structure and intervention with some basic elements, typical of its nature. In particular it is necessary to point out, besides spontaneity, gratuitousness, being at other people's disposal, continuity, also:

- the ability to reactivate social relations between individuals and groups;
- taking care of the still not torn fabric, operating to promote social relations and services;
- intensifying the relations with Associations involved in social welfare ;
- the ability to increase the solidarity rate;
- promoting initiatives focusing on public spirit (care of common assets, etc.)

In such a context emerges the specificity that makes voluntary work different from other subjects of the Third Sector. The identity of voluntary work can also be defined considering its roles: anticipation in meeting emerging needs, integration of existing services, public and private, pressure on public institutions to safeguard the citizens' rights, education to solidarity culture and creation of informal networks dealing with primary solidarity..

Voluntary work has therefore a political value as it urges the public institutions to safeguard the citizens' rights, contributing to change the social life from a political and cultural point of view. A volunteer is a citizen who takes seriously the value of participatory democracy, starting from the needs of the territorial community: a volunteer is an active citizen, or a volunteer-citizen, according to the well known definition given by CNCA (Coordinamento Nazionale delle Comunità di Accoglienza).

Voluntary work and its associations pre-exist the social company and the public administration itself not only from a historical point of view, but also as a concept. The volunteer can be active beyond the structure in which he operates , both public or private, beyond financial or structural supports, beyond legal recognitions. A further defining element concerns its organizational structure: certainly it is not entrepreneurial, nor corporate, unlike other typologies of the third sector, characterized in this stage by emerging business logics.

A further principle, typical of voluntary work, is its willingness not to replace, but to integrate, both responsibility and institutional intervention, and subordinate employment. This means also that voluntary work does not have to feel superior to remunerated employment from an ethical point of view. Actually, excessive emphasis on this aspect appears problematical, as the ethical dimension of work, especially in case of professions involving nursing, needs to be shared by all the workers: the fundamental value is human work, both free or paid.

Voluntary work needs minimum protections, such as the right to gain access to the structures,

through even municipal forms of recognition and possible agreements, the right to be involved in councils and all the seats provided for by national and local regulations.

In this direction it's necessary to enhance the Service Centres as realities that strengthen the educational dimension, the planning capacity, the local visibility by supplying all the voluntary work realities, even not registered, with services.

It is fundamental to enhance especially those subjects who have an intense and deep relation with their territory, and are able in this way to perceive the new needs. Realities need to find by themselves the spur to anticipate initiatives; not as an alternative to institutions and public organizations, but relying on their own resources or on the resources of their local community; in this context the Service Centres can play a key role. Certainly the community resources, as well as widespread liberality, can and must be mobilized; we know from experience that when facing an emerging need the community answers: a role that is anticipating and innovative at the same time , an analysis of reality and phenomena, the establishment of dialectical and positive relations with the institutions, the attention given to the social subjects to involve partnerships sharing common objectives in local solidarity, the ability to communicate, are the sources on which voluntary work must work simultaneously. The need of organizational growth and of the establishment of effective supportive networks is evident and realistic for a volunteer who remains faithful to those perceptions that have been so useful in these last few years in our country .

Voluntary work in the Health Care needs to operate by respecting and checking the five elements characterizing the quality of hospital structures: humanization, personalization, right to information, hotel standards, health-care training (prevention).

It is difficult to define the areas in which voluntary work operates in the health-care sector, as it is almost impossible to mark the boundary between social and health care activities, given that there are many overlapping and integrative areas.

In the end, trying to be more precise, it is possible to say that the sector of social-health assistance and health safeguard certainly concerns activities of care and support of the sick, of first aid, of blood and organ donation, of safeguard of citizens' health, of prevention and health training, of consulting services, of defence and representation of the rights of the users of health structures, except for self-help realities . The farther we move from hospital structures, the more and more vague becomes the distinction between social voluntary work and health-care voluntary work. The attention to the different stages in the life of voluntary work never concerns uniquely the social nor exclusively the health aspect, as beneficiary of the intervention is a person as a whole.

4. INDIVIDUAL VOLUNTARY WORK

Voluntary work is not limited to organized forms such as Associations, but explores a myriad of other paths leading to individuals. It is the so called phenomenon of widespread voluntary work, not canalized, scattered but active in large parts of civil societies. Many people find it difficult to be part of a steady organization, other prefer to operate as free as possible, maybe dedicating parts of what is left of their free time.

Unlike many European and extra - European countries, Italian Institutions and Public Authorities make little use of directly recruited volunteers.

An example in that sense is represented by NSH's use of volunteers, whose policy and methods are defined in a recent report.

Meaningfully, the report does not limit voluntary work to particularly active and integrated subjects, but expands it also to more motivated people with physical disabilities who can devote themselves to determined activities (for example call centre).

In a far-seeing Pandemic planner these opportunities cannot be forgotten, but actually they should find their right collocation in the general panorama of available resources. It is a human potential that could be efficiently exploited in all the pandemic stages, in particular in the initial stage of alert and in the mitigation of the impact provoked by the sudden event.

Certainly we are talking about a particularly delicate and complex resource, mainly due to the poor levels of knowledge of the effective human and professional capacities of this type of volunteers. This situation carries a certain level of risk: possibility exists that improvised or disorganized interventions could make the situation worse. Still, such a great potential needs careful consideration.

It is necessary to elaborate a reconnaissance system concerning availability; such a system should be integrated in the recording of all the attemptable opportunities in the field of organized and informal voluntary work.

Every single Institution should provide for the use of voluntary work through internal plans, and from this point of view it will be necessary to provide for strategies and methods aimed at promoting the figure of the volunteer.

Developing plans for communicating and promoting the figure of the volunteer among the public

Develop and maintain databases of volunteers

Because maintaining up-to-date databases of volunteers is time consuming, difficult and expensive, health authorities will likely have to depend on existing volunteer agencies. Such agencies should be encouraged, where possible, to track trained and screened (those that had interviews, reference checks and criminal records checks) volunteers and track records of certificates or diplomas and maintain methods of communication. Health authorities may wish to encourage these agencies to keep their databases current, and to expand the information on their volunteers' skill sets or experiences, to include skill sets that would be required in a pandemic.

Develop job descriptions and skill lists for volunteers

Develop a list of jobs, job descriptions and skills based on the needs of the region or community and working in conjunction with volunteer agencies. (See Checklist of Functions and Personnel). This list can be used to determine which training programs are necessary and how best to recruit, train and assign volunteers in the interpandemic and pandemic periods.

Develop volunteer recruitment, and screening procedures.

Develop procedures that can be implemented quickly once a pandemic is declared. (See Pandemic Period – Recruitment, Screening and Deployment.)

Monitor and track qualifications and certification

Plan for methods to ensure health care workers, including volunteers are trained and certified for the tasks they are undertaking.

- Review the logistical and legal issues around developing databases of HCW's who have the training and skills to be deployed during a pandemic.
- Arrange with appropriate agencies to maintain databases of members for use during a crisis. There may be legal requirements that individuals agree to keep their names on a list of those available for work in a crisis.
- Plan for a "Quick Check" method of confirming certification or qualification.
- If a volunteer is trained at an NT site during a pandemic, plan for ways to test and record the level of skills.

Prepare to manage volunteers

During a major crisis many people come forward who wish to volunteer. In some cases managing the numbers of people who come forward to volunteer is a major logistical effort in itself.

During the interpandemic period:

- Review emergency plans for managing an influx of volunteers.
- Plan for a volunteer co-ordinator or team – identify agencies, positions or individuals – to take responsibility for directing the process of accepting, screening, training and placing volunteers.
- Ensure resource information is available to the volunteer co-coordinator/team.
- Plan for a location for volunteer recruitment/management that is separate from existing hospitals or clinics to reduce congestion and security issues.

5. PANDEMIC IMPACT ON HEALTH CARE ORGANIZATIONS

According to the authoritative opinion expressed by the World Health Organization, pandemic influenza represents nowadays the most dreaded potential global emergency in the field of Health Care. The social and economic repercussions of the pandemic outbreak would affect not only the population in general, but also organizations, and in particular those organizations that are responsible for the citizens' health. In fact, health services are intrinsically exposed to the outbreak of crisis situations, as their mission is to safeguard the individual citizen and the community's health in a developing social, economic and environmental context, characterized by the onset of unpredictable threats. Pandemic represents an emblematic event that may cause a discrepancy between demand and available resources, as health demand is greatly increased; the deriving inadequate organization can be defined as a “crisis situation”.

Despite the relevance of the topic, the analysis of the organizational-managerial structures of the Italian Health Services shows a serious lack of preparation as far as extraordinary events are concerned.

The culture of “crisis management” originated in the Anglo-Saxon context, in particular in the field of business management, aiming at guaranteeing the business continuity management: a process that helps manage risks so that an organization or service keeps on working, thus ensuring the continuity of essential functions during a crisis, and the effective re-establishment when the event stops.

It would be advisable to transfer the *know how* acquired in the private field to public companies

whose continuity in the erogation of services represents an essential requirement to prevent a potential social destabilization that may originate from a crisis situation.

In fact, the plan defined by National and Regional health authorities can be effective only if it is realized locally, in the context of Public Health Services dealing with citizens.

Without a global approach concerning the management of unexpected events, the application of specific guidelines identified for a determined crisis typology will result necessarily reduced and, very likely, inadequate. The realization of a model of crisis management in the health sector not only meets successfully the population's needs, but also provides the interested health operators with defined methods, guaranteeing continuity of service in difficult moments without delays, as it is formulated on the existing staff and already operative structures.

Finally, it allows a rational approach defined by economic savings, and guarantees the safeguard of the Company image.

Health Services can be affected by crisis presenting particular characteristics in terms of quality and quantity variability, communicative implications and complexity that is intrinsic to the system itself.

Variability from a qualitative point of view

Public health Services are exposed to a multiplicity of risks, ranging from the ones that can cause health problems in the population (external risks) to the internal ones originating in “weak links” within the corporate organization. It can be affected by a really wide risk typology certainly presenting greater variability - and consequent complexity – than any service or product company.

Variability from a quantitative point of view

The number of people involved can largely vary too: the crisis can be an event hitting large part of the population (epidemic), or the individual.

In fact, even a single case of an unknown disease requires identifying effective strategies of diagnosis, therapy, and transmission modes, even in the absence of an immediate epidemic danger.

From the public health-care point of view, another fundamental factor is represented by the necessity to start practices and arrange everything in an adequate way to face the potential crisis, unlike nursing homes uniquely dealing with existing diseases. It's interesting to point out that preventive measures need investments of resources even in the possibility that the risk will never take place, as in the case of the potential SARS spread in Italy: although no cases have been registered so far in our country, the health system had to deploy resources to be prepared in case of

disease importation.

Communicative implications

One salient characteristic of crisis affecting population health is the strong communicative impact; in fact, the perception of risk as far as health is concerned is extremely high, and the transmission of these risks requires the application of specific strategies to manage the “beyond control” and highly emotional character that is typical of news circulation.

Particularly complex are the processes of information exchange between who is responsible for Health Services and citizens, and high risks can derive when “technicians” knowledge is translated from mass media and then perceived by the public.

The study of psychological dynamics on which these processes are based plays a key role to start proper communication strategies and to keep the image or reputation risk under control. The reputation risk is defined as an event that can potentially have an effect on the stakeholders' long run trust in the organization: given its public function, the health service is very sensitive to this risk because reputation derives from the above mentioned complex perceptive processes, and cannot be exclusively related to objective factors. In fact, a task force that properly manages a crisis may result not sufficient if it does not provide the public with adequate explanations of the adopted strategies.

Crisis management is therefore a complex process, whose preparation needs to take place in “ordinary times”, defining the organizational structures of the public health service and the procedures to apply in crisis situations. A correct synergy between these two aspects represents the crucial point affecting the actual capacity of the health-care structure to succeed in facing a crisis.

Moreover, it is essential to point out the importance of the creation of a system that integrates the ordinary service management with the management of unexpected events. This objective can be reached through the activation of interventions from many points of view, aiming at transforming the corporate organization. In particular, specific levels to work on can be identified in order to create a solid organizational structure.

The complexity of crisis situations requires not only the preparation of every single structure, but also the global functioning of the health system through the activation of the networks created for ordinary functioning. According to the service typology or service erogation, it is possible to distinguish:

- health network including hospitals, nursing homes, rehab centers, mental institutions, health emergency institutions;
- social-health network including residential and semiresidential structures for the elderly, the

disabled, the alcoholics, the drug addicts, minors, and respective home assistance;

– social-assistance answering to Local Authorities and managed directly or through subjects of the Third Sector, it performs an assistant function and guarantees social transports, in-home meals delivery, in-home assistance for personal and house hygiene"

In particular, the activation of a territorial network of health structures sharing the same managerial model enables them to keep in touch, increasing the exchange of information and coordinating effectively the activity of command and control. The resources of a single company could not guarantee this mutual assistance. Moreover, this network represents a good occasion to meet and improve strategies of preparation and answer.

6. CRISIS PLAN IN PANDEMICS AND ENHANCEMENT OF AVAILABLE VOLUNTARY WORK RESOURCES

WHO's document "WHO checklist for influenza pandemic preparedness planning" concerning the staff employed in health services, points out not only the need to "estimate the numbers of health-care workers by professional group at the level appropriate for the country (national, provincial, local), and determine sources from which additional health-care workers could be recruited, for instance among those who have retired or who have changed careers; but also the necessity to -develop a set of health-care roles for which volunteers may be suitable, and discuss this with professional organizations and associations.

-identify organizations that may be able to provide volunteers, and define a protocol for deciding on their suitability for designated roles outside their area of training and competence.

-develop protocols for accepting and training volunteers for defined health-care roles. Ensure that liability, insurance and temporary licensing issues for retired health-care workers and volunteers are addressed"

In a complex and globalized society the health risk and a potential pandemic should have inescapable planning contents.

The dominant decision-making guidelines in situations of crisis are the exclusive resort to institutional resources within the health-care system, in the conviction that a full mobilization of structures, staff and technologies represents a sort of institutional duty having exclusive nature, almost monopolistic.

Not wanting to be a burden for the community, not asking other institutions for services tended to emphasize the abilities of State and Local Authorities to meet the needs of their citizens.

Centrality and autoreferentiality of the State prove nowadays to be weak theoretical principles as well as a heritage of ideological patterns typical of a centralizing State and presumptuously asserting its superiority over the citizens.

Considering other aspects, almost in a specular way, the hypothesis according to which the operating potential- represented by the wealth of the Third Sector- has been underestimated for a long time should not be ruled out.

It's high time integrated and shared projects were created also in situations of health-care crisis, as it is successfully occurring in many other sectors.

The health-care sector, still considering its delicate specific competence referring to public health as common good that cannot be renounced, cannot and should not disregard the community contribution.

In this perspective becomes even more valid the opportunity to draw up a crisis plan contemplating the involvement of voluntary work and defining intervention ambits and referency levels.

Voluntary work dealing with pandemics needs to be defined within the specific context of action. In that sense is meaningful the definition of voluntary work given by the Public Health Agency of Canada :

“A volunteer is a person registered with a government agency or government designated agency, who carries out unpaid activities, occasionally or regularly, to help support Canada to prepare for and respond to an influenza pandemic. A volunteer is one who offers his/her service of his/her own free will, without promise of financial gain, and without economic or political pressure or coercion.”

Authorities responsible for health scheduling and emergency planning need to consider two quite different approaches to voluntary work:

- associated voluntary work
- individual voluntary work

Voluntary work Associations, according to their dimensions and level of representativeness , national, regional or local, present a well defined organizational structure envisaging specific intervention models, predetermined functions, and are supported by competences, existing instrumental resources becoming thus direct interlocutors of the bodies in charge of emergency planning, and in the specific case of Pandemic Plans.

This kind of voluntary work tends to guarantee its own representativeness within the chain of command and control that is provided for to manage the plan.

As previously stated, associated voluntary work often expresses precise ideological positions in which citizens can identify themselves .

Individual voluntary work originates in the converging of needs of individual citizens' who are willing to express their short- or long-term commitment to the community. Institutions must necessarily guarantee the functioning of essential services even in situations requiring a particular commitment, not only from a quantitative point of view, but also in the perspective of meeting the population's needs.

In that case, voluntary work is included in the receiving structure in order to provide primarily complementary services. Meaningful results the British NHS' plan concerning the use of volunteers, as it determines a wide possibility in the use of volunteer.

In order to achieve a coherent programmatic operation, it is necessary to proceed through targeted actions aiming at preventing as much as possible and attacking at the right time possible situations of crisis.

Under this circumstance the formulation of a strategic plan and pertinent operative mode is not easy, as they need further elaborations and adaptation to a specific crisis event. Nevertheless, it is possible to identify some guiding lines to start meaningful operative actions.

7 GUIDELINES FOR THE USE OF VOLUNTARY WORK

Census of the different forms of voluntary work.

Using the resources offered by voluntary work requires an overview of the phenomenon in its several aspects and it is therefore necessary to consider the census of voluntary work Organizations or Agencies on the territory.

Top priority is to establish a special instrument including all the realities that gave their availability to intervene in a crisis situation. Such an instrument, represented by a register, should offer a potential of all the necessary information to start an operative connection in aid of the involved realities. As a consequence, the register has also the important function to validate the actual potentials of service provided by each registered association as long as these associations have previously proved to operate successfully from a human, professional and technological point of view.

