



**Workshop on Health Programme projects on Generic
Preparedness Planning and response in health emergencies**

30 September and 1 October 2009

HITEC Building - Luxembourg

**Integrated Decision Support System for
HEALTH THREATS and crises
management
(HEALTHREATS PROJECT)**





The Mission

HEALTHREATS addresses solutions to enhance the capability of health institutions in Europe of responding efficiently and in a co-ordinated manner to threats to health

Focus on:

- **local/regional level**
- **pandemic influenza**



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The motivation

HEALTHREATS:

- understands the existence of international and national guidelines for facing health threats but at the same time the absence of effective tools and support for translating such high-level guidelines in operational procedures at local, provincial and regional level
- recognises the lack in the available projects and solutions of an integrated system addressing all necessary aspects of health threats management (informational, organisational, procedural and operational)





The main phases

- **Assessment of the international state-of-the-art in the field (WP4)**
- **Identification of a set of requirements shared by health organisations in several European countries (WP5)**
- **Definition of a general methodology and a coordinated set of processes to manage a health crisis event (WP6)**
- **Development of an innovative decision support system (DSS) for health managers facing threats and crises (WP7)**
- **Design of a learning programme to promote training of the personnel involved in health crisis management (WP8)**





The main results



HEALTHREATS will result in a package including Processes, DSS and Training, in short PDT, that will be tested and validated in Italy, Slovenia, Romania, and Spain



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The envisaged impact

- **Upon successful evaluation, the application of the PDT package in other EU countries and regions will be considered**
- **A continuous dissemination activity accompanies the whole project deployment**





The partnership

Project leader

**Local Health Authority of
Brescia (ASL Brescia) among
the most important provincial
health authorities in Northern
Italy**













General Director: Dr. Carmelo Scarcella



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The partnership

| | | |
|---|--|-----------------|
|  | Argonet srl | Italy |
|  | Associazione Comuni Bresciani | Italy |
|  | Departament de Salut de la Generalitat de Catalunya | Spain |
|  | Institut za varovanje zdravja | Slovenia |
|  | Josef Stefan Institute | Slovenia |
|  | Istituto Agilus de Inovação em Tecnologia de Informacao | Portugal |
|  | Laser Soc. Coop. | Italy |
|  | Azienda Ospedaliera Spedali Civili di Brescia | Italy |
|  | Romanian Society for Disaster and emergency medicine | Romania |
|  | Università degli Studi di Brescia | Italy |



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Timeline

- **Project start: May 31 2007**
- **Project end: September 30 2010**
- **WP4, WP5, WP6 completed**
- **WP7, WP8 running**
- **General work packages lasting all project as usual (Management WP1, Dissemination WP2, Evaluation WP3)**





Assessment of the international state-of-the-art in the field (WP4)

- **Coverage**
 - Scientific Literature
 - Official Documents
 - DSS for emergency management in the health area
- **Main result : state-of-the art document (Deliverable 3)**





WP4: Scientific literature

| | ARTICLES ABOUT THEORETICAL MODELS | ARTICLES CONCERNING MANAGERIAL MODELS |
|---|-----------------------------------|---------------------------------------|
| GENERAL ARTICLES CONCERNING EMERGENCY MANAGEMENT | A | C |
| SPECIFIC ARTICLES CONCERNING PANDEMIC FLU AND OTHERS SPECIFICS THEMES | B | D |





WP4: Scientific literature

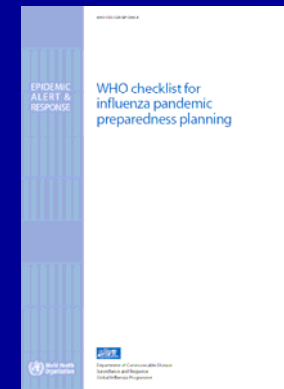
- Many studies on different specific aspects of the crisis management or pandemic influenza problem
- The study of integrated approaches addressing the problem as a whole has received lesser attention in the literature





WP4: Official documents

1. General issues
2. Surveillance
3. Case investigation and treatment
4. Preventing spread of the disease in the community
5. Maintaining essential services
6. Working out a training plan
7. Planning suitable communication strategies
8. Progress/efficiency indicators of the adopted measures



**OTHER EU
COUNTRIES**

USA

...