In relation to the level and complexity of the crisis situation in progress, particular attention should be paid to the territorial and organizational dimension of the association.

The big national associations (Croce Rossa, Cai, etc.) have at their disposal equipment and structures already able to mobilize people and means even from a micro-territorial point of view and can therefore be directly in touch with the macro-structure governing the crisis.

In relation to the wide area of cooperatives and varied realities of service, also in the health sector it is fundamental to get the real operative potential, still considering the ordinary work done by these organizations. Besides, the crisis situation could hit the organizations themselves in their ordinary services; a work surplus might totally absorb their energies therefore not available in emergencies.

As a consequence, it is necessary to select immediately the real available resources in each associative reality so that it becomes possible the formulation of a precise summary describing what interventions are actually feasible; the potential availability in an ordinary management situation is not enough, it is essential to verify the feasibility of a precise intervention planning having checked the objective emergency context.

Seemingly marginal associations have showed meaningful vitality and achieved unexpected results when facing a pandemic event.

It is the recent case of the hurricane Katrina. People have expressed a strong opposition to leave their houses, although clearly unfit for use.

Unlike one could think, the reason for this “irrational” attitude referred mainly to the substantial people's lack of trust in public institutions, perceived as alien realities, almost hostile to the community that had been neglected for years; public institutions were therefore seen as a concomitant cause, therefore responsible for the hurricane.

The intuition to link public communication with reliable, appreciated and well known public personalities had a positive and almost immediate effects on the population, allowing the evacuation of the area hit by the hurricane and the rescue of many lives. Charismatic leaders and representatives of local associations convinced the citizens to abandon the high flooding risk territory; their social reliability allowed to reach this result without having to resort to force, saving energies and resources.

In Italy there are many Associations that enjoy citizens' approval and confidence, although some do not directly operate in the sector of social services and assistance.

In emergency situations, these widespread Associations could make a precious contribution by mobilizing their associates, by spreading information, by communicating. Such a contribution would allow the experimentation of new methods to widen the network of collaborators in emergency situations.

By analogy, the planning and operative connection with the Associations of the employment world could be really useful. The employment reality is actually very sensible to the topics concerning solidarity, mutual help, social participation and active voluntary work.

It is the case of the two big trade-union categories of workers and of entrepreneurs. Their representation is very extended and can reach millions of people; these realities are deep-rooted in the territorial context and constitute a huge potential of human, professional and organizational resources.

These historical organizations have not found adequate recognition so far in the national plans of crisis management; they may have been underestimated because of their particular role, incorrectly perceived as a mix of politics and sectorialism, therefore far from the problems of populations suffering from crisis events.

Of great importance are religious organizations that can boast century-old traditions, both from a national and from a local point of view, thanks to which the needy, the disadvantaged and the weak are assisted.

The fame of these institutions does not exonerate from pointing out the huge significance of resources in terms of people, structures, financial means and above all appreciated referentiality even in the smallest and most outlying territories.

Military Associations have developed services of assistance too, not only in aid of their supporters, but also directed outside of their organization thanks to the creation of social and health activities (emergency interventions and hospital transport services)

It is therefore possible to define these associations in the context of non-profit organizations that can be recruited thanks to an emergency plan.

Information gathering and management in a permanent monitoring system

The project manager will have to proceed beforehand and deal with the complex and delicate work involving reconnaissance and identification, in the territory falling within his competence, of the existing social opportunities.

Information represents the priority source to set up and develop meaningful operative collaborations, it is therefore essential to arrange properly a system of data retrieval, updating and consultation.

It is a service of widespread information to set up at first as research in the field and later as periodical and recurrent information service. Resorting to advanced information and interactive systems represents a strategic factor as it allows to manage the huge quantity of necessary information and the complex organizational apparatus that is required in case of emergency situations.

In concrete terms, the procedure follows well-established criteria and methods governing monitoring information systems.

Schematically the main operations are represented by :

- individuation of the principal information sources thanks to direct contacts with the organizations;
- thorough sectorial analysis to identify other kinds of association forms, maybe less known or formalized ,composing the social widespread voluntary work ;
- cataloguing and systematic classification of the gathered information, classified by aims, intervention, beneficiaries, responsables etc.
- computerization of the gathered information and annotated filing for a fast and easy consultation;
- networking the gathered information to spread the social resources and activate communication flows on the Net;
- elaboration of an integrated permanent monitoring system concerning the local reality of the third sector referring also to the informal associationism;
- inclusion of the organizations referring to wider realities (provinces, regions and nations) with ramifications and direct or indirect local representation (example: civil protection, Cosp and public assistance, association of consumers, association for the environment, firefighters, Cai, etc.).

Resources inventory

Complementary and integral part of the monitoring system is the inventory of human resources globally meant. It plays a key role in case of a crisis event or a pandemic.

In these cases targeted interventions are essential, whose effectiveness and timeliness will mostly depend on the possibility to have immediate availability of the necessary people and means.

It is necessary to have the right equipment beforehand in order to face such events counting on updated and pertinent information. The organization of the resources inventory meets these operative needs, and more in general, to arrange the widest plan possible to contrast pandemic or health crisis.

By making use of the preliminary gathered information in the informative monitoring system, it will be possible to get directly in touch with the individual realities in order to get aware of their potential of service.

In facts, as one can easily guess, it does not imply the sheer formal registration of people and equipment, but tends to foreshadow their possible role in facing the crisis.

The inventory is indissolubly linked with the level of planning and sharing of interventions to carry out in situations of crisis .

It is fundamental to consider whether the associative realities have the necessary expertise, availability and effective possibility to take part in the operations.

From an organizational point of view the inventory needs to be formulated in a highly structured way in order to point out the potential of available resources in each association, and at the same time provide a general overview of the available organizational power.

Schematically, the inventory will have to contemplate the analysis of the following potentialities:

human resources

referred to the effective availability of people considering their collocation in the original organization (example: full time employee, part time employee, full time volunteer, partial, etc. including some particular connotations, such as age, sex, ecc.)

professional resources

referred to the professional competences gained through education, professional practice, active voluntary work, etc.; together with the previous aspect, this aspect allows the elaboration of a systematic plan characterised by a wide range of operations, aimed at the specific needs of stricken people

organizational resources

referred to the functioning models according to which is structured the association with particular reference to the organization charts through the identification of the figures who who perform functions of defence, coordination and planning of the interventions within the various organizations; these roles are generally played by presidents, executive secretaries, coordinators, spokesmen, etc. The relation with these people needs to be carefully elaborated as they constitute a precious reference of the association. Most of the work of associations depends in fact on the leadership and capacity of mobilizing the associates. Without such a strategical reference the relation and involvement of the association runs the risk to fail.

Instrumental resources

referred to equipment, actually available means (motor vehicles, special means of transport, medical-health outfit, logistics, etc.); these resources play a fundamental role in situations of crisis as they allow to operate in complete autonomy.

Creation of a national negotiating table to promote voluntary work as partner in the preparation and management of pandemic influenza.

The negotiating table can represent a reference to involve voluntary work Organizations in plans concerning different health threats too. The negotiating table needs to function as advisory body for Central Health Authorities and should include representatives of the different association types referred not only to the different sectors of competence, but also represented by different levels of local market presence.

The role of the volunteer: a definition

Planning the use of volunteers in the ambit of different potential scenarios of a pandemic influenza must be adequate, show a clear definition of roles, tasks and processes of consultation among the different subjects operating in aid of institutional authorities, especially in case of insufficient local, national or community regulations.

The irreplaceable role played nowadays by voluntary work in emergency situations deserves not only full recognition, but also increasing public support as far as supply of means, of materials, of equipment, training, preparation and keeping up to date are concerned. These factors are

fundamental in order to support all the energies offered to help the community.

Voluntary work organizations present all professionalities and professions of modern society ; both from a quantitative and a qualitative point of view, such a mix constitutes a resource that is essential especially in emergencies, when the success of interventions depends on the contribution of many different specializations (from doctors to engineers, from medical attendants to electricians, from cooks to carpenters). Some organizations have preferred specific high specializations, such as kennel groups, scuba diving groups, radio ham groups , speleologists etc.

It is also necessary to contemplate the opportunity of drawing up a written document containing the description of the “policy” of voluntary work, the definition of roles and explanation of mandate, thus helping to implement a real integration with public services, recognizing its role to all intents and purposes.

Information network promotion

The network, based on information technology, has the priority to make recognizable the Associations taking part in the realization of pandemic plans.

It must offer community benefit services .

It will be for example necessary in the use of distance learning methodology or in updating the Associations on the development of pandemic plans and respective alert levels.

8. MANAGEMENT OF VOLUNTARY WORK: RECOMMENDATIONS

Recruitment

Both Associations or Agencies of voluntary work and Institutions or Public Bodies can be in charge of recruiting volunteers. In both cases, the recruiting process implies delicate and tricky aspects.

Underestimating the recruiting procedure in its specific stages endangers the recruitment itself.

As a consequence, it is necessary to pay particular attention to: the presentation of the Organization or the activity, and the aims of the recruitment task undertaken by the Public Body, by preparing alluring messages and images; the identification of one's own necessities and the arrangement of the volunteer's profile; the identification of the research area of volunteers and elaboration of the message; the screening and training procedures, besides the identification of volunteers' duties as well as different forms of protection.

The ability to find volunteers coming up to organizational expectations is often weakened by not

very effective communication channels. It often happens that people, once within the organization, claim that they are not appreciated enough (or just that they are not at their ease). Consequently, advertising is a very important and delicate step.

Advertising is possible through the use of different means and instruments, in particular screening announcements, organization of information meetings and training courses, open-days and local events, local news, involvement of subjects able to lead to voluntary groups: priests, people in charge of local associations, doctors, professors, etc.

Internet sites and databases play a pivotal role in spreading all the information concerning advertising and in the future they may optimize the volunteers' resources. A well planned database can be used to collect and organize all the necessary information: demographic profiles, the type of service and the placing of volunteers are useful data to organize e-mail chains, to inform volunteers of initiatives and to thank them through personalized messages. E-mail can represent a powerful tool especially if particular information strategies are used, like the method of “simultaneous pushing”.

An example of “simultaneous pushing” could be an e- mail message – full of links to the original site and progressively updated - sent to a potential volunteer on the occasion of a recruiting process, asking the addressee to forward it to friends or acquaintances.

Volunteer screening

The screening process of volunteers is a strategy that often overlaps the recruiting process, and for this reason requires a clear action with precise stages.

The first stage requires that the Organization, both institutional and non-profit, should understand its own mission, strengths and weaknesses. Afterwards, it should choose the targets and develop a programme determining the type of volunteer to involve and, in particular, the motivations behind the volunteer's availability. Before seeking volunteers, it is advisable to determine who to seek. Research, if anticipated by inquiries about organizational requirements and the description of the ideal candidate, is likely to be more successful. Moreover, in this way heavy investments in the following screening are avoided. Ultimately, it is necessary to follow the procedures that characterize the recruitment of paid workers, pointing out the number of hours required (in a week or in a month) and the not economic “compensation”. The process of recruiting and screening volunteers is more likely to be successful if it is pointed out that volunteers offer their competence and time with the sole object of being helpful, obtaining from their activities a not economic compensation.

Interview

The starting point of this process is the interview through which the right person is selected.

One of the most salient aspects is the personal interview; good interviewing endowments are necessary to undertake the most important task, that is to understand the volunteers' motivations.

The following checklist shows a series of reasons for which people decide to volunteer:

- personal satisfaction
- altruism
- sense of belonging/ meeting other people
- to deepen the knowledge of a sector
- to set up/ run an organization
- to develop personal contacts
- to make career in a society
- to gain experience/training
- to enter a particular organization
- social status
- pride

In an always changing society, also volunteers' motivations are changing. New motivations emerge such as:

- the wish to change society
- the wish to support a specific cause
- the wish to be ready for an activity/a hobby when one is retired
- the wish to improve one's life by meeting other people

Check of references and criminal records

It will be necessary to collect a series of information concerning the private life of volunteers, in particular:

- the check of references by filling in forms related to educational qualifications, knowledge of other languages, previous occupations and experiences in voluntary work etc.
- the official check of states, qualities and facts – aiming at verifying the potential existence of decisions affecting the legal status of volunteers, as impediment to the issue of authorizations, licences, or to the conferring of determined status or rights (example: conviction for certain types of crime, additional punishments, bankruptcy or interdiction

sentences, prevention measures etc.) or current criminal process.

Collecting this kind of information is essential to evaluate the level of compatibility between volunteers and activities, especially in the case of activities involving contact and assistance to vulnerable people.

Assessment of the requirements

Once these tasks have been performed, the most delicate stage comes along: to assess the selected volunteers' requirements, motivations, competences, skills that were identified in the recruiting process.

The result of the assessment will lead to the acceptance or the refusal of the volunteer.

Matching volunteers with tasks

The job matching process concerning aptitude, professional characteristics and tasks to assign, requires a careful assessment in order to allow not only the optimization of the selected competences, but also to have the volunteer start his task in a pleasant atmosphere.

Training and guidance

Training plays a pivotal role in the volunteers management. The best solution is represented by on-the-job training to provide volunteers with the necessary information and competence to undertake their task. Particular attention will be paid to the training of personnel that will deal with more delicate tasks, such as health assistance and personal care.

During the interpandemic period, volunteer training may be left as much as possible to existing agencies. In areas without well-developed volunteer systems and agencies, planners may wish to review the need for developing, maintaining and funding core groups of volunteers trained for medical emergencies such as pandemic, and trained trainers.

All volunteers should be trained for

- Self-care and
- Infection prevention and control (routine or universal precautions).

Based on the Checklist of Functions for your jurisdiction, volunteers working in direct patient care may also be trained in:

- Basic personal care (bed baths, bed pans)
- Observation of condition (temp, pulse, resp, etc.)
- Case definition, identify the illness

- Giving medications (pills, eye and ear drops, liquids)
- Oxygen administration
- Pressure ulcer prevention – skin care
- Ambulation, mobilization

Volunteers will also be needed who are trained in the following:

- Cleaning in health care facilities
- Records management
- Food preparation (food safety courses)
- Workplace Hazardous Materials Information Systems (WHMIS) protocols
- Security staff trained in working with grief stricken people.

Review the Checklist of Functions for the training required in your jurisdiction. As far as possible, existing agencies should be encouraged to maintain skills in these tasks during the inter-pandemic period.

Entering an organization will imply implementing some procedures concerning guidance/welcome. It will be necessary: to reassure and inform the new volunteer about the mission, the organization chart, the organization history; to arrange a meeting with other volunteers and with the organization staff; to inform the new volunteer about the forms of health and safety protection in the ambits they will be assigned.

Supervision

In the initial stage of activities carried out by a new volunteer, it is fundamental to verify the coherence and adequate level of the assigned task by providing the new volunteer with appropriate assistance in case of possible difficulties in the integration with the work team. Supervision is a top priority in the interventions related to the stock needs registered during activities carried out in the field.

Assessment

The assessment of the volunteer's contribution, either individual or associated, to the implementation of emergency plans, in particular the pandemic plan, needs to be restrained in the general assessment of such tools, in order to improve the planning activity and the volunteers' performance.

The assessment can concern the training level achieved, the level of implementation of procedures, the degree of integration with the different components of the system opposing a pandemic and the level of responsibility of instrumental resources that are necessary to carry out the assigned tasks.

The assessment can occur at irregular intervals, for example in the case of supervisors reporting to the authorities in charge of the planning.

Authorities in charge of the planning can propose the use of self-assessment procedures to both public institutions and voluntary work organizations in order to monitor their level of adherence to the plans predictions. This is possible through the use of checklists periodically given by authorities to the people in charge of Bodies and voluntary work Organizations. A meaningful example of checklist for self- assessment was elaborated by the Department of Health and Human Services in the USA.

1. Plan for the impact of a pandemic on your organization and its mission:

Task	Not Started	In Progress	Completed
<ul style="list-style-type: none"> Assign key staff with the authority to develop, maintain and act upon an influenza pandemic preparedness and response plan. 			
<ul style="list-style-type: none"> Determine the potential impact of a pandemic on your organization’s usual activities and services. Plan for situations likely to require increasing, decreasing or altering the services your organization delivers. 			
<ul style="list-style-type: none"> Determine the potential impact of a pandemic on outside resources that your organization depends on to deliver its services (e.g., supplies, travel, etc.) 			
<ul style="list-style-type: none"> Outline what the organizational structure will be during an emergency and revise periodically. The outline should identify key contacts with multiple back-ups, role and responsibilities, and who is supposed to report 			

to whom.			
<ul style="list-style-type: none"> Identify and train essential staff (including full-time, part-time and unpaid or volunteer staff) needed to carry on your organization's work during a pandemic. Include back up plans, cross-train staff in other jobs so that if staff are sick, others are ready to come in to carry on the work. 			
<ul style="list-style-type: none"> Test your response and preparedness plan using an exercise or drill, and review and revise your plan as needed. 			

2. Communicate with and educate your staff, members, and persons in the communities that you serve:

Task	Not Started	In Progress	Completed
<ul style="list-style-type: none"> Find up-to-date, reliable pandemic information and other public health advisories from state and local health departments, emergency management agencies, and CDC. Make this information available to your organization and others. 			
<ul style="list-style-type: none"> Distribute materials with basic information about pandemic influenza: signs and symptoms, how it is spread, ways to protect yourself and your family (e.g., respiratory hygiene and cough etiquette), family preparedness plans, and how to care for ill persons at home. 			
<ul style="list-style-type: none"> When appropriate, include basic information about pandemic influenza in public meetings (e.g. sermons, classes, trainings, small group meetings and announcements). 			

<ul style="list-style-type: none"> • Share information about your pandemic preparedness and response plan with staff, members, and persons in the communities that you serve. 			
<ul style="list-style-type: none"> • Develop tools to communicate information about pandemic status and your organization's actions. This might include websites, flyers, local newspaper announcements, pre-recorded widely distributed phone messages, etc. 			
<ul style="list-style-type: none"> – Consider your organization's unique contribution to addressing rumors, misinformation, fear and anxiety. 			
<ul style="list-style-type: none"> • Advise staff, members, and persons in the communities you serve to follow information provided by public health authorities--state and local health departments, emergency management agencies, and CDC. 			
<ul style="list-style-type: none"> • Ensure that what you communicate is appropriate for the cultures, languages and reading levels of your staff, members, and persons in the communities that you serve. 			

3. Plan for the impact of a pandemic on your staff, members, and the communities that you serve:

Task	Not Started	In Progress	Completed
<ul style="list-style-type: none"> • Plan for staff absences during a pandemic due to personal and/or family illnesses, quarantines, and school, business, and public transportation closures. Staff may include full-time, part-time and volunteer personnel. 			
<ul style="list-style-type: none"> • Work with local health authorities to 			

encourage yearly influenza vaccination for staff, members, and persons in the communities that you serve.			
<ul style="list-style-type: none"> Evaluate access to mental health and social services during a pandemic for your staff, members, and persons in the communities that you serve; improve access to these services as needed. 			
<ul style="list-style-type: none"> Identify persons with special needs (e.g. elderly, disabled, limited English speakers) and be sure to include their needs in your response and preparedness plan. Establish relationships with them in advance so they will expect and trust your presence during a crisis. 			

4. Set up policies to follow during a pandemic:

Task	Not Started	In Progress	Completed
<ul style="list-style-type: none"> Set up policies for non-penalized staff leave for personal illness or care for sick family members during a pandemic. 			
<ul style="list-style-type: none"> Set up mandatory sick-leave policies for staff suspected to be ill, or who become ill at the worksite. Employees should remain at home until their symptoms resolve and they are physically ready to return to duty (Know how to check up-to-date CDC recommendations). 			
<ul style="list-style-type: none"> Set up policies for flexible work hours and working from home. 			
<ul style="list-style-type: none"> Evaluate your organization’s usual activities and services (including rites and religious practices if applicable) to identify those that may facilitate virus spread from person to person. Set up policies to modify these 			

activities to prevent the spread of pandemic influenza (e.g. guidance for respiratory hygiene and cough etiquette, and instructions for persons with influenza symptoms to stay home rather than visit in person.)			
<ul style="list-style-type: none"> Follow CDC travel recommendations during an influenza pandemic. Recommendations may include restricting travel to affected domestic and international sites, recalling non-essential staff working in or near an affected site when an outbreak begins, and distributing health information to persons who are returning from affected areas. 			
<ul style="list-style-type: none"> Set procedures for activating your organization's response plan when an influenza pandemic is declared by public health authorities and altering your organization's operations accordingly. 			

5. Allocate resources to protect your staff, members, and persons in the communities that you serve during a pandemic:

Task	Not Started	In Progress	Completed
<ul style="list-style-type: none"> Determine the amount of supplies needed to promote respiratory hygiene and cough etiquette and how they will be obtained. 			
<ul style="list-style-type: none"> Consider focusing your organization's efforts during a pandemic to providing services that are most needed during the emergency (e.g. mental/spiritual health or social services). 			

6. Coordinate with external organizations and help your community:

Task	Not Started	In Progress	Completed

<ul style="list-style-type: none"> • Understand the roles of federal, state, and local public health agencies and emergency responders and what to expect and what not to expect from each in the event of a pandemic. 			
<ul style="list-style-type: none"> • Work with local and/or state public health agencies, emergency responders, local healthcare facilities and insurers to understand their plans and what they can provide, share about your preparedness and response plan and what your organization is able to contribute, and take part in their planning. Assign a point of contact to maximize communication between your organization and your state and local public health systems. 			
<ul style="list-style-type: none"> • Coordinate with emergency responders and local healthcare facilities to improve availability of medical advice and timely/urgent healthcare services and treatment for your staff, members, and persons in the communities that you serve. 			
<ul style="list-style-type: none"> • Share what you've learned from developing your preparedness and response plan with other Faith-Based and Community Organizations to improve community response efforts. 			
<ul style="list-style-type: none"> • Work together with other Faith-Based and Community Organizations in your local area and through networks (e.g. denominations, associations, etc) to help your communities prepare for pandemic influenza. 			

This checklist provides guidance for religious organizations (churches, synagogues, mosques, temples, etc.), social service agencies that are faithbased, and community organizations in developing and improving influenza pandemic response and preparedness plans. Many of the points suggested here can improve your organization's ability to protect your community during

emergencies in general.

Voluntary work should have a defined legal position: on the legal role of the volunteer depends in fact the precise identification of duties (and responsibilities deriving from their breach) the volunteer must abide by.

Whereas the position of volunteers directly recruited by Public Institutions is evident - they can act as public officers or even investigative police officers- the case of volunteers working in associations is different.

If voluntary work associations cooperate with a public body responsible for the service, the public body assigns, totally or partially, part of its activity to the voluntary work association: in such a situation a juridically private subject performs a public service.

This sort of delegation is possible through the use of a proper contract (convention). Only in this case the volunteer takes up the role of public service officer, that is a subject carrying out an activity having form of public function but without its own powers.

The volunteer is a Public Service Officer when he/she “begins his/her shift”, and such title lasts until the end of the shift itself according to the times decided by the Association.

During this time-frame the volunteer takes on every responsibility concerning the fulfilment of his/her tasks of public services he is in charge of. In the specific case of volunteers, according to well-established jurisprudential opinions, the public or private nature of the Body to which that activity refers is set aside (it is not important if the activity carried out refers to a public or private Body; what is important is that the activity has public character, that is in favour of the population). Priority is that the volunteer acts with the authorization and under the control of a Body.

Workers' compensation

Although voluntary work is totally free of charge, national laws protect voluntary workers: in case of emergency activities, voluntary workers do not lose their day, as it is refunded by the State to the employer, both public and private.

Therefore, voluntary workers need to be guaranteed the preservation of their job and respective wages, terms and conditions , social security, insurance coverage and refund of expenditures required by the emergency activity.

Therefore, the only economic relation between volunteer and organization he/she belongs to aims at re-establishing the volunteer's financial situation after expenditures required by the emergency activity.

To avoid discriminating treatments among voluntary workers in the same organization, as well as to

make clear the procedures of reimbursement of expenses, the organization will have to regulate the question of reimbursement of expenses through the adoption of internal rules establishing typology of admissible reimbursements, admitted expenditure limits, documentation evidence of expenditure etc.

Insurance protection

Bodies employing voluntary workers need to guarantee adequate insurance coverage in case of damage to people and things during the course of one's duty; this insurance protection plays a pivotal role for volunteers assigned to personal care.

It is necessary to make the level of insurance protection fit the real level of risk to which the volunteer is exposed.

Voluntary work organizations should proceed to protect voluntary workers from a personal point of view too, by insuring them against injuries or diseases they can contract during the course of their institutional duty.

Handling of personal data

The activity performed by voluntary work, both individual and associated, is strictly linked with collecting and handling personal data, and implies purely pragmatic knowledge and gathering of personal information to obtain specific help; the lack of such information would lead to a failure of the offered legal activity, depriving the interested subject of the only protection from which he/she can benefit, given the moral and material precarious conditions.

Voluntary work, both individual and associated, is therefore subjected to duties and executions provided for by the rules in force concerning the protection of personal data.

Voluntary work organizations are expected to manage personal data both of their supporters and of volunteers in order to organize and promote their activity.

The considered subjects need to respect openness and correctness criteria in relation to the interested person, as sanctioned by national rules.

Voluntary work organizations and all the other non-profit bodies are considered as private bodies: consequently, they are subjected to general regulations as far as handling of personal data is concerned, and to specific regulations as far as handling of personal data in the private sector is concerned. Moreover, it should be remembered that no exception to the general rules on handling of personal data is provided for in favour of the organization, if the same organization deals with

the handling of personal data in the ambit of a relation with Public Administration.

The organization will have to abide by all the privacy rules referred to private subjects, specifically defining the roles on privacy in every relation of collaboration/convention joining Public Administration to the voluntary work organization.

In general, organizations are expected to handle personal data in a licit and correct way, otherwise data use will not take place; personal data will have to be used for specific, definite, rightful purposes, and will be used in other operations as long as in terms that appear compatible with purposes.

Moreover, registered data will have to be exact, updated, pertinent, complete and not exceeding the collecting purposes; they will be stored for a period of time that will be not longer than the period necessary to reach these objectives.

Besides, voluntary work organizations will be able to handle personal data only with the interested subject's consent (written consent in case of personal-judicial data).

Consequently, the organization will need to inform the interested subject on the main aspects concerning the handling of personal data.

Carrying out activities provided for by emergency plans exposes workers to specific health risks. These risks account for potential problems in maintaining the personal psychophysical well-being. The causes of health risks are represented by unfit hygiene/environmental conditions, incorrect manoeuvre procedures, psychological pressure deriving from the dramatic social context. Meaningful is the biological risk, as the volunteer is exposed to the risk of contracting infectious diseases. Prevention of transmissible diseases is of great importance in health protection. Besides the risk of catching flu in its most aggressive form, it should be remembered that the volunteer working in health services is exposed to three infectious diseases:

- ✓ tuberculosis (TBC) transmissible through the air (through the tiny saliva drops deriving from the disease carrier in the form of breath, cough or sneeze
- ✓ viral hepatitis B,C, delta transmissible through biological liquids

The infection by HIV (Human Immunodeficiency Virus), transmissible through biological liquids (blood, vaginal secretions, sperm, cerebrospinal liquid, liquid from thoracic and abdominal cavities, amniotic fluid).

Protecting voluntary workers' health means also verifying the correspondence between their psychophysical characteristics and the tasks they will have to perform; this does not mean that people suffering from disabilities or disadvantages cannot take part in important functions such as welcome, communication or administration activities.

Clinical tests will be carried out by the public institution or voluntary work association to which the volunteer belongs. It will be necessary to guarantee immunization through the vaccination of volunteer personnel according to the procedures established by national regulations.

A pandemic vaccine will be available some months after the virus isolation. Consequently, it will be necessary to organize the vaccine administration and distribution, as well as acknowledge voluntary workers operating in emergency services as a priority category.

Besides, health protection will require specific training sessions for voluntary workers who will be operative in pandemic periods.

Safety

As employees are protected by laws regulating safety in the workplace, also voluntary workers' rights need to be safeguarded by determining employer's specific duties that in this case is represented by the people in charge of voluntary work organizations; in particular, the employer is expected to fulfil the following requests:

- risk analysis
- risk elimination and/or reduction
- health check related to the risks the health worker is exposed
- volunteers' training according to safety procedures and emergency measures to adopt in case of necessity (first aid, fire fighting)
- regular maintenance of installations, systems and equipment
- providing workers with the necessary safety devices
- adopting measures to check the implementation of safety procedures
- regular information about risks connected with tasks to carry out

9 CONCLUSIONS

The presence of more actors on the scene is certainly a precious factor for the performance, as long as there is a unique direction and high organizational efficiency. Without these requirements, the multiplication of actors can have the opposite effect, provoking delay and confusion in the organizational system.

By analogy, the plurality of subjects operating in the same field, and especially in the emergency sector, needs agreements and collaborative connections that cannot rely on their “good intention”, although appreciable .

Besides, we need to consider the different role played by each subject within the social organization; each role has in fact different functions and responsibilities in relation to the whole community.

The State, a democratic expression of popular will through the mandate of citizens, must perform the primary function to promote and safeguard common good and the crucial value represented by health.

However, the State cannot and must not abuse its authority against citizens' social solidarity activities, on the other hand guaranteed by the Constitution.

The State should develop systematic forms of collaboration through its public institutions, civil society and representative forms; these forms of collaboration should be preeminently developed in crisis situations and pandemics.

Ultimately, it is necessary to constitute and formalize a Committee for Planning and Coordination, composed of State representatives and representatives of voluntary work organizations, whose task is to elaborate a common and well articulated project, in which the decisional and operating architecture is defined in order to face crisis situations like pandemics.

In the already wide sector of global emergencies (safeguard of the territory, calamities and connected events, crisis of varied nature) are active many specialistic projects tending to operate in autonomy, such as civil protection, task force, emergencies in the health-care ambit etc. It is more and more necessary to reach a shared plan able to propose a common project concerning the whole wide scenario of natural, social, health emergencies, respecting the competences of each operative ambit.

This suggestive perspective is certainly effective both from the point of view of the crisis analysis and from the point of view of prevention and contrast. However, it requires studies and discussions to reach its application, given the institutional and organizational complexity.

Although this scenario is still developing, it is possible to elaborate some shared even if not yet applied guidelines.

A first aspect concerns the reformulation of the relation between State and Institutions and civil society expressed by social voluntary work. Both realities have full right to represent the interests of the community and to take active part in the crisis management.

Assumptions of alienation, mutual contrast, sterile decisional primogeniture are not considered pursuable.

Volunteers represent a well structured reality that is widespread both from a social and a territorial point of view. Moreover, this “third” subject has been more and more nourishing a convinced culture of the necessity to collaborate with public institutions, and highly professional practices and guides have been progressively structured.

Also public institutions have gradually developed a culture of community services that is no more centralistic and monopolistic: on the contrary, it is well aware of the historical transformations that have increased a democratic and responsible participation of citizens in relation to the community needs.

It seems it is the right time for collective talks between State and citizens, institutions and voluntary work groups, public and private services, going beyond any logic of contrast or sterile opposition.

Collective talks need to enhance the role of both actors, respecting at the same time their peculiarities and functions.

The fundamental directing function goes to the State and to its institutions, given its popular legitimation; in other terms the State is recognized as performing the essential political-institutional function. This does not mean free will of the representative political forces; on the contrary, great responsibility and collaboration will have to guide the decisions of public administration.

In this perspective, voluntary work must find its right collocation, having basically the same aims. Its function will have to be fully recognized, and its representatives will have to take part in the elaboration, planning and operativeness during crisis and pandemics, although they will keep a separate collocation from the State.

Criteria governing the function of social voluntary work can be summarized as follows:

- planning sharing
- managerial cooperation
- operative aid

Planning sharing means not only the complete recognition of the volunteer, but also the full recognition of competences of elaboration in relation to the processes concerning emergency situations and planning capacity of intervention within a systematic and shared project.

The principle of managerial cooperation relates to procedures and operations governing the realization of planned interventions within the global project. Voluntary work is therefore

stimulated and totally committed to management and operative organizations in the situation and territorial context of intervention, thanks to its own organizational and professional wealth.

The principle of operative aid confirms the role of social voluntary work in relation to competences and prerogatives of State and Local Authorities. In fact, the social private universe is in that area of support, complementarity and integration of services falling within the competence of the State, without replacing public services. In this perspective, voluntary work results a subject able to interact successfully with the State without competition.

In conclusion, a new and meaningful historical phase is beginning among State, Local Authorities and voluntary work, where the elaboration of a system of prevention of health crisis can represent a precious testing ground of ideas, proposals and planning.

After years of opposition, mutual distrust and alienation, new opportunities of collaboration between State and civil societies, institutions and voluntary work, social and political participation are now emerging.

We are finally witnessing a new cultural and institutional season, it is high time we attacked the social complexity and globalization through collaboration in the perspective of convergent projects, made more vital by solidarity.

In this perspective voluntary work represents a vital and precious resource in contemporary society, and can contribute to the improvement of services given to citizens hit by dramatic crisis or emergencies like for example a pandemic.

Meeting Minutes

To manage the activities as planned in this work package, in particular for research of DSS and process requirements, the partners involved in this works have organized group meeting (n.20). The meeting minutes are reported below.

Data: 21 Novembre 2007

Luogo: LASER

Oggetto: Incontro di coordinamento HEALTHREATS_WP5

Presenti

Giacomo Ferrari

Giovanni Guida

Pietro Baroni

Claudio Greppi

Antonella Mainardi

Emilia Palazzo

Ordine del giorno: Coordinamento e avanzamento lavori delle attività del WP5

Rapporto:

Alle ore 15.00 è iniziata la riunione.

L'incontro è stato focalizzato interamente su come dovranno essere impostate le attività relative ai task del WP5. Questa fase è di responsabilità di Laser, ma necessita dell'apporto delle professionalità dei partners UniBs e Argonet, dovendo essere la base dei lavori che saranno sviluppati nell'ambito dei WP6 e WP7. Il dott. Ferrari ha specificato quali dovranno essere le caratteristiche dei task 5.1. e 5.2.