WP4: Official documents

- Substantial effort at national and international level
- Preparedness appears to be one of the major open questions, especially at local/regional level
- Potential gap between plans/procedures and putting them into practice





WP4: DSS

| TYPE OF EMERGENCY | DSS |
|---|---|
| Natural event (earthquake) | GDACS, DMT |
| Terrorism | MUSKETEER, HAZMAT |
| Accidents (airport) | POSGEA |
| Accidents (chemical, biological, radiological, nuclear) | COBRA, RISKWARE |
| Accidents (chemical) | ARGOS, CAMEO |
| Accidents (hazardous materials) | HAZMAT |
| Accidents (radiological, nuclear) | RODOS |
| Domain independent tool | E-TEAM, OASIS, AGBATA, L-3 CRISIS, GAMMA-EC |



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WP4: DSS

- **Several useful indications for DSS design drawn from previous experiences**
- **Most of the examined DSSs are very problem specific and not directly reusable**
- **Some more general systems exist but still rely on assumptions not applicable in the HEALTHREATS project context**





Requirements (WP5)

- Requirements for the three components of the PDT package have been identified
- Scenarios provided by the project partners have been collected, analyzed and generalized
- Questionnaires, working groups and individual expert interviews





Requirements (WP5)

- **Domain analysis**
 - A multi-level organizational model
 - A process model based on the notions of event and plan
 - Classification of the required human and material resources
- **Main result: Requirement document (Deliverable 4) articulated into 3 parts**





Requirements (WP5)

- **P: analysis and mapping of processes**
- **D: functional, operative and technical, user interface requirement + analysis of main conceptual entities and use cases**
- **T: skill, job and training needs analysis**





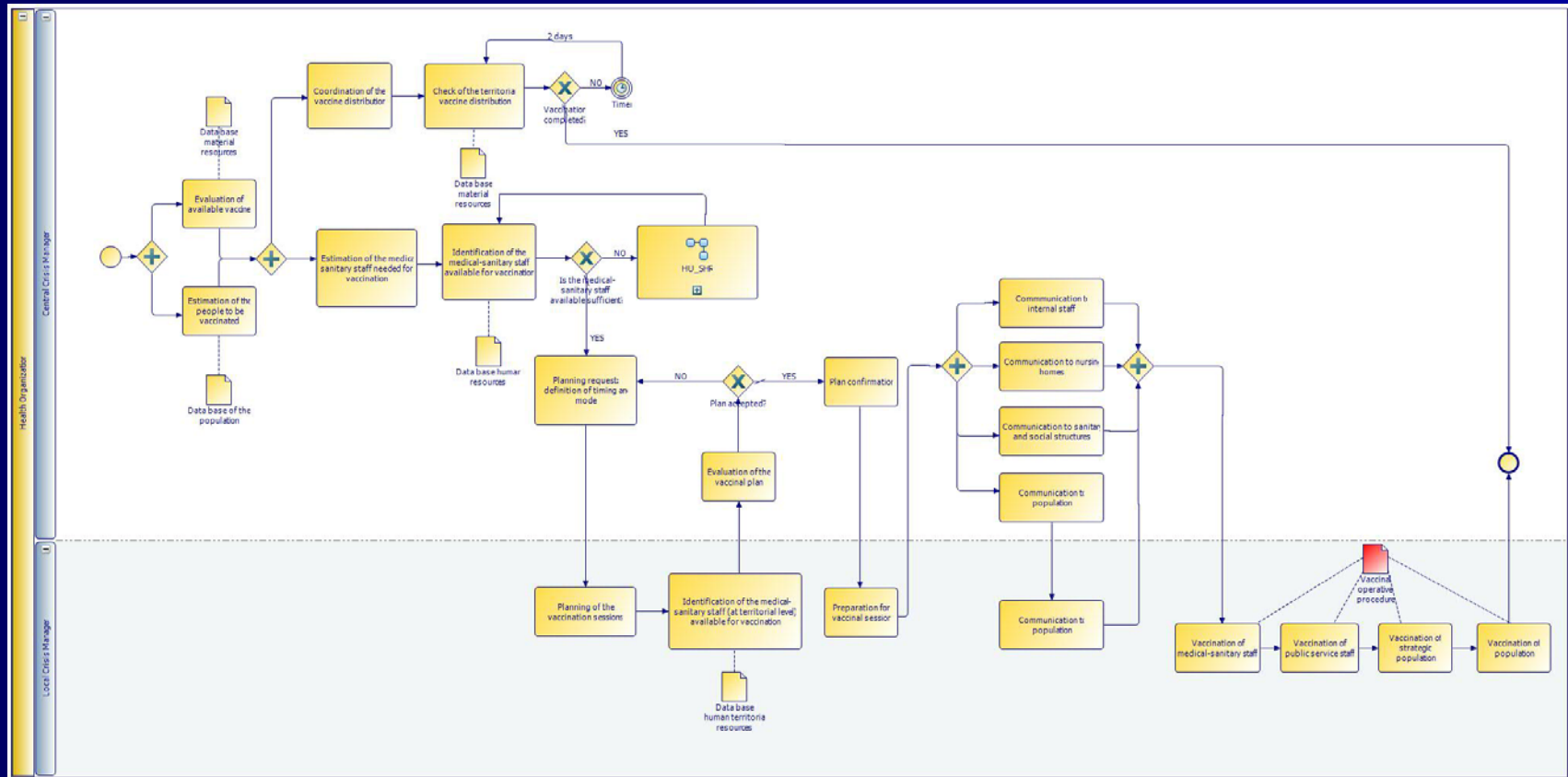
Process modelling and improvement (WP6)

- **Definition of a common dictionary**
- **Organizational framework analysis**
- **Identification of primary events and their management processes**
- **Selection of a process modelling language (BPMN)**
- **Detailed process modelling using BPMN and validation by experts**
- **Main result: Deliverable 7**





A sample BPMN model (WP6)





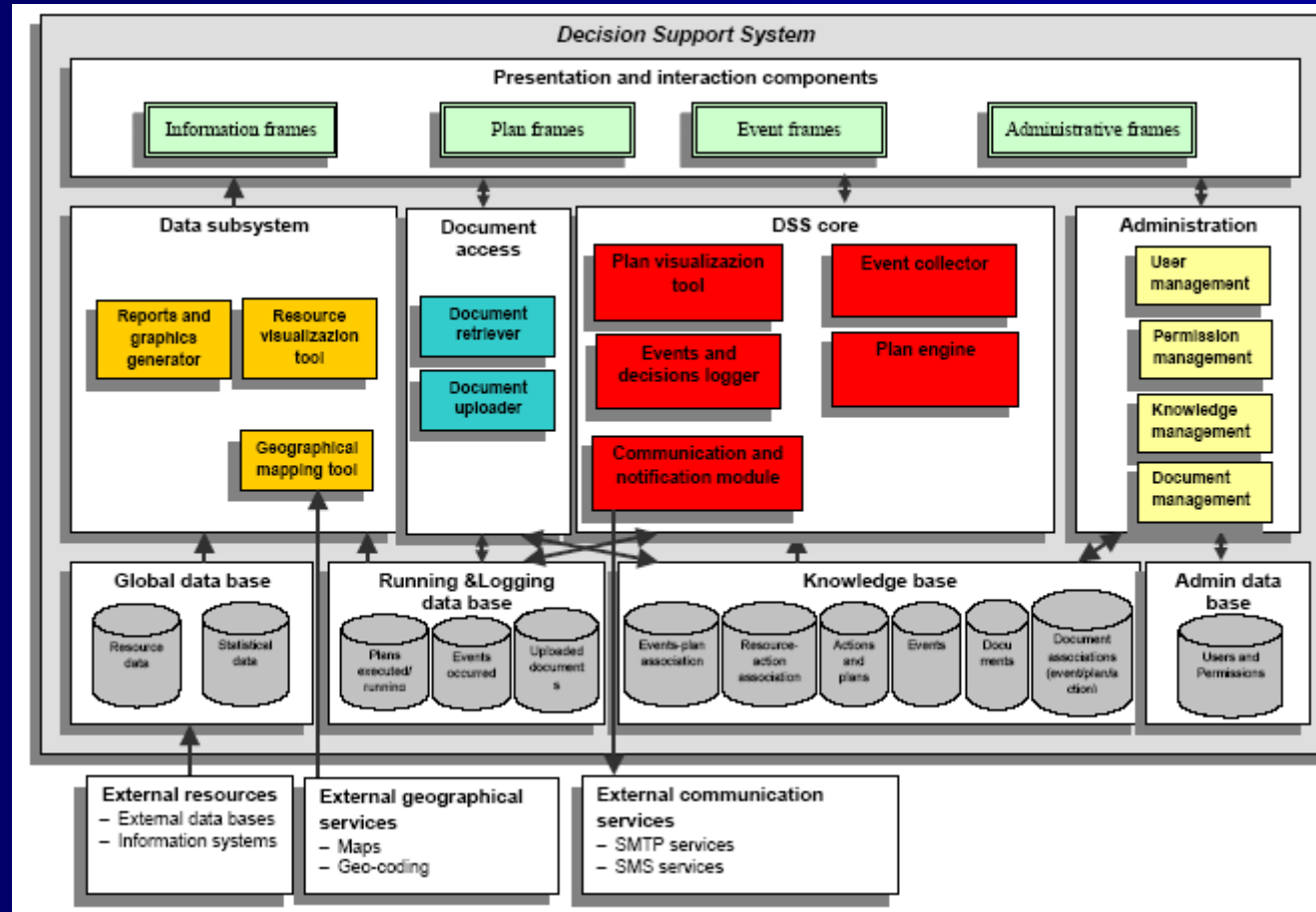