Per la rilevazione dei requisiti necessari alla definizione di un modello di supporto decisionale, in caso di emergenza causata da pandemia, sarà fondamentale definire un processo di rilevazione delle caratteristiche locali. Questo modello sarà poi proposto ai partners stranieri, che dovranno, a loro volta, effettuare la sperimentazione nel loro territorio. Il task 5.1. sarà caratterizzato da una ricerca di carattere generale, in cui saranno evidenziate le caratteristiche procedurali delle unità che effettueranno la sperimentazione, come pianificata nel progetto. Questa rilevazione interesserà l'ambito bresciano quanto le realtà slovena, rumena e spagnola. Quindi, tenendo sempre presente la prospettiva europea del progetto, bisognerà effettuare una contestualizzazione locale, che, a Brescia, implicherà il coordinamento tra le autorità territoriali, che sono partners stessi di Healthreats (ASL, Spedali Civili, ACB). Sarà necessario creare ipotesi, entrando nel merito di 3-5 casi, che serviranno da scenari di riferimento. A tal fine, sarà individuato un gruppo di lavoro che, definiti questi scenari, coinvolgerà, le autorità territoriali, attraverso interviste ai decision makers. Il prof. Guida ha evidenziato che sarebbe utile impostare queste interviste sulla base di una proposta concreta da poter verificare con gli intervistati stessi.

Le attività relative al task 5.1. dovranno, in sintesi, produrre:

- un documento sui processi esistenti, da inviare a CIL, partner responsabile dell'attività di reingegnerizzazione;
- un documento sul DSS, su cui si baserà il lavoro del task 5.2., in cui si potrebbe prendere come riferimento un modello già esistente e procedere per analisi differenziale;
- un documento sulla formazione dei partners e dei decision makers, fondamentale per le attività di training del WP8.

Nel più breve tempo possibile, bisognerà:

- definire un gruppo di lavoro, che costruirà ed effettuerà le interviste;
- ipotizzare scenari per la sperimentazione;
- coinvolgere i partners stranieri interessati nella fase di sperimentazione, per poter meglio delineare

le differenze relative alle caratteristiche locali.

Relativamente a quanto sopra ipotizzato, sono emersi possibili percorsi da adottare in merito alla reingegnerizzazione delle procedure, che una volta rilevate in ambito bresciano dovranno essere inviate al partner inglese (CIL). Il dott. Greppi ha così riassunto quanto, in concreto, dovrà essere fatto nell'ambito del WP5:

- rilevazione dell'esistente: cosa è previsto che venga fatto in caso di emergenza causata da pandemia;
- rilevazione delle mancanze presenti nel sistema attuale (output intermedio);
- ipotizzare soluzioni che potrebbero migliorare tale sistema.

Questo passo dovrebbe implicare una proposta da effettuare agli intervistati, magari in un secondo tempo, come verifica di fattibilità dell'idea avanzata. Quindi, il WP6 potrebbe identificarsi come fase di attuazione dell'output intermedio, inteso come requisito del sistema proposto, evitando che ci si limiti a standard formali del processo. Perché ciò sia realizzabile e per favorire la codificazione del sistema, il WP5 dovrà elaborare requisiti specifici. A tal fine, il gruppo di lavoro, che sarà attivato da Laser, dovrà interessarsi sia alle interviste che alla transcodifica degli inputs al partner CIL, per attivare un processo interattivo sui contenuti, al fine di poter dare continuità a quanto fatto nel WP5 nell'ambito delle attività del WP6.

Sarà fondamentale considerare un processo operativo concreto, anche facendo riferimento a best practices attuate in diversi paesi europei. Per poter meglio definire il lavoro nell'ambito del WP5, sarà necessario contattare i partners sloveno, rumeno e spagnolo, perché questi possano identificare referenti con cui interagire, anche per fissare incontri di lavoro ulteriori alle date previste per i meeting. La riunione si è conclusa alle ore 17.30.

Data: 11 Dicembre 2007

Luogo: LASER

Oggetto: Pianificazione attività WP5

Presenti

Ferrari Giacomo

Palazzo Emilia

Cardilli Marina

Mainardi Antonella

Ordine del giorno: Pianificazione attività WP5

Rapporto

La riunione ha avuto inizio alle 15.00.

La dott.ssa Palazzo ha presentato uno schema di lavoro elaborato dal dott. Ferrari come punto di partenza per pianificare le attività da svolgere nell'ambito del Wp5, considerando quanto detto durante la riunione del 5 Dicembre. L'incontro è stato focalizzato sul questionario che dovrà essere inviato ai partners stranieri coinvolti nella fase di sperimentazione, quali Romania, Slovenia e Spagna, al fine di poter conoscere i loro sistemi sanitari nazionali e compararli per l'elaborazione delle procedure necessarie per la fase di re-ingegnerizzazione. Ciò sarà fondamentale per la costruzione del questionario successivo relativo all'inquadramento generale circa la gestione delle minacce sanitarie e all'applicazione quali-quantitativa dei Piani pandemici nazionali, regionali, locali. La dott.ssa Mainardi ha sottolineato la necessità di individuare, attraverso il primo questionario, il layout della logistica delle funzioni con riferimento alla dislocazione sul territorio delle Unità Sanitarie, alle funzioni coinvolte in caso di minacce/pandemia e alle procedure eventualmente codificate a riguardo. Per la stesura del secondo questionario sarà, inoltre, indispensabile l'elaborazione del Glossario. A riguardo, sarà fissato, a breve, un appuntamento tra la dott.ssa Palazzo e la dott.ssa Orizio. Il prossimo incontro è stato fissato per martedì 18 Dicembre.

La riunione si è conclusa alle ore 17.30.

Data: 18 Dicembre 2007

Luogo: LASER

Oggetto: Attività Wp4 e Wp5

Presenti

Ferrari Giacomo

Gelatti Umberto

Palazzo Emilia

Orizio Grazia

Cardilli Marina

Mainardi Antonella

Ordine del giorno: Elaborazione termini e definizioni per Glossario. Stesura questionario per Wp5

Rapporto

La riunione ha avuto inizio alle 14.00

Il dott. Ferrari ha aggiornato i presenti su quanto detto dal dott. Scarcella, durante la riunione del 5 Dicembre, in merito al glossari del progetto circa i termini da inserire e le relative definizioni.

Secondo il dott. Gelatti, sarebbe importante considerare solo ciò che è necessario per raggiungere l'obiettivo del progetto. A tal fine, sarebbe opportuno evitare termini riferiti alle "classificazioni", che, invece, si potrebbero evincere dalla ricerca del Wp4 o del Wp8, nell'ambito della Virtual Learning Community. Quindi, il Glossario dovrebbe contenere pochi termini, soddisfacendo un livello generale. Eventualmente potrà essere integrato durante le attività dei diversi Wp, nel caso in cui fosse necessario condividere definizioni di termini più specifici tra i diversi partners.

Inoltre, si potrebbe ipotizzare un'operazione di benchmarking tra le definizioni che non sono condivisibili, come ad es. "cure primarie", in modo da indicare cosa s'intende con questo termine nei diversi paesi partner del progetto. Infine, a sostegno delle definizioni date, sarà opportuno elencare una breve bibliografia. In merito all'organizzazione delle attività del WP5, il prof. Gelatti ha proposto, nell'ambito del task 5.1., una terza fase, successiva ai due questionari previsti, in cui potrebbe essere utile incrociare l'analisi organizzativa con quella applicativa.

Inoltre, considerando che la sperimentazione che avrà luogo in Italia avrà requisiti differenti rispetto agli altri partners e sarà caratterizzata dal coinvolgimento di Enti presenti nel partenariato di Healththreats, sarà importante individuare attraverso un questionario le differenze e capire come sono strutturati gli Enti stranieri interessati.

A tal fine, è stata analizzata e corretta la bozza del questionario, che dovrà essere inviato ai partners rumeno, spagnolo e sloveno per poter capire come funzionano i loro sistemi sanitari e, in particolare, le unità in cui intendono effettuare la sperimentazione

Data la diversità dei sistemi sanitari, a questi partners sarà proposto quanto definito per la realtà italiana, chiedendo loro di ipotizzare un percorso di lavoro, anche in base alle specifiche competenze che li caratterizzano. Inoltre, dovranno individuare procedure e processi, in relazione alle fasi che decideranno di sperimentare e proporre soluzioni a possibili gap che riscontreranno nell'analisi dell'implementazione delle procedure.

Quindi, sulla base delle attività di interesse dei 4 paesi europei, definite in maniera dettagliata, il partner inglese CIL dovrà proporre una "re-ingegnerizzazione modulare".

Il prof. Gelatti, per la fase di re-ingegnerizzazione, ha proposto di ipotizzare una soglia misurabile del miglioramento che si vorrà ottenere. Quindi, sarà necessario definire una stima di quanto ci si aspetta da questa riorganizzazione delle procedure, da attuare in caso di crisi di una struttura sanitaria, a prescindere dalla minaccia che l'abbia generata.

Il dott. Ferrari ha proposto di rielaborare i termini e le definizioni del glossario, al fine di poter incontrare nei prossimi giorni il dott. Scarcella, per una sua validazione.

Il primo questionario del Wp5 dovrà essere corretto in virtù delle revisioni e proposte fatte durante la riunione e spedito ai partners, nel più breve tempo possibile.
La riunione si è conclusa alle h17.30.

Data: 15 Gennaio 2008

Luogo: LASER

Oggetto: Attività Wp5

Presenti

Ferrari Giacomo

Rossi Michele

Mainardi Antonella

Cardilli Marina

Palazzo Emilia

Ordine del giorno: Organizzazione attività task 5.1.

Rapporto

La riunione ha avuto inizio alle ore 15.00.

Il dott. Ferrari ha presentato all'ing. Rossi e alla dott.ssa Mainardi le attività che dovranno essere svolte nell'ambito del WP5, in particolare nel task 5.1. Nello specifico, l'ing. Rossi dovrà occuparsi della raccolta dei requisiti per la costruzione del DSS, mentre la dott.ssa Mainardi dell'elaborazione delle procedure e dei processi nell'ambito dell'unità di sperimentazione (ASL) e dei suoi collegamenti con le altre realtà territoriali (ACB, Spedali Civili). Per la realizzazione di queste attività è stato creato in ASL un Gruppo di lavoro, composto da esperti responsabili di unità che sarebbero coinvolte in caso di emergenza pandemica. Questo gruppo collaborerà con la dott.ssa Mainardi e l'ing. Rossi, nella maniera in cui riterranno più opportuno: riunioni plenarie, interviste singole, compilazione questionari.

Per una completa acquisizione della conoscenza in merito agli aspetti delineati, il Gruppo dovrà essere integrato da referenti dell'ACB e degli Spedali Civili. In seguito, saranno indicati i rispettivi referenti. Sulla base dell'obiettivo proprio del progetto, gli aspetti da considerare saranno:

- elaborazione dei processi e delle procedure
- ipotesi di scenari, sulla base dei quali rilevare anche le mancanze proprie del sistema
- rilevazione dei requisiti necessari per la costruzione del DSS.

Il percorso che verrà realizzato in Italia sarà proposto ai partner stranieri coinvolti nella fase di sperimentazione. Sulla base delle procedure rilevate sarà impostata la reingegnerizzazione, che potrà essere in parte spendibile nei diversi paesi. La presentazione dei membri del GdL avverrà nell'ambito di un incontro previsto in ASL, il 17 Gennaio. Da quella data il GdL diventerà operativo e potrà essere contattato per l'organizzazione e la realizzazione delle attività previste nell'ambito del task 5.1. Nel corso dell'incontro il gruppo verrà accreditato, saranno spiegati i differenti ruoli e i motivi per cui è stato convocato. Saranno chiariti gli obiettivi del lavoro che dovranno svolgere e saranno fornite indicazioni in modo da orientare gli esperti ASL a ciò che verrà loro richiesto. Sarà fissato un primo incontro operativo, nell'ambito del quale sarà concordato un piano di lavoro ed una tempistica da rispettare.

L'ing. Rossi e la dott.ssa Mainardi, in relazione a ciò, organizzeranno i loro ambiti di ricerca in modo da poter operare insieme laddove fosse possibile e necessario. La dott.ssa Palazzo avrà il compito di coordinare le attività relazionandole a tempi e scadenze previsti dal progetto.

In merito alla tempistica, il lavoro dovrà essere terminato entro la fine di Maggio.

La riunione è terminata alle ore 17.00.

Data: 17 Gennaio 2008

Luogo: Direzione generale ASL Brescia

Oggetto: Attività WP5

Presenti

Scarcella Carmelo

Comincini Fiorenza

Ferrari Giacomo

Mainardi Antonella

Rossi Michele

Marinoni Tarcisio

Palazzo Emilia

Boschi Giuseppe

Baitelli Guglielmino

De Filippo Simona

Di Meo Simonetta

Feltrinelli Daniela

Lonati Fulvio

Ordine del giorno: Presentazione Gruppo di lavoro esperti ASL ed attività WP5.

Rapporto

La riunione ha avuto inizio alle ore 15.00.

La dott.ssa Comincini ha presentato il Gruppo di esperti, convocati dalla Direzione Generale dell'ASL come supporto al lavoro che Laser dovrà svolgere nell'ambito del Wp5.

Il dott. Ferrari, prima di spiegare il ruolo e le modalità di lavoro di questo team, ha dato una panoramica generale sul progetto Healththreats, indicandone obiettivi, caratteristiche dei partners coinvolti, attività dei diversi Work Package.

Nell'ambito specifico del WP5, è stato sottolineato che bisognerà acquisire conoscenza sui processi e sui requisiti del sistema, al fine di poter identificare informazioni necessarie per la costruzione del DSS, per la formalizzazione di processi che l'ASL dovrebbe attivare per la gestione di un eventuale stato di crisi ed, infine, per avere indicazioni sui contenuti da proporre nelle attività di formazione previste dal WP8. Sarà necessario, quindi, identificare un percorso italiano da proporre ai partners che saranno coinvolti nella fase di sperimentazione (Slovenia, Spagna, Romania). Per questo motivo, sarà importante capire l'organizzazione dei sistemi sanitari di questi paesi stranieri, individuare le relazioni che intercorrono tra gli enti bresciani coinvolti in caso di pandemia ASL, AO e ACB, nonché partners di Healththreats.

Inoltre, i diversi processi identificati dovranno essere suddivisi in diversi moduli, in modo da poterli confrontare con gli altri paesi e poter elaborare una re-ingegnerizzazione che possa essere applicata nei differenti ambiti nazionali. Ciascun paese, quindi, individuerà processi differenti da quelli proposti in Italia, a seconda delle proprie necessità locali.

Ciò non esclude, tuttavia, che i partners pongano in essere tra loro attività intermedie di sviluppo, confronto, benchmarking. Rispetto ai partners locali, quali ACB e Spedali, sarà necessario considerare un "allargamento" del Gruppo stesso, a seconda delle specifiche esigenze che richiederà la raccolta di informazioni. A questo punto, il dott. Ferrari ha dato la parola alla dott.ssa Mainardi e all'ing. Rossi per la presentazione delle attività che dovranno essere svolte nell'ambito di questo Gruppo di Lavoro e delle modalità con cui queste si esplicheranno.

La dott.ssa Mainardi ha indicato come dovrà avvenire la ricostruzione dell'organizzazione delle procedure esistenti per la gestione di un evento di crisi, causata dalla diffusione di un'influenza pandemica. Tuttavia, stesso in questa fase sarà possibile individuare eventuali gap del sistema, per i quali sarà necessario proporre opportune soluzioni. La modalità di lavoro proposta prevederà interviste individuali fatte agli esperti che costituiscono il Gruppo di Lavoro e riunioni collegiali necessarie per analizzare l'andamento delle attività.

Le interviste saranno fatte dal team Laser (Mainardi, Rossi, Palazzo) e potranno svolgersi in due tempi, nel caso fossero necessari ulteriori approfondimenti. Inoltre, agli intervistati sarà inviata una traccia dell'oggetto delle interviste, ma non il testo completo, come richiesto dal dott. Lonati, al fine di poter garantire un certo grado di qualità delle risposte.

L'ing. Rossi ha spiegato il suo ruolo di raccolta dei requisiti nell'ambito di questo Gruppo. In quanto ingegnere della conoscenza, avrà il compito realizzare un'elicitazione del dato, vale a dire un'estrapolazione dall'utente dei requisiti necessari per la definizione di un sistema informatico. Nello specifico, per realizzare tale sistema, dovrà effettuare una raccolta dei requisiti, definire un sistema e realizzarlo, in modo che possa rendere delle funzionalità utili all'utente stesso. Quindi, il Gruppo di esperti sarà la fonte della conoscenza per la definizione di questo processo.

Al fine di orientare meglio il lavoro, secondo il dott. Ferrari, sarà importante definire ipotetici scenari in modo da identificare eventi che potrebbero scaturire da un'eventuale caso di pandemia.

Secondo il dott. Baitelli, questo lavoro sarà utile alla stessa ASL, in quanto l'individuazione di eventuali mancanze del sistema potrebbe fornire l'occasione per migliorare ulteriormente il Piano di emergenza già esistente.

La dott.ssa Mainardi ha specificato che il punto di partenza delle attività del Gruppo sarà la raccolta dei documenti già esistenti per la gestione delle emergenze, che ciascuno dei presenti dovrà individuare le procedure inerenti al proprio ambito di attività e capire se queste coprono tutte le specifiche della situazione in oggetto. Quindi, nel primo incontro operativo, sarà necessario avere a disposizione tale materiale, in modo da poter identificare un iter di lavoro. Ha, inoltre, invitato i presenti ad identificare ulteriori figure non convocate in riunione e a considerare, nel loro ambito di competenza, figure che potrebbero essere necessarie per la raccolta delle informazioni precedentemente illustrate.

La dott.ssa Comincini invierà ai presenti nominativi e indirizzi di ciascuno e i documenti dell'ASL inerenti alla gestione delle emergenze.

La riunione si è conclusa alle h 16.30.

Data: 25 Gennaio 2008

Luogo: Laser Soc. Coop.

Oggetto: Attività WP5

Presenti

Ferrari Giacomo

Gelatti Umberto

Orizio Grazia

Cardilli Marina

Mainardi Antonella

Palazzo Emilia

Ordine del giorno: Revisione bozza questionario Wp5

Rapporto

La riunione ha avuto inizio alle ore 15.00

La dott.ssa Palazzo ha indicato l'ordine del giorno ai presenti: revisionare la bozza del questionario predisposto come indagine conoscitiva sui sistemi sanitari di Spagna, Slovenia e Romania.

Il prof. Gelatti ha consigliato di semplificare la prima parte riguardante la struttura organizzativa dei sistemi sanitari a livello nazionale e di focalizzarsi maggiormente nella richiesta di informazioni riguardanti l'unità di sperimentazione. Inoltre, ha suggerito una modifica delle domande inerenti alla catena del comando, in modo da poterle renderle più chiare.

La dott.ssa Mainardi ha definito in maniera più chiara le caratteristiche che dovranno essere

segnalate in merito all'esistenza di una struttura preposta ad hoc per le emergenze, con riferimento ai servizi garantiti, al personale coinvolto e alla relativa catena del comando.

Circa i percorsi formativi, la dott.ssa Orizio ha segnalato la necessità di avere informazioni sull'esistenza e i contenuti di percorsi formativi per il personale sanitario sulla gestione delle emergenze. Con riferimento agli organigrammi relativi al sistema sanitario nazionale italiano e all'ASL di Brescia, è stato deciso di non inserirli nel questionario come allegati, come precedentemente stabilito, dato che non avrebbero una funzione ulteriormente esplicativa rispetto ai sistemi sanitari stranieri. Infine, è stato proposto di rinviare ad una fase successiva la richiesta di ulteriori informazioni, ad esempio riguardanti la presenza e il ruolo svolto da providers privati all'interno del sistema sanitario, se ritenute necessarie per l'acquisizione di una chiara conoscenza di questi sistemi. Il questionario nei prossimi giorni sarà tradotto in lingua inglese ed inviato ai partners stranieri coinvolti nella fase di sperimentazione del progetto.

La riunione è terminata alle ore 18.00.

Data: 29 Gennaio 2008

Luogo: Laser Soc. Coop.

Oggetto: Work package 5

Presenti

Ferrari Giacomo

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Ordine del giorno: Pianificazione attività Gruppo Esperti Wp5

Rapporto

La riunione ha avuto inizio alle 15.00

Il dott. Ferrari ha sottolineato, in merito all'organizzazione delle attività nell'ambito del Gruppo di esperti ASL, che la richiesta di informazioni ai partecipanti del gruppo ASL dovrà riguardare le procedure, i requisiti e le attività di formazione (PDT). A tal fine, la dott.ssa Mainardi, l'ing. Rossi e la dott.ssa Palazzo si occuperanno rispettivamente di questi ambiti di ricerca, con la possibilità di organizzare il lavoro autonomamente e di individuare momenti di collaborazione e di analisi dello stato di avanzamento dei lavori.

La dott.ssa Mainardi ha specificato che sebbene affini, i compiti attribuiti a lei e all'ing. Rossi, si differenzieranno soprattutto nei tempi per la pianificazione delle interviste.

Il problema che ha sollevato riguarda soprattutto la modalità di avvalersi del Gruppo, che finora è stato presentato, ma non ancora legittimato. È necessario, inoltre, che questo gruppo interessi tutte le unità organizzative coinvolte in caso di emergenza pandemica.

Inoltre, analizzando il Piano Pandemico dell'ASL, si evince il ruolo fondamentale del Direttore Generale in caso di emergenza; quindi, la sua presenza all'interno del gruppo sembrerebbe fondamentale. Ai fini della qualità del lavoro, è opportuno che si chiarisca che il Gruppo è autonomo, che si assuma le sue responsabilità e che non sia possibile disconoscere i contenuti del lavoro che produrrà. Quindi, il Gruppo dovrà essere capace di decidere e validare il proprio stato di avanzamento dei lavori. Secondo l'ing. Rossi, la validazione del gruppo da parte del Direttore Generale sarà necessaria per legittimare i limiti che sono stati dati nell'individuazione degli esperti ASL. A tal fine, è stato proposto che venga fissato un appuntamento con il Direttore generale, in modo da poter definire in maniera chiara questi dubbi e procedere nelle attività nel migliore dei modi.

La dott.ssa Palazzo, sentito il dott. Ferrari, contatterà, nella giornata di domani, la segreteria della Direzione Generale dell'ASL e ne darà comunicazione ai presenti.

L'ing. Rossi ha espresso la necessità di fissare una riunione plenaria del Gruppo, a cui parteciperà anche il prof. Guida. In questa riunione indicherà: gli obiettivi specifici della raccolta requisiti dal punto di vista del DSS, il metodo di lavoro, l'allocazione dell'esperto del tema, il piano delle interviste e la necessità di organizzare dei focus group per la validazione del lavoro ottenuto.

La dott.ssa Mainardi, in questa riunione, mostrerà la modalità di rilevazione dei processi, cosa significa "rilevazione dei processi" e come lavorerà il gruppo in merito a ciò. La riunione seguirà l'incontro con il Direttore Generale ed è stata ipotizzata la data di Venerdì 8 Febbraio, nel pomeriggio, presso l'ASL. Nei prossimi giorni si deciderà in merito, in modo da poter avvisare il Gruppo con un congruo anticipo.

La dott.ssa Palazzo invierà il verbale della scorsa riunione ai componenti del Gruppo ASL, richiedendo esplicitamente l'invio, a breve, di procedure alla dott.ssa Mainardi, in modo tale che possa organizzare e pianificare le proprie interviste in maniera mirata e non dispersiva.

Seguiranno aggiornamenti in merito agli appuntamenti ipotizzati.

La riunione è terminata alle ore 17.30.

Data: 4 Febbraio 2008

Luogo: ASL Brescia

Oggetto: Work package 5

Presenti

Scarcella Carmelo

Comincini Fiorenza

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Ordine del giorno: Definizione metodologia di lavoro del Gruppo esperti ASL

Rapporto

La riunione ha avuto inizio alle ore 17.15

La dott.ssa Mainardi ha aperto l'incontro esplicitando il contenuto dell'ordine del giorno. Sulla base del documento inviato dal dott. Baitelli, "*Documento locale per l'attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale*", è necessario che il Dott. Scarcella chiarisca che la composizione del gruppo di esperti sia necessaria e sufficiente a soddisfare l'acquisizione di informazioni inerenti a procedure e requisiti.

Inoltre, è importante che il Direttore Generale definisca le modalità operative del Gruppo di lavoro, in modo particolare, circa la validazione dei risultati che si otterranno.

Il dott. Scarcella ha chiarito che il Gruppo designato fornirà supporto e consulenza all'attività di Laser, nell'ambito del Wp5. Ha ipotizzato che si potrebbe coinvolgere il nuovo Direttore Sanitario ed ha stabilito che per la validazione dei risultati, ottenuti attraverso lo studio delle procedure esistenti, le interviste e l'elaborazione dei requisiti, bisognerà consultarlo.

Secondo il dott. Scarcella, il sistema da predisporre dovrà essere caratterizzato da una forte proiezione esterna all'azienda locale. Sarà necessario considerare i collegamenti che questa ha con Ospedali (circa 20 strutture) e RSA(85 strutture), attraverso il SISS, e le diverse banche dati di cui usufruisce. Queste banche dati considerano diverse tipologie di pazienti: malati cronici, disabili, fruitori dell'assistenza domiciliare. Saranno validi strumenti da considerare, perché in caso di pandemia, sarà fondamentale sapere, per MMG ed ospedali, quanti di questi pazienti saranno ammalati.

Questo perché bisognerà monitorare i movimenti dei pazienti tra domicilio e ricoveri e viceversa. Al SISS, inoltre, sono collegate anche le farmacie (circa 280 unità) presenti sul territorio di competenza dell'ASL di Brescia.

Ciò sarà utile al fine di poter essere aggiornati sulle scorte di farmaci e vaccini. Dato che ciascuna farmacia ha un magazzino informatizzato, si potranno conoscere le quantità presenti di alcuni farmaci in particolare, come antibiotici ed antivirali. Tutte queste informazioni permetteranno di capire l'evolversi del fenomeno e permetteranno al sistema di essere efficiente. A questi aspetti, bisogna aggiungere quello gestionale dell'azienda, che, in caso di pandemia, dovrà fronteggiare l'assenza di personale ammalato.

Quindi, sarà necessario capire il flusso informativo che esiste tra l'ASL e ospedali, RSA e farmacie, disporre che tutti inseriscano dati e che vi siano pagine di consultazione, al fine di poter estrapolare report, senza entrare, tuttavia, nel merito delle procedure assistenziali. Comunque, una volta individuato il progetto di questo sistema, che ha una forte connotazione informativa, non sarà semplice renderlo esportabile fuori dall'ambito bresciano. Inoltre, secondo il dott. Scarcella, bisognerà inserire nel sistema la classificazione del livello di gravità dei pazienti, in modo tale che sia nota a tutti gli operatori, in quanto presuppone un diverso grado di assistenza (domiciliare, ospedaliera, in RSA). L'individuazione di questo standard assistenziale definirà il livello di risorse necessarie per potervi sopperire. Sarà necessaria anche una rappresentazione geografica, che permetta di poter rilevare la collocazione di tutti i presidi, le farmacie, gli studi medici. Ciò permetterà di capire la densità dell'emergenza pandemica su tutto il territorio. Nell'individuazione dei requisiti del sistema, potranno dare un valido supporto all'ing. Rossi, gli ingegneri Brioschi e Campa, dipendenti dell'ASL. Sarà importante, secondo l'ing. Rossi, evitare la duplicazione dei dati, in modo da non causare un disallineamento dei dati stessi del sistema. Inoltre, perché il sistema sia un valido strumento, dovrà contenere informazioni aggiornate per gli operatori, quanto per la popolazione, circa norme di comportamento e l'andamento della pandemia. Quindi, dovrà assicurare una comunicazione verso l'esterno. Riguardo al personale dell'ASL, invece, bisognerà dare indicazioni, ad esempio, circa l'utilizzo dei farmaci e l'efficacia del vaccino. Il sistema, quale strumento aggiornato sulla pandemia, dovrà sia rivolgersi alla gestione dell'azienda sanitaria, che prevedere un sito di informazione e comunicazione con i cittadini. Quest'ultimo aspetto è sicuramente una possibilità innovativa da considerare, dato che l'evento che consideriamo scatenate l'emergenza si sviluppa nei mesi, coinvolgendo tutta la popolazione. Sulla base di quanto detto, l'ing. Rossi ha specificato che sarà difficile entrare nel merito delle procedure sul singolo paziente, ma sarà utile capire come poter definire delle procedure interfunzionali, magari già esistenti, ed eventualmente da rimodulare in caso di pandemia. Il dott. Scarcella ha ritenuto opportuno non considerare come materiale valido, ai fini della ricerca delle procedure, il documento presentato dalla Direzione Sanitaria, datato Dicembre 2007, "Documento locale per l'attuazione del piano regionale di preparazione e risposta ad una pandemia influenzale". La dott.ssa Mainardi ha specificato che il documento era stato inviato dal Dott. Baitelli alla dott.ssa Comincini, poi diffuso agli altri esperti del gruppo, che non ne erano a conoscenza, e al team Laser. Dato che anche il dott. Lonati e il dott. Marinoni hanno inviato documenti inerenti alle procedure adottate dalle singole unità operative a cui appartengono, sarà opportuno che vengano inviati alla Dott. Comincini, in modo tale che si possa controllarne la validità e procedere nella raccolta di informazioni in maniera più chiara. La dott.ssa Palazzo invierà, nei prossimi giorni, alla dott.ssa Comincini il materiale ricevuto dal dott. Marinoni. Quanto ricevuto dal dott. Lonati può essere utilizzato perché è materiale già disponibile sul sito dell'ASL, quindi validato.

La dott.ssa Comincini informerà gli ingegneri Campa e Brioschi, che saranno contattati prossimamente dall'ing. Rossi. L'ing. Rossi predisporrà un ordine del giorno per la riunione dell'8 Febbraio 2008, sulla base di quanto detto in questo incontro.

La riunione è terminata alle ore 18.30.

Data: 8 Febbraio 2008

Luogo: ASL Brescia

Oggetto: Work package 5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

De Filippo Simona

Di Meo Simonetta

Marinoni Tarcisio

Ordine del giorno: Definizione Metodologia di lavoro del Gruppo Esperti ASL

Rapporto

La riunione ha avuto inizio alle ore 14.45.

La dott.ssa Mainardi ha aperto l'incontro con la descrizione del Documento inerente alle caratteristiche del Gruppo di lavoro. Ha poi specificato che obiettivo delle riunioni e interviste sarà l'individuazione dei processi che l'ASL ha predisposto in caso di emergenza, considerando gli attori coinvolti. Dalla letteratura si possono mutuare diverse metodologie per costruire questi processi (bottom-up, top-down, foce-sorgente, ecc...), il gruppo adotterà il metodo foce-sorgente. Ciò sarà utile anche all'ing. Rossi per elaborare i requisiti essenziali alla costruzione del DSS e al partner inglese per effettuare la revisione del processo costruito. Questa revisione avverrà attraverso un completamento ed una verifica delle criticità delle informazioni rilevate.

Ciò necessita la costruzione di percorsi che ricostruiscano le attività dei processi, che saranno poi rappresentati attraverso diagrammi di flusso di livello medio-alto. Saranno diagrammi interfunzionali, in quanto fanno riferimento ad attività di scambi tra gli attori dell'azienda stessa. Nelle interviste che saranno fatte emergeranno elementi di entrata (input che attivano procedure del macro processo) e di uscita (output). E' necessario, quindi, individuare tutti gli attori coinvolti in caso di emergenza e i vincoli cui devono sottostare. Una volta definite le procedure interfunzionali, emergeranno delle condivisioni tra gli attori che non potranno essere trascurate. Inoltre, se necessario ai fini di una valutazione, potranno essere identificati anche degli indicatori.

Quindi, gli esperti del Gruppo dovranno effettuare una fotografia dell'esistente, da cui emergeranno delle carenze e potranno essere avanzate delle proposte. La dott.ssa Comincini, circa il materiale distribuito da alcuni esperti, ha affermato che non dovrà essere considerato, al momento, ai fini della ricerca delle procedure il Piano pandemico predisposto dalla Direzione Sanitaria. L'ing. Rossi ai fini della costruzione del DSS, ha chiesto agli esperti ASL di essere informato circa l'utilizzo della strumentazione informatica che hanno a disposizione.

Ai fini della ricerca dei requisiti sarà essenziale, inoltre, che gli esperti ipotizzino quelli che il sistema dovrebbe contenere, di cui loro avrebbero bisogno. Oltre la fotografia dell'esistente, sarà necessario fare una proiezione dei requisiti, da passare poi a chi costruirà il DSS. È fondamentale che i processi emersi e i requisiti del DSS si sovrappongano, perché questo strumento possa essere utilizzato nell'ambito dell'organizzazione dell'azienda. Attraverso lo schema del diagramma causa-effetto, sarà necessario identificare gli elementi che permettono il raggiungimento dell'obiettivo di Healthtreats: la gestione della crisi, in caso di emergenza sanitaria, in particolare in caso di pandemia influenzale.

Prima di definire questi elementi, onde evitare fraintendimenti, gli esperti ASL hanno chiarito la differenza tra epidemia e pandemia. Si è proceduto, quindi, alla costruzione di un diagramma causa-effetto sugli elementi che concorrono alla rilevazione di una situazione di pandemia. Sulla base di questo, è stato possibile ricostruire il diagramma inerente ai fattori da considerare ai fini della gestione di una crisi, in ambito aziendale, scaturita dalla diffusione di una pandemia influenzale.

Da quanto emerso, la dott.ssa Mainardi ha chiesto la definizione di quello che può essere un evento scatenante la crisi, meglio se intesa come emergenza. La dott.ssa Di Meo ha affermato che sono da considerare le 6 fasi definite dall'OMS, sulla base delle quali si scandiscono differenti interventi dell'ASL. Inoltre, ai fini della pianificazione delle interviste, sarà necessario che ciascuna unità operativa identifichi il proprio flusso informativo. A tal fine, la dott.ssa Mainardi ha invitato ciascun esperto a realizzare uno schema esplicativo. A tal proposito, il dott. Marinoni ha evidenziato la necessità di un'ulteriore riunione plenaria, al fine di definire degli scenari possibili in cui poter individuare le procedure da attivare nel caso di un'emergenza scatenata da una pandemia influenzale. Questo deve essere il passo precedente e necessario all'identificazione dei flussi informativi di ciascuna unità. Per la prossima riunione plenaria è stata ipotizzata la data del 19 Febbraio. Si procederà a chiedere conferma della disponibilità tramite e-mail. La riunione è terminata alle ore 18.30.