DSS design and implementation (WP7)

- Consolidation of requirements and definition of test cases
- Identification of main functionalities (conceptual design) and logical architecture
- Technology selection (J2EE) and architectural design
- Intermediate result: Deliverable 8





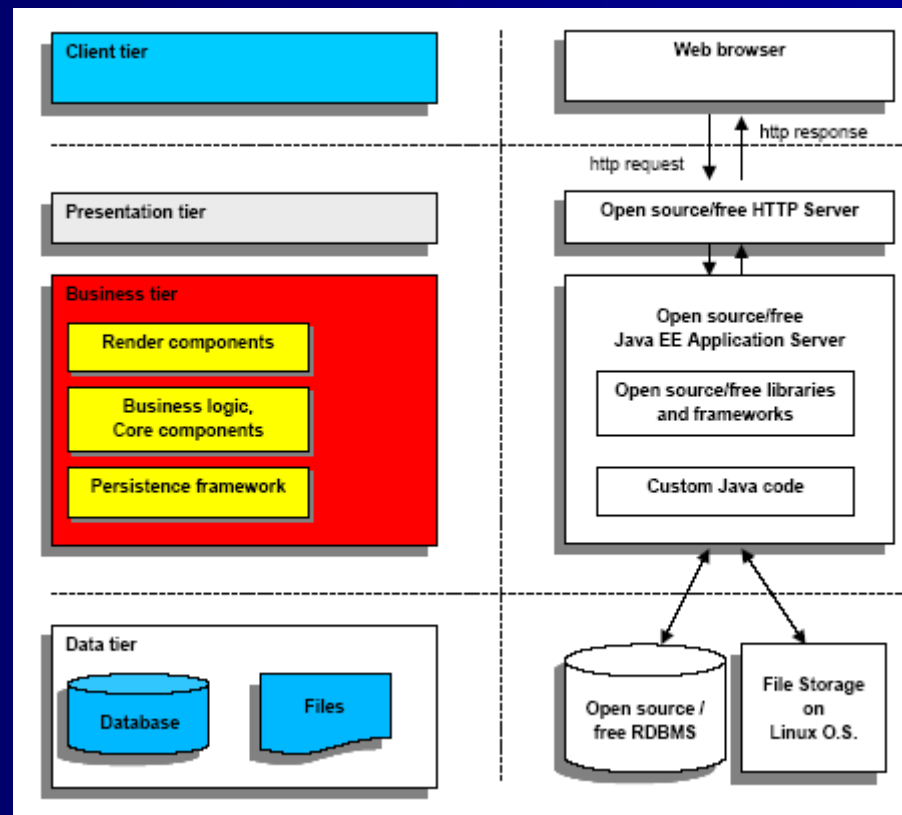
DSS logical architecture (WP7)