Data: 19 Febbraio 2008

Luogo: ASL Brescia

Oggetto: Work package 5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

De Filippo Simona

Di Meo Simonetta

Feltrinelli Daniela

Marinoni Tarcisio

Ordine del giorno: Definizione degli scenari per poter individuare l'applicazione di procedure predisposte in caso di emergenza e individuazione dei flussi informativi che intercorrono tra le diverse unità operative.

Rapporto

La riunione ha avuto inizio alle ore 14.00.

La dott.ssa Mainardi ha aperto l'incontro prendendo in considerazione i due diagrammi causa-effetto, elaborati nella riunione dell'8 Febbraio 2008, inoltrati nei giorni scorsi a tutti i componenti del gruppo esperti, chiedendo loro se fosse necessario apportare ulteriori osservazioni e integrazioni. (vedi allegati n°1-2).

Il Gruppo di Lavoro ha poi definito le Unità operative che sarebbero coinvolte in caso di crisi all'interno dell'Azienda Sanitaria Locale, in caso di diffusione di un'influenza pandemica.

A seguire, gli esperti hanno ipotizzato due possibili casi con cui potrebbe essere diagnosticato un nuovo virus pandemico, in modo tale da poter meglio individuare l'applicazione delle procedure predisposte in caso di emergenza, definirne le modalità di applicazione e identificare i flussi informativi che intercorrono tra le diverse unità operative.

La dott.ssa Di Meo ha specificato, inoltre, che per poter meglio definire queste procedure sarebbe opportuno far riferimento alle fasi definite dall'OMS in caso di diffusione di pandemia influenzale.

Il dott. Boschi ha spiegato che l'OMS ha individuato 6 fasi pandemiche, che attualmente ci troviamo nella terza, e che a ciascuna sono associate azioni di sanità pubblica sia a livello nazionale che internazionale, che ciascun stato deve considerare per la redazione del proprio Piano pandemico.

La dott.ssa Mainardi, sulla base di quanto detto finora dagli Esperti, in relazione agli attori coinvolti e allo scenario in cui ipotizzare la gestione della crisi, ha iniziato la costruzione di uno schema generale sull'individuazione di processi e procedure, di cui il Gruppo ha definito gli input

(Ospedale, Direzione Generale ed OMS), ed alcuni tra i servizi e le attività da mettere in campo. L'elenco dei processi e delle procedure dovrà essere completato indicando gli output, al fine di definire le procedure necessarie a realizzarli. Inoltre, bisognerà specificare la procedura di Continuità assistenziale, stabilendo le attività indagabili, anche in emergenza, e quale strumento può rilevare, in maniera aggiornata, le informazioni circa le risorse a disposizione.

Ciascun esperto invierà alla dott.ssa Mainardi la modulistica inerente alla propria unità operativa in modo tale che possa poi rielaborare tale materiale con quanto detto durante l'incontro, completando lo schema generale ed alcune procedure. Quanto elaborato verrà poi condiviso con i componenti del Gruppo, in modo che possano essere apportate eventuali variazioni entro il prossimo incontro.

I presenti hanno concordato che il prossimo incontro si svolgerà il 3 Marzo 2008, in modo da completare lo schema generale per definire l'elenco dei processi.

Seguirà e-mail di conferma data e disponibilità di ciascun esperto.

La riunione è terminata alle ore 17.45.

Allegato n°1

DIAGRA MMA CAUSA-EFFETTO "PANDEMIA INFLUENZALE" ("ISHIKAWA")

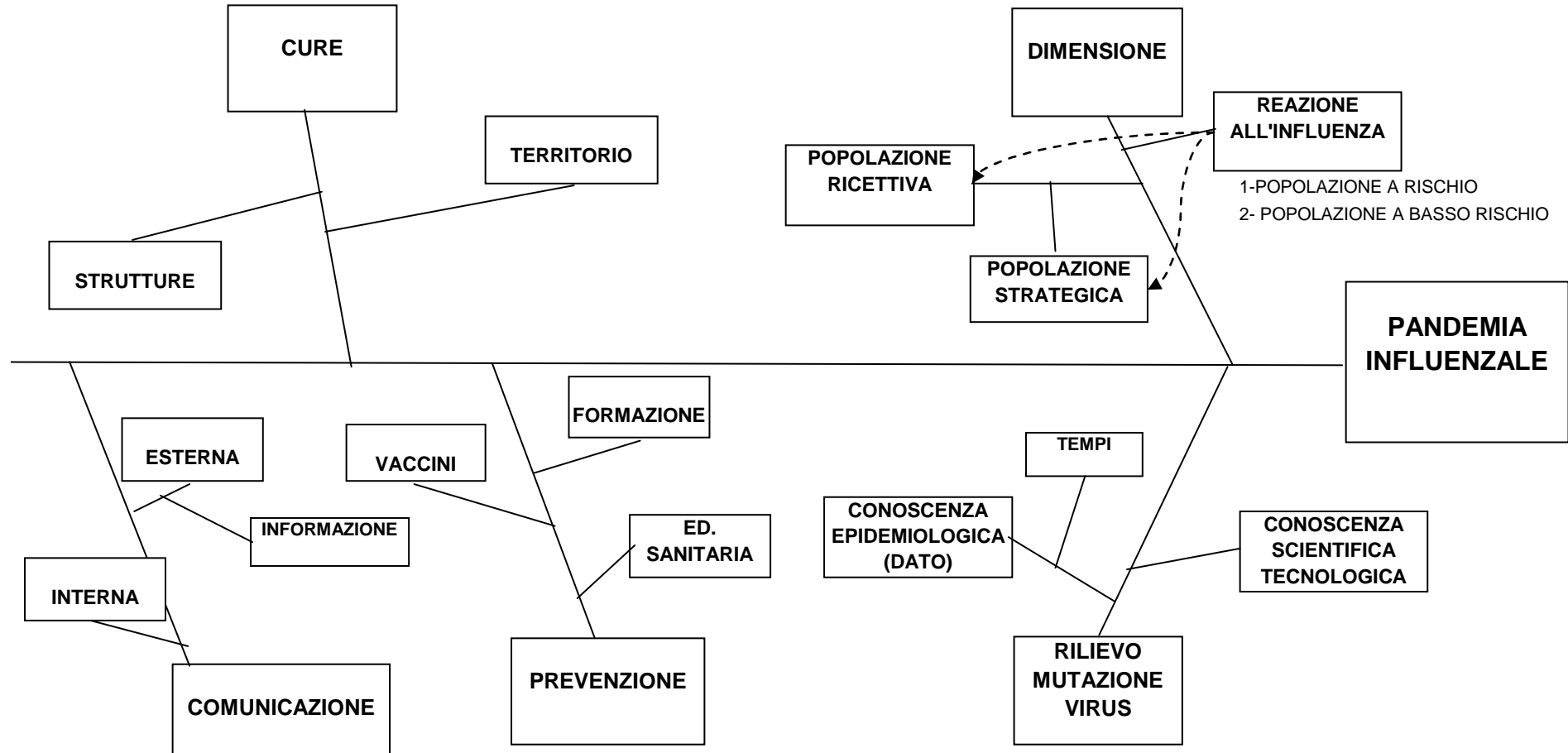
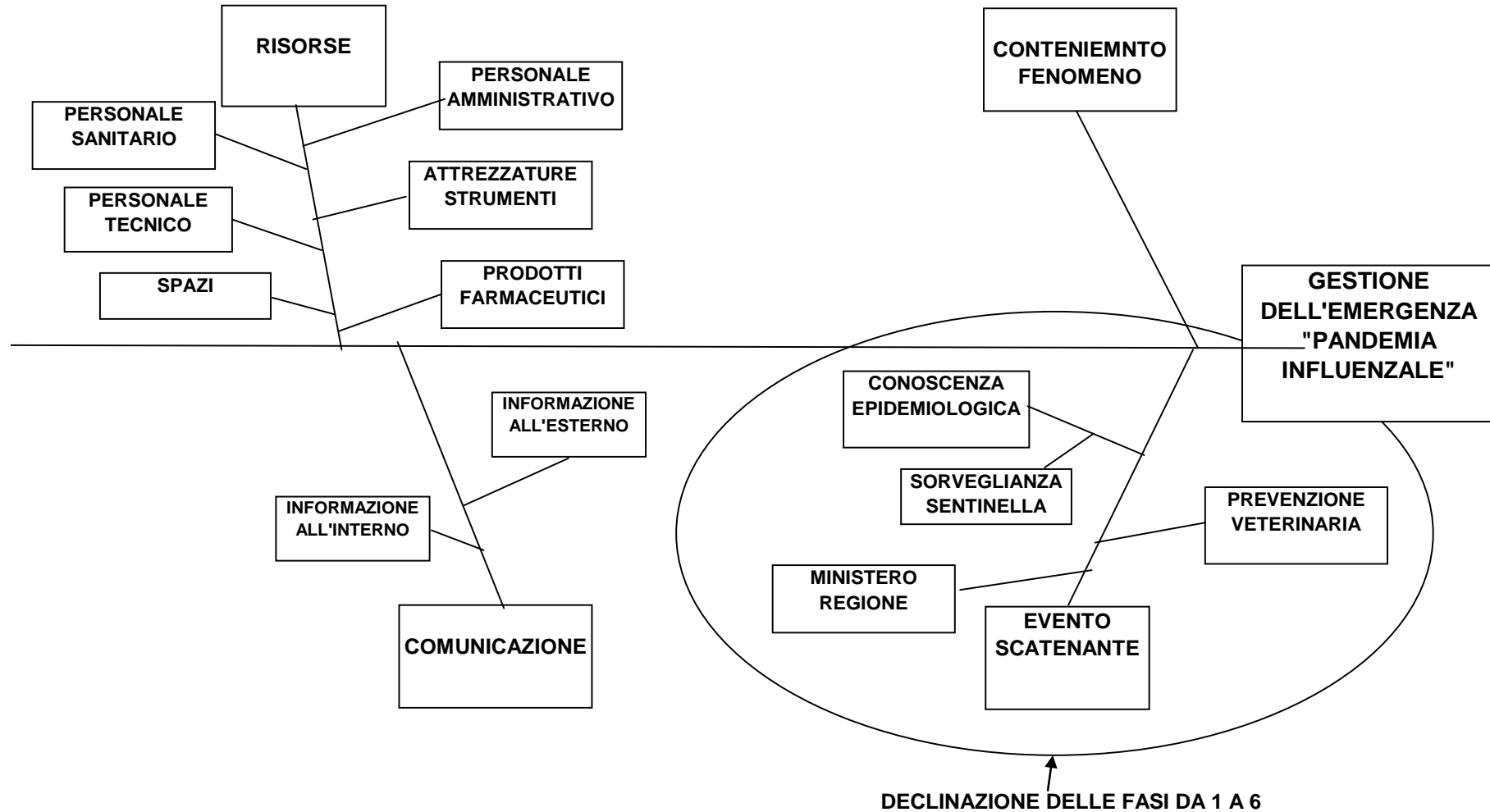


DIAGRAMMA CAUSA-EFFETTO "PANDEMIA INFLUENZALE" ("ISHIKAWA")



Data: 3 Marzo 2008

Luogo: ASL

Oggetto: Work package 5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

Guarinoni Milena

De Filippo Simona

Feltrinelli Daniela

Ordine del giorno: Definizione delle procedure predisposte in caso di emergenza dalle varie unità organizzative dell'ASL.

Rapporto

La riunione ha avuto inizio alle 14.00.

La dott.ssa Mainardi ha aperto l'incontro partendo da quanto ha elaborato sulla base dei contenuti emersi nella precedente riunione con il Gruppo Esperti ASL: uno schema generale di focalizzazione dei processi (vd.allegato n°1) ed alcune procedure, di cui una interfunzionale espressa sulla base del diagramma di flusso strutturato con gli esperti ASL, ed alcune procedure operative, quali "Piano contenimento ricoveri", "Iperflusso alle strutture di ricovero" e il "Piano di Stoccaggio".

Dato che tale materiale è stato inviato al Gruppo di lavoro, in data 26 Febbraio, con la richiesta di una lettura critica e di proporre eventuali variazioni e/o integrazioni, è stata fatta una verifica ulteriore del diagramma di flusso, degli input e delle procedure operative analizzati nella riunione scorsa. La dott.ssa Mainardi ha quindi richiesto espressamente la validazione di questi documenti.

Il Gruppo Esperti ASL ha validato queste procedure.

La riunione è poi continuata con la richiesta da parte della dott.ssa Mainardi di identificare gli output necessari per completare lo schema generale per la definizione dei processi e delle procedure.

È stato chiarito che gli output sono obiettivi che le unità operative sono obbligate a realizzare, e che sono rilevabili dall'analisi del Piano Regionale Lombardo, per quanto riguarda la realtà dell'ASL di Brescia.

Tuttavia, è stato chiarito che tali output sono stati definiti sulla base di requisiti già stabiliti a monte dal Piano Pandemico Nazionale, che si rifà, a sua volta, a quanto previsto dall'OMS.

Quindi l'ASL di Brescia ha il compito di declinare gli obiettivi posti dalla Regione e disporre procedure adeguate al loro raggiungimento.

A tal fine lo studio del Piano Regionale sarà funzionale per individuare le procedure già previste, che saranno fornite alla dott.ssa Mainardi dagli Esperti ASL, e quelle da prevedere per riempire eventuali gap. Sulla base di ciò, il completamento dello schema è stato lo strumento che ha permesso al Gruppo di Lavoro di definire nel concreto i processi e le procedure necessari all'ASL per organizzarsi nel caso in cui si presentasse il caso di un evento pandemico. L'azienda sanitaria infatti deve al tempo stesso rispondere, organizzandosi opportunamente, come detto precedentemente, a disposizioni regionali.

La dott.ssa Mainardi, basandosi sul documento "Linee Guida per la stesura dei Piani pandemici regionali" (allegato al Piano Pandemico nazionale italiano) e sul Piano Pandemico regionale lombardo, ha richiesto agli esperti di indicare i prodotti/servizi che l'ASL deve realizzare per rispondere ai requisiti imposti a livello regionale e nazionale.

In tal modo sono stati definiti gli obiettivi da realizzare, i processi e le procedure che l'ASL deve porre in essere per ottenerli, e le unità operative a cui spetta tale incarico. In base a questo elenco, gli esperti ASL si sono impegnati a fornire, quanto prima, le fonti e il materiale relativo necessario

alla dott.ssa Mainardi per il completamento dell'elaborazione delle procedure che esistono già per rispondere efficacemente all'ipotesi di un situazione di emergenza e per l'identificazione di eventuali mancanze nel sistema.

La dott.ssa Feltrinelli ha fornito in tal sede il materiale (in versione cartacea) relativo al Dipartimento di Prevenzione Veterinaria, inerente a quanto l'ASL di Brescia ha predisposto per la sua unità operativa per il monitoraggio, la sorveglianza degli allevamenti, l'aggiornamento in caso di un focolaio, e quanto previsto per la gestione di un'emergenza pandemica. Sicuramente, si potrebbero prevedere ulteriori modalità, misure più stringenti, ma sono questi strumenti che devono essere predisposti a livelli più alti rispetto all'ASL.

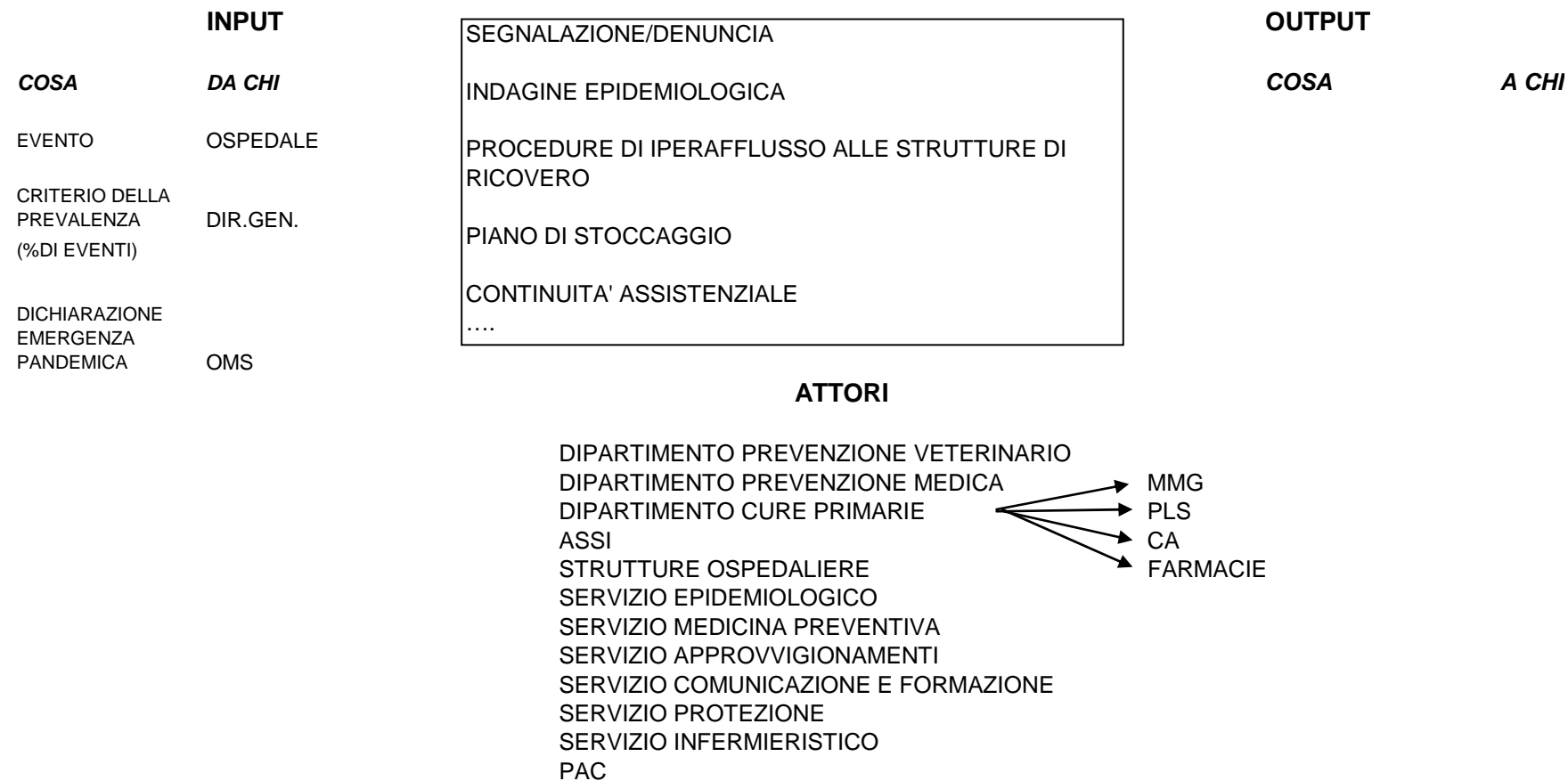
Infine, è emersa la necessità di un riscontro da parte della Direzione Generale per la correttezza di tutte le procedure finora elaborate, in quanto per diventare documento ufficiale del gruppo richiedono ciascuna la firma del Direttore Generale dell'ASL.

Il gruppo di lavoro ha previsto una nuova riunione per il 18 Marzo per il completamento dell'individuazione dei processi. Seguirà e-mail di conferma della data stabilita e disponibilità dei singoli partecipanti.

La riunione è terminata alle ore 17.30.

Allegato 1

SCHEMA GENERALE INDIVIDUAZIONE PROCESSI/PROCEDURE



L'elenco dei processi/procedure è da completare elencando gli output, ovvero riflettendo sui servizi/attività.. di cui si necessita in situazione di emergenza pandemica.

Gli output individuati ci aiuteranno ad elencare e quindi a stendere le procedure necessarie a realizzarli.

E' necessario definire la procedura CONTINUITA' ASSISTENZIALE:

- 1 -stabilire le attività indagabili anche in emergenza
- 2 - strumento aggiornato che mi dà informazioni circa le risorse a disposizione.

Data: 18 Marzo 2008

Luogo: ASL

Oggetto: Work package 5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

De Filippo Simona

Di Meo Simonetta

Feltrinelli Daniela

Marinoni Tarcisio

Ordine del giorno: Definizione delle procedure predisposte in caso di emergenza dalle varie unità organizzative dell'ASL.

Rapporto

La riunione ha avuto inizio alle ore 14.00

La dott.ssa Mainardi ha presentato quanto ha elaborato sulla base dei contenuti emersi nel precedente incontro con il Gruppo Esperti ASL:

- lo schema generale di focalizzazione dei processi/procedure, per il cui completamento era stato richiesto l'invio della documentazione necessaria (vd. Allegato n°1);

- tre nuove procedure: "Piani di informazione sanitaria", "Profilassi con farmaci antivirali", "Piano vaccinazione straordinaria". Dato che tale materiale è stato inviato al Gruppo di lavoro, in data 12 Marzo, con la richiesta di una lettura critica e di proporre eventuali correzioni e/o integrazioni, ne è stata fatta una verifica ulteriore da parte della dott.ssa Mainardi con i presenti. Quindi è stata espressamente richiesta la validazione di questi documenti. Il Gruppo Esperti ASL ha validato queste procedure. La dott.ssa Mainardi ha richiesto al Gruppo di definire in maniera conclusiva l'individuazione dei processi e delle procedure relativi agli output delineati nello schema. Rispetto alle misure di prevenzione e controllo sono state richieste al dott. Baitelli: la stima del fabbisogno di DPI e kit diagnostici e Piani di Approvvigionamento e i Protocolli di utilizzo dei DPI per le categorie professionali a rischio.

Il dott. Baitelli richiederà tali documenti al dott. Politi e li invierà quanto prima alla dott.ssa Mainardi. Gli esperti hanno completato le procedure inerenti alla garanzia del Trattamento e dell'assistenza, al Mantenimento dei servizi sanitari ed essenziali in emergenza, fornendo i rispettivi riferimenti al Piano Pandemico Regionale lombardo e ai suoi allegati.

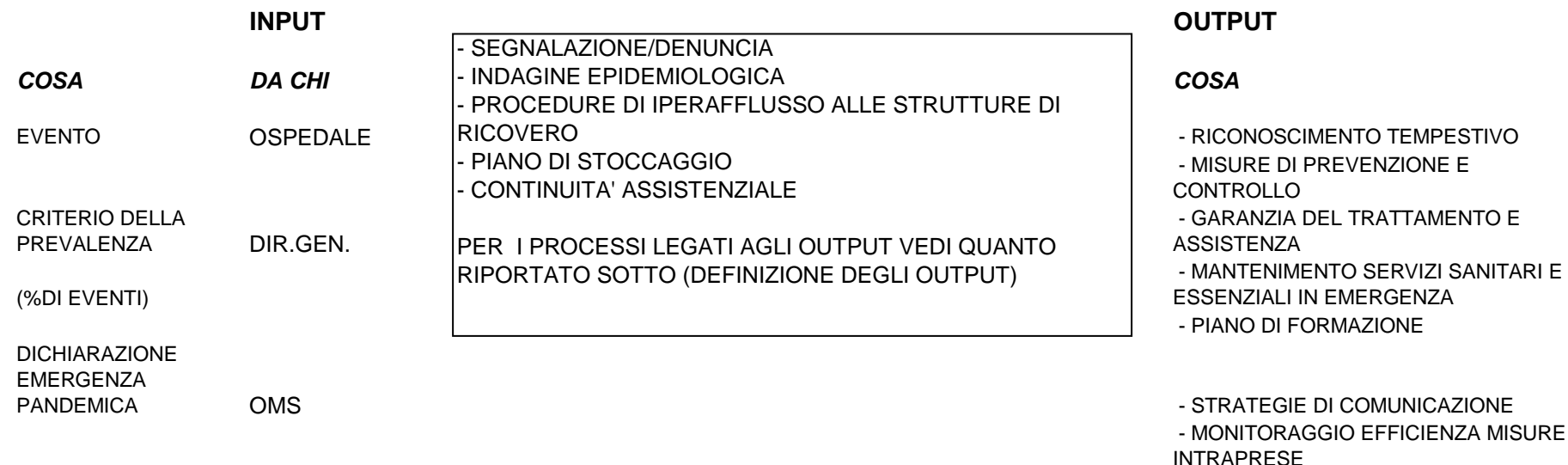
Rispetto al Piano di formazione, il Dott. Baitelli fornirà la documentazione inerente al corso di formazione sulla pandemia, organizzato a livello nazionale, al quale ha partecipato, lo scorso anno, come uno dei rappresentanti della regione Lombardia. La regione, avvalendosi dei suoi formatori organizzerà dei corsi regionali, che a cascata formeranno dei formatori locali, in ambito ASL.

Riguardo a questa tematica, la dott.ssa Palazzo incontrerà il dott. Baitelli per avere maggiori informazioni utili per l'organizzazione della fase di training prevista dal Progetto, nell'ambito del WP8. Riguardo alle strategie di comunicazione, sia interna che esterna, le procedure dovranno essere richieste alla dott.ssa Giovanelli, responsabile del servizio Comunicazione e Formazione dell'ASL. Di tale richiesta verrà messa al corrente la dott.ssa Comincini. Inoltre, come già richiesto nell'incontro precedente, è emersa la necessità di un riscontro da parte della Direzione Generale per la correttezza di tutte le procedure elaborate, in quanto per diventare documento ufficiale del gruppo richiedono ciascuna la firma del Direttore Generale dell'ASL. Per la data del prossimo incontro, ipotizzato nei primi giorni di Aprile, seguirà una richiesta della disponibilità di tutti i partecipanti, tramite e-mail. La riunione è terminata alle ore 17.45.

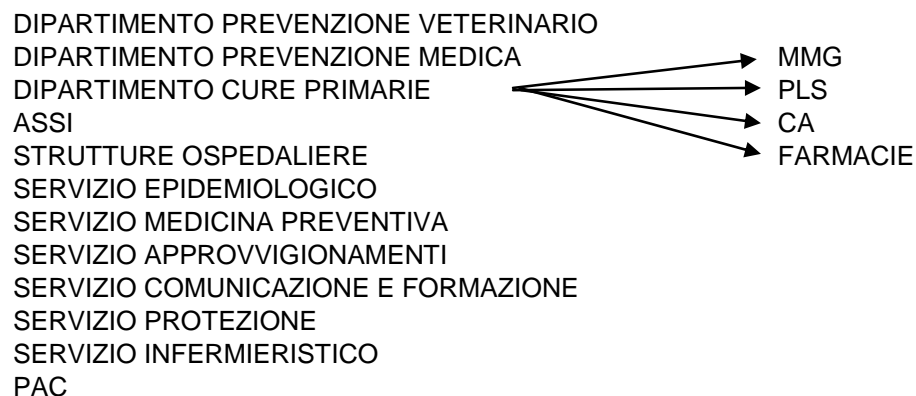
Allegato n°1

SCHEMA GENERALE

INDIVIDUAZIONE PROCESSI/PROCEDURE



ATTORI



L'elenco dei processi/procedure è da completare elencando gli output, ovvero riflettendo sui servizi/attività.. di cui si necessita in situazione di emergenza pandemica.

Gli output individuati ci aiuteranno ad elencare e quindi a stendere le procedure necessarie a realizzarli.

E' necessario definire la procedura CONTINUITA' ASSISTENZIALE:

1 -stabilire le attività indagabili anche in emergenza

2 - strumento aggiornato che mi dà informazioni circa le risorse a disposizione.

DEFINIZIONE DEGLI OUTPUT

Lo schema sopra riportato è lo strumento che ha permesso al gruppo di individuare processi e procedure necessari all'organizzazione al presentarsi dell'evento.

L'organizzazione deve contemporaneamente rispondere, e per questo organizzarsi, a disposizioni di ordine superiore, nella fattispecie a quelle Regionali.

Abbiamo quindi preso in esame le Linee guida per la stesura dei Piani Pandemici Regionali, quindi di fatto il Piano Regionale.

Questi ci indicano gli output dello schema sopra riportato, cioè i prodotti/servizi che la nostra organizzazione deve realizzare nel rispetto dei requisiti imposti dalla norma citata.

Secondo l'approccio da noi scelto (foce-sorgente) possiamo risalire a processi/procedure indispensabili alla realizzazione degli output richiesti e individuati.

OUTPUT	PROCESSI/PROCEDURE	TITOLARE (OWNER)
- RICONOSCIMENTO TEMPESTIVO	Censimento allevamenti di pollame. Sistema di sorveglianza attiva Attuazione dei protocolli nazionali di sorveglianza epidemiologica Modalità di rilevazione settimanale del numero di accessi al pronto soccorso Rilevazione settimanale decessi comuni Rilevazione tassi di assenteismo lavorativo e scolastico	Dip.Prev.Veterinario Dip.Prev.Veterinario Baitelli PS Ospedale civile ACB NON PREVISTO
- MISURE DI PREVENZ. E CONTROLLO	Piani di informazione sanitaria Stima del fabbisogno di DPI e kit diagnostici + piani di approvvigionamento Protocolli di utilizzo DPI per categorie profes. a rischio Modalità di isolamento pazienti con sintomatologia sospetta Modalità di isolamento, quarantena e sorveglianza attiva dei contatti	PROINF 01 Baitelli fa avere Baitelli fa avere Ig. Pubblica, MMG, ASSI, SITRA, COMUNI Ig. Pubblica, MMG, ASSI, SITRA, COMUNI

	Attuazione modalità per chiusura scuole, comunità e/o sospensione manifestazioni e eventi di massa per rallentare la diffusione dell'infezione	Direz. Sanitaria, Direz. Generale, CSA, COMUNI
	Profilassi con farmaci antivirali	PROPROF 01 Baitelli, Lonati, Soardi
	Vaccinazione	PROVACCIN 01 Baitelli, Lonati, Soardi
- GARANZIA DEL TRATTAM. E ASSIST.	Censire disponibilità strutture	PROIPER 01
	Identificare strutture per il trattamento...	PRORICOV 01
	Valutare fattibilità di flussi ad hoc per triage e ricovero pazienti con sintomatologia sospetta	
	Individuare luoghi alternativi per cure mediche	
	Approvvigionamento stoccaggio e distribuzione antivirali	PROSTOC 01
	Censimento popolazione che fruisce di forme assistenziali domiciliari	
	Linee guida per distribuzione di antivirali a scopo terapeutico.	
- MANTENIMENTO SERVIZI SANITARI E ESSENZIALI IN EMERGENZA		
- PIANO DI FORMAZIONE		
- STRATEGIE DI COMUNICAZIONE		

Data: 20 Marzo 2008

Luogo: Laser Soc. Coop.

Oggetto: Work package 5

Presenti

Orizio Grazia

Mainardi Antonella

De Rosa Nicola

Cardilli Marina

Venditti Stefano

Palazzo Emilia

Ordine del giorno: Elaborazione contenuti II Questionario

Rapporto

La riunione ha avuto inizio alle ore 16.00.

La dott.ssa Orizio ha proposto di modulare la bozza già predisposta per il II Questionario ai contenuti del documento “*WHO checklist for influenza pandemic preparedness planning*” (2005), che ha come obiettivo il potenziamento della capacità dei diversi stati di riconoscere e gestire la diffusione di un’influenza pandemica.

Il II Questionario sarà inviato ai partners JSI, RSDM e SEC, coinvolti nella fase di sperimentazione del progetto, al fine di rilevare le procedure predisposte per la gestione di una crisi determinata dalla diffusione di un’influenza pandemica.

I presenti hanno analizzato il documento dell’OMS ed hanno rielaborato i diversi punti del questionario, in modo tale che tali contenuti possano essere utilizzati sia nell’ambito delle attività del WP5 per la rilevazione dei processi, che per la comparazione dei contenuti dei Piani nazionali prevista nell’ambito del Wp4. La dott.ssa Orizio, nei prossimi giorni, invierà una rielaborazione del testo del questionario, sulla base di quanto discusso. La dott.ssa Palazzo entro la prossima settimana invierà il II Questionario ai partners rumeno, sloveno e spagnolo.

La riunione è terminata alle ore 17.30.

Data: 16 Aprile 2008

Luogo: Direzione Generale ASL Brescia

Oggetto: Attività WP5

Presenti

Scarcella Carmelo

Ferrari Giacomo

Comincini Fiorenza

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

De Filippo Simona

Di Meo Simonetta

Feltrinelli Daniela

Marinoni Tarcisio

Ordine del giorno: Verifica di quanto stabilito dal Dott. Scarcella in merito alla correttezza delle procedure elaborate e validate dal Gruppo di Lavoro.

Rapporto

La riunione è iniziata alle ore 16.30.

La dott.ssa Mainardi ha presentato al Direttore Generale il lavoro svolto dal Gruppo di lavoro. Ha esposto le regole con cui il gruppo ha lavorato e gli argomenti da cui si è partiti per arrivare alla definizione delle procedure delle diverse unità operative coinvolte in caso di pandemia influenzale.

Ha spiegato che si è ragionato in merito alla pandemia influenzale, alla gestione dell'emergenza: cosa significa e rispetto a questo obiettivo quali sono le cause. Sono stati poi considerati le fasi individuate dall'OMS, il Piano nazionale italiano di risposta alla diffusione di un'influenza pandemica, il piano regionale lombardo e i documenti che ciascun componente del gruppo ha ritenuto opportuno considerare nell'ottica del lavoro che si stava svolgendo. È stata impostata l'analisi organizzativa del sistema ASL, attraverso uno schema generale, in cui sono stati definiti gli input, gli attori dei macro procedimenti, le procedure e gli output. Sono state poi verificate le procedure costruite e validate all'interno del gruppo esperti ASL, nelle versioni che sono state consegnate al Direttore Generale. Quindi, sono stati considerati i documenti elaborati e validati entro il 18 Marzo 2008.

La dott.ssa Mainardi rispetto ad alcune procedure, quali:

- modalità di rilevazione settimanale del numero di accessi al Pronto Soccorso;
- rilevazione settimanale dei decessi;
- rilevazione dei tassi di assenteismo lavorativo e scolastico,

ha fatto espressamente richiesta al dott. Scarcella di avere i referenti dei partners ACB e Spedali Civili, al fine di poter avere informazioni in merito.