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DSS architectural design (WP7)





Training (WP8)

- **Definition of training plan**
- **“Virtual Learning Community” aimed at building a common background for the Project Partners**
- **Training sessions for health professionals and in the context of PMBs**
- **Specific training activities for the experimenting partners**





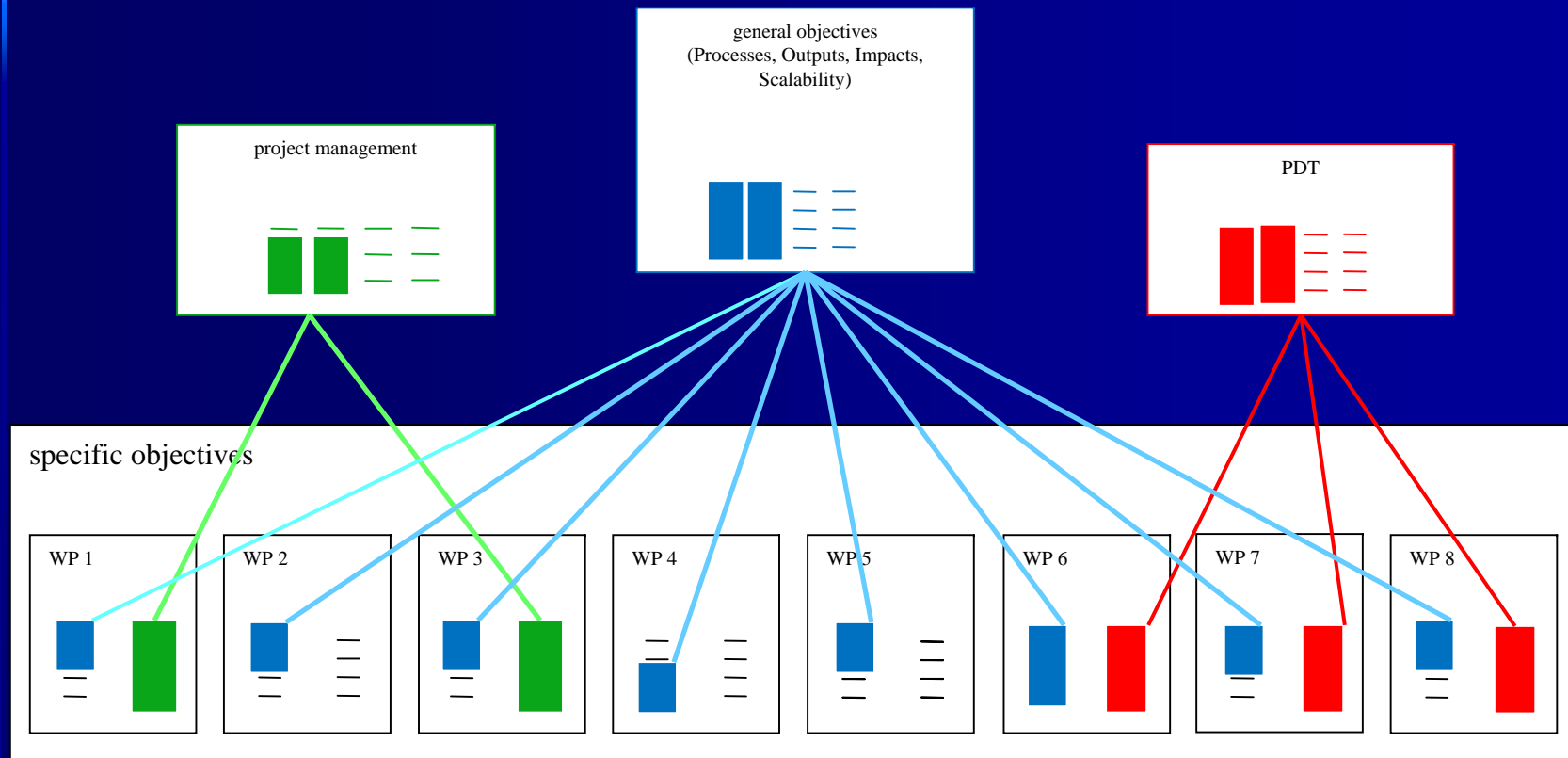
Evaluation of the project (WP3)

- **Adoption of an articulated and consolidated evaluation methodology**
- **Regular data collection from WP leaders + questionnaires to partners**
- **Periodical updating of evaluation report**





Evaluation of the project (WP3)





Dissemination of the results (WP2)

- Project web site
- Project newsletter
- Several specific dissemination activities (press releases, presentations and posters at international conferences and other public events, . . .)





Dissemination of the results (WP2)

The screenshot shows the Healththreats website homepage. At the top left is the Healththreats logo. To its right is a banner image showing people in a laboratory or office setting. Below the banner are navigation links for 'Contacts' and 'Partner Login'. On the left side, there is a vertical menu with links: Home, Healththreats project, Partners, News and Events, Documents, Links, and In the Press. Below this menu is a text block stating that the project is sponsored and co-funded by the European Commission's Executive Agency for Health and Consumers (EAHC), accompanied by the EAHC logo. The main content area features a 'Welcome to Healththreats.eu' section with a paragraph about the 2007 WHO report and the project's focus on crisis management. Below this is a section titled 'The HEALTHREATS project' which describes the project's goals and lists three key areas of focus: (i) definition of a general methodology, (ii) development of a decision support system (DSS), and (iii) design of a learning programme. A photo of Carmelo Scarcella, the project coordinator, is shown next to this section, with his name and email address (dirgen@asl.brescia.it) provided. At the bottom of the page, the website URL www.healththreats.eu is prominently displayed, along with a copyright notice for 2007/2008.

Healththreats

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The Healththreats project is sponsored and co-funded by the European Commission's Executive Agency for Health and Consumers (EAHC)



Welcome to Healththreats.eu

In 2007 the World Health Organisation raised an alarm with its report - "A safer future: the global public health security in the 21st century". Its message was: now, more than ever, the security of global public health needs international cooperation and the ability of all nations to act effectively in facing the emerging threats. The report stressed the importance of nations building public health infrastructures with the capacity to achieve the highest levels of health security. From this initiative grew the importance of Crisis Management of health threats: the Issue addressed by the **HEALTHREATS** project.

The HEALTHREATS project

Within HEALTHREATS we are addressing solutions to enhance the capability of health institutions in Europe of responding efficiently and in a co-ordinated manner to threats to health, focussing in particular on influenza pandemic preparedness and response.

The project, after the assessment of the international state-of-the-art in the field of crisis management, risk assessment, communication and Decision Support Systems and the identification of a sound set of requirements shared by selected European health organisations, is active in the following areas:

- (i) definition of a general methodology and a coordinated set of processes to manage a crisis event,
- (ii) development of an innovative decision support system (DSS) for health managers facing threats and crises,
- (iii) design of a learning programme to promote training of the personnel involved in crisis management. The result of the project is represented by a package including Processes, DSS and Training, in short PDT, that will be tested in Italy, Slovenia, Romania, and Spain.

The project Coordinator
Carmelo Scarcella
dirgen@asl.brescia.it

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Next steps

- **Implementation, localization and test of the DSS**
- **Completion of the training program**





Thank you

project.healthreats@aslbrescia.it



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