Il dott. Scarcella ha affermato che l'ASL deve garantire, in caso di pandemia influenzale, un efficiente livello di assistenza alla popolazione, quindi deve conoscere il numero di persone che assistono, non solo quello dei ricoveri. A tal fine, sarebbe opportuno incrociare il dato relativo all'assenteismo con quello relativo alle scorte su presidi significativi (antivirali, alcuni antibiotici per patologie correlate). Dunque, sarebbe utile avere una check-list in cui inserire i prodotti significativi, con una rilevazione settimanale. Gli ospedali avranno scorte per le situazioni di emergenza, soprattutto per i ricoveri che avranno bisogno di trattamenti intensivi. Si potranno rilevare questi dati non solo rispetto agli ospedali, ma anche per Case di cura ed RSA; inoltre potranno essere integrati con dati che si riferiscono a prodotti sentinella nelle farmacie delle strutture considerate. Questo potrebbe diventare un indicatore al fine di poter capire la buona gestione della struttura, in caso di emergenza. Ciò darebbe senso alla possibilità di utilizzare un sistema di supporto alla decisione in caso di emergenza in maniera più efficiente, il che implicherebbe, quindi, un'attività di ricerca dei dati molto raffinata.

Dato che il DSS non è previsto dal Piano Regionale di risposta e preparazione alla diffusione ad una pandemia influenzale, questa modalità di gestione renderebbe l'ASL di Brescia capace di decidere in maniera più autonoma rispetto alla Regione. Per lo stoccaggio dei vaccini, esiste una centrale acquisti regionale, il che implica una dipendenza dalla Regione. Quindi, bisognerebbe rilevare l'andamento delle scorte in contesti strategici per la gestione dell'emergenza, quali le RSA, le farmacie territoriali, le Case di cura, gli ospedali. Dato che la gestione aziendale non fa più acquisti, ma fa riferimento all'ATF e al CEF, monitorando quest'ultimo si potrebbe rilevare l'andamento delle scorte farmaceutiche. Sarebbe, quindi, importante rilevare informazioni dal CEF o dagli Spedali Civili, per sapere se esistono accordi specifici in caso di emergenza con aziende farmaceutiche e quali sono i tempi di rifornimento. Al fine di ottenere valide informazioni in merito, si dovrà contattare il Responsabile della farmacia degli Spedali Civili.

La dott.ssa Comincini dovrà provvedere ad individuare i riferimenti per poterlo incontrare.

Sempre rispetto alla dinamica forniture-scorte, bisognerebbe reperire informazioni anche in merito alle RSA: se ci sono accordi per aumentare la richiesta di materiale sanitario, qual è il preavviso e da dare a chi. Dato che l'emergenza pandemica attraversa diverse fasi è possibile predisporre le attività da svolgere in base a queste.

Quindi bisognerà identificare:

- le procedure in base alle differenti fasi di emergenza;
- diverse fasi di monitoraggio attraverso informazioni relative al numero dei morti e a come le strutture della rete si stanno organizzando;
- coordinare le attività monitorate con i flussi informativi.

La dott.ssa Mainardi costruirà un diagramma di flusso, in modo da spiegare le differenti procedure che si attivano nelle varie fasi dell'emergenza pandemica. Ciò dovrà allinearsi al risultato del lavoro dell'ing. Rossi, rispetto all'elaborazione dei requisiti che dovrà avere il DSS.

Secondo il dott. Scarcella, inoltre, dovranno essere individuati i procedimenti interni all'azienda inerenti allo spostamento del personale ASL, in caso di emergenza, al fine di poter garantire l'erogazione di determinate prestazioni. In merito a questo, il dott. Scarcella ha chiesto da piano Regionale lombardo quali sono le prestazioni da dover garantire in caso di pandemia.

Il dott. Baitelli ha risposto che in base a questo documento le prestazioni da erogare fanno riferimento all'Igiene Pubblica e che bisognerà sospendere tutto ciò che non sarà attinente con questo tipo di emergenza.

Il piano pandemico che dovrà essere predisposto dall'ASL di Bs, dovrà prevedere, quindi, la smobilitazione del personale per indirizzarlo verso determinate attività. Bisognerà predisporre un raccordo tra l'Assistenza Domiciliare e il servizio Infermieristico.

Inoltre, la simulazione del modello re-ingegnerizzato prevederà il coinvolgimento di un Distretto. Si definirà in seguito dove e come organizzarla.

Il dott. Marinoni, rispetto al potenziamento di alcune prestazioni rispetto ad altre in caso di pandemia, ha evidenziato che non esiste al momento un metodo di rilevazione di assenza dei MMG/PLS/MCA. Questi ultimi dovranno essere sempre reperibili, in modo da poter garantire la sostituzione dei MMG o un supporto alla loro attività. Inoltre, dato che presso l'ASL di Bs, si sta già impostando un sistema di collaborazione tra MMG e MCA, questo dovrà essere consolidato in vista di un'organizzazione dell'azienda in caso di emergenza. In tal caso, infatti, i MCA dovranno essere attivati anche di notte e bisognerà gestire la maggior parte delle situazioni a rischio a domicilio, eliminando qualsiasi forma di attività ambulatoriale presso i MMG.

Quindi, bisognerà monitorare le quantità di DPI, le scorte dei presidi per i MCA, in collaborazione con il SITRA.

Rispetto alle procedure della Comunicazione, il Dott. Scarcella ha incaricato la dott.ssa de Filippo di predisporre un nuovo documento che integri la procedura inerente all'Informazione sanitaria.

La dott.ssa de Filippo ha spiegato quali sono state le indicazioni in merito.

Bisognerà prevedere procedure relative a :

- una comunicazione esterna verso la popolazione, i gruppi a rischio;
- una comunicazione interna;
- un call center;
- forme di supporto psicologico sia per gli operatori che per la popolazione.

Tuttavia, è stato poi chiarito che quest'ultimo punto rientra nell'abito della funzione assistenziale.

Bisognerà predisporre un potenziamento del Servizio Comunicazione dell'Asl e le procedure di collegamento con i media, del sito dell'azienda e l'ampliamento del call center aziendale.

In merito a questo è stato già fatto un corso per operatori sanitari, che andrebbero ad integrare gli addetti ordinari in caso di emergenza. Infatti, in questa situazione, il call center funzionerebbe per h24, 7 giorni alla settimana, richiedendo un numero maggiore rispetto a quello degli addetti non sanitari.

Inoltre, si potrà attivare un numero verde riservato ai soli operatori sanitari, ai MMG, PLS, MCA, a coloro che lavorano in RSA e altre strutture coinvolte nella gestione dell'emergenza pandemica. Questo sarà un utile strumento per gli attori della rete sanitaria e socio-assistenziale.

La comunicazione avverrà attraverso una rete INTRANET, con e-mail e sms in modo tale che gli operatori possano essere sempre in contatto con il call center.

Con l'integrazione di operatori sanitari presso il call center sarà possibile, inoltre, gestire la Continuità Assistenziale, dato che le sedi della Guardia Medica saranno chiuse al pubblico, attraverso un unico numero per tutto il territorio di appartenenza dell'ASL di Bs. Si potranno prevedere in merito a questa attività corsi di formazione per gli assistenti sanitari ed il personale infermieristico. Sarà quindi opportuno avere, presso gli Spedali Civili, un riferimento nell'ambito del Pronto Soccorso. La dott.ssa Comincini si occuperà di chiedere agli Spedali tale referente.

La dott.ssa Mainardi ha chiesto espressamente al Direttore Generale, in base a quanto presentato e discusso, la validazione delle procedure. Il dott. Scarcella ha validato questi documenti.

Tuttavia, in merito ad alcune procedure dovranno essere apportate delle modifiche inerenti alla forma. Si fa riferimento in particolare a:

- Procedura PRORIC 01 e la Procedura PROEMRSA REV 00, che sembrano sostanzialmente coincidere (l'una è semplicemente l'introduzione e descrizione dell'altra);

- Procedure PROSTOC 01 REV 01, in cui vengono solo nominati i tre protocolli (approvvigionamento DPI, approvvigionamento materiale per la disinfezione degli allevamenti da parte della Stazione di Disinfezione, procedure e protocolli adeguati per l'abbattimento e lo smaltimento degli animali e delle loro carcasse)

- Procedura PROCONTIN 01 REV 00, in cui viene nominata la dirigente responsabile che ha raccolto il protocollo, che non dovrebbe apparire.

Rispetto alla comunicazione, invece, la dott.ssa De Filippo invierà un documento in cui sarà elaborato, in modo procedurale, quanto proposto dal Dott. Scarcella.

Il Gruppo di lavoro ha previsto una nuova riunione per il 7 Maggio, alle 14.30, al fine di completare le procedure rilevate. Seguirà e-mail di conferma della data stabilita e disponibilità dei singoli partecipanti. La riunione è terminata alle ore 18.00.

Data: 29 Aprile 2008

Luogo: Laser Soc. Coop.

Oggetto: Work package 5

Presenti

Marzollo Paolo

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Ordine del giorno: Rilevazione informazioni in merito alle procedure, ai requisiti del DSS e al training inerenti alle attività degli Spedali Civili.

Rapporto

Il dott. Marzollo indica come documenti importanti per la rilevazione delle informazioni richieste dalla dott.ssa Mainardi e dall'ing. Rossi

- il dossier "INDICAZIONI OPERATIVE PER LA GESTIONE DELLE EMERGENZE SANITARIE (D.G.R. 504/05). EMERGENZE INFETTIVOLOGICHE", inviato dagli Spedali Civili di Brescia alla Direzione Generale e Sanitaria dell'ASL di Brescia, il 5 Dicembre 2006;

- il Manuale Qualità del 118 (in cui sono indicate anche le procedure inerenti al coinvolgimento in caso di emergenza dei volontari che operano all'interno del Pronto Soccorso).

Il Pronto Soccorso non fa mai denuncia diretta di rilevazione di un caso di persona affetta da malattia infettiva, in quanto non ha gli strumenti per diagnosticare realmente la modificazione del virus. Nel caso di paziente sospetto, questi viene fatto ricoverare presso la Clinica Infettivi, che è parte degli Spedali Civili e che darà le opportune comunicazioni all'ASL. In merito alla rilevazione settimanale dei decessi, c'è una comunicazione di decesso per malattia infettiva.

Questo viene segnalato nel certificato medico e reso noto all'ASL attraverso telefono, fax. Entro 12 ore dal decesso, infatti, il medico dell'ASL deve effettuare un necroscopo, valutando il referto del medico curante. Quindi, la segnalazione di caso di malattia infettiva può arrivare entro le 24 ore dal decesso, perdendo la caratteristica di tempestività che dovrebbe caratterizzarla. Sarebbe necessario, dunque, riflettere sull'arco temporale disponibile, in modo da poter intervenire immediatamente ed attivare nel breve il flusso di segnalazione verso la Regione.

Circa lo stoccaggio dei farmaci, non ci sono accordi con aziende farmaceutiche in merito ad una situazione di emergenza, che potrebbe scaturire dalla diffusione di una pandemia influenzale.

In merito a questo aspetto, il dott. Marzollo ha suggerito di far riferimento alla delibera regionale n°504 del 2005, a cui fa riferimento anche il Piano regionale lombardo di preparazione e risposta alla diffusione di una pandemia influenzale. Ci sono sostanze stoccate in vari presidi, quali gli stessi Spedali Civili, il deposito dell'Ospedale Niguarda di Milano, che sarebbero utili nei vari casi di emergenza (batteriologicala, chimica,...). Per l'approvvigionamento, la Regione Lombardia definisce le linee guida ed esiste un monitoraggio autonomo da parte dei vari presidi, che devono prevedere scorte per coprire sia la richiesta delle aziende pubbliche che private.

Data: 7 Maggio 2008

Luogo: Direzione Generale ASL Brescia

Oggetto: Attività WP5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Baitelli Guglielmino

Boschi Giuseppe

De Filippo Simona

Di Meo Simonetta

Feltrinelli Daniela

Marinoni Tarcisio

Ordine del giorno: Verifica modifiche/correzioni apportate ad alcune procedure. Analisi del flusso "segnalazione/denuncia" con gli esperti ASL

Rapporto

La riunione è iniziata alle ore 14.30

La dott.ssa Mainardi presenta al Gruppo di lavoro il diagramma di flusso come rielaborato a seguito dell'incontro con il dott. Marzollo (Spedali Civili) e dell'allineamento dello stato di avanzamento dei lavori con quanto prodotto dall'ing. Rossi circa la definizione dei requisiti del DSS.

Con i medici si è discusso in merito alla manifestazione sintomatologica sospetta e al dove possa essere rilevata dal MMG/PLS. Dato che a seguito di una telefonata da parte del cittadino al MMG o al PLS, la possibilità più realistica è che il paziente si rechi presso l'ambulatorio del medico, ma non si può escludere che questi possa recarsi a domicilio, nel diagramma di flusso si manterranno entrambe le possibilità. In merito alle procedure di trasmissione dei dati, il dott. Baitelli ha spiegato il programma MAINF. È questo un flusso automatizzato non solo dall'ASL verso la Regione, ma anche da questa verso il Ministero. È un sistema informatizzato che svolge una sorveglianza delle malattie infettive ritenute rilevanti. È una sorveglianza passiva, che attualmente non è prevista per l'influenza. Nel giorno in cui questa dovesse essere considerata una malattia infettiva rilevante, la sua sorveglianza seguirà le procedure di questo programma.

La sorveglianza attiva, invece, avviene attraverso INFLUENT, tramite i medici sentinella (sono 10

nella provincia di Brescia).

Quindi, nel diagramma di flusso, la comunicazione alla Direzione Sanitaria dell'ASL e alla Regione, allo stato attuale, non segue quanto prevista dal programma MAINF, ma logiche sequenziali di routine. Completata la presentazione del diagramma, sono state presentate dalla dott.ssa Mainardi le procedure oggetto di correzioni/modifiche da parte degli esperti, sulla base delle indicazioni sollevate durante l'incontro del 16 Aprile 2008.

Il Gruppo di lavoro ha validato le modifiche apportate alle procedure inerenti a:

- informazione sanitaria;
- contenimento ricoveri;
- continuità assistenziale;
- profilassi
- isolamento casi sospetti.

La dott. ssa Mainardi ha presentato, infine, agli esperti l'intervento che esporrà durante il meeting di Barcellona, in merito alla metodologia di lavoro utilizzata dal Gruppo di lavoro che sta conducendo. La riunione è terminata alle ore 17.00.

Data: 20 Maggio 2008

Luogo: Associazione Comuni Bresciani

Oggetto: Work package 5

Presenti

Alberti Domenico

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Ordine del giorno: Informazioni da identificare nell'ambito dei comuni o di un Comune in merito alle procedure da attivare in caso di pandemia influenzale.

Rapporto

La riunione ha avuto inizio alle 10.30.

La dott.ssa Mainardi e l'ing. Rossi hanno richiesto informazioni in merito a procedure esistenti che i Comuni dovrebbero applicare in caso di emergenza pandemica, rimanendo tuttavia nell'ambito di quelle che si collegano alle attività che svolgerebbe l'ASL in tale scenario. Il dott. Alberti ha segnalato che sulla base di una segnalazione fatta dall'ASL, il Sindaco potrebbe firmare un'ordinanza di chiusura delle scuole per motivi di questioni sanitarie e di ordine pubblico.

In merito all'assenteismo scolastico, i dati non sono più trasmessi all'Ufficio Provinciale Scolastico, ma è un dato gestito dal Dirigente scolastico. Questi potrebbe decidere la chiusura di una scuola, in caso di pandemia, nel caso in cui, ad esempio, non ci fossero insegnanti per poter svolgere le attività di routine dell'istituto. Per quanto riguarda gli eventi di massa, invece, la sospensione spetta solo al Sindaco ed è stabilita sulla base del livello di accertamento dell'emergenza, che comunque viene fornito dall'ASL.

Il dott. Alberti, infine, ha evidenziato che, a differenza dell'ambito socio-assistenziale, dove il Sindaco può decidere sulla base di un proprio supporto, fornito da specifici uffici comunali, questo non può avvenire in ambito sanitario, dove il comune non ha un ufficio tecnico preposto in merito. Quindi, il Sindaco, in caso di una pandemia influenzale, dovrebbe far riferimento unicamente alle informazioni fornitegli dall'ASL.

La riunione è terminata alle ore 12.00.

Data: 29 Maggio 2008

Luogo: Laser Soc. Coop.

Oggetto: Work package 5

Presenti

Mainardi Antonella

Rossi Michele

Palazzo Emilia

Ordine del giorno: Struttura e contenuti Report D4

Rapporto

La riunione è iniziata alle ore 14:30.

I presenti hanno analizzato la bozza della struttura del report D4, in merito alle attività svolte nell'ambito del task 5.1. Il Deliverable 4 dovrà essere inviato ai partners entro il mese di Giugno.

Sono stati presi in considerazione come elementi costituenti il Deliverable 4 e aggiornati, quando ritenuto opportuno, i seguenti documenti:

- il piano di lavoro del WP5;
- la metodologia adottata dall'ing. Rossi e dalla dott.ssa Mainardi;
- i report finali dei lavori svolti;
- lo schema inerente la tempistica dei lavori;
- i questionari inviati ai partners stranieri;
- i verbali delle riunioni.

Questo report sarà integrato nei contenuti, nella metodologia adottata e nella tempistica dalle attività del task 5.2, di cui se ne occuperà il partner Argonet. Questi imposterà il proprio lavoro sulla base di quanto prodotto dall'ing. Rossi nella raccolta dei requisiti del DSS.

La consegna di questo documento ad Argonet è prevista per la prima metà di Giugno.

La riunione è terminata alle ore 17.30.

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