THE NATIONAL EMERGENCY PLANNING RESEARCH INSTITUTE (INESC)

TRAINING WORKSHOPS

MAJOR INCIDENT MEDICINE

Overview of methods and practices in European Union member states

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Speech by Mr. Victor Convert

Chairman of the board of directors, INESC

Ladies and gentlemen,

On behalf of the French Interior Ministry, and as Chairman of the board of directors of the National Emergency Planning Research Institute (INESC), I have great pleasure in welcoming you to this training session on major incident medicine.

Our Institute, INESC, has been in existence for over fifty years. The bulk of its work consists of providing initial and on-the-job training for fire brigade officers.

More recently, in the last four years, the Institute has also taken on a legal role which has duly increased its scope of activity.

In addition to the training department for fire brigade officers, INESC also incorporates three other departments:

- A specialist training department for civil defence personnel, including doctors;
- a Research and Studies department, which works in close collaboration with universities;
- an International Relations department.

As such, this workshop falls under the responsibility of our international relations and specialist training departments.

The purpose of our workshop is to share insights and experience in dealing with major incidents. As a prefect, I have had direct experience of such events on several occasions.

In France, after the local mayor, the Prefect is the next link in the command chain. His role is all the more important in the case of large-scale incidents.

I would like to draw your attention to a key responsibility which befalls those responsible for coordinating emergency responses. That is to assess the type of emergency assistance required and, by extension, the nature of the incident, the number of dead, the number of casualties and the nature of their injuries.

Appropriate measures can only be taken if coordinators are accurately informed — and in situations of this kind, such information is often hard to obtain, particularly as communications networks may be disrupted. Obviously, the issue of information reporting from the scene of the incident is of critical importance.

The second point I would like to make concerns the provision of information to victims, their families and the wider community. Very often, there exists a stark contradiction between, on the one hand, the time needed to evaluate victims' injuries and prepare them for evacuation, and on the other, bystanders' desires to see the casualties evacuated rapidly.

As regards public opinion here in France, a well treated incident victim is one who has been rapidly evacuated. As we know, however, this is not always the case. If we are to avoid backlashes in public opinion, we must ensure that families as well as members of the public, who are eye-witnesses to an incident situation, are adequately informed.

These are thus, very briefly, the two key lessons that I have learned from my experience as a prefect.

Lastly, I would like to wish you a very pleasant stay at the Château de Nainville-les-Roches. I would also like to extend my thanks in anticipation of the discussions that will take place over the next three days, as well as over the rest of the year, since our programme is scheduled to take place over several months.

Speech by Mr. Panagiotis ALEVANTIS

representing the head of the Civil Protection unit
DG XI - European Commission

I would like to give you a very succinct outline of our work in the field of civil defense and major incident planning within the European Union.

Catastrophes and disasters have been with us since the earliest times. As Europeans, we have a duty to act as a Community, since many such events have ramifications that extend beyond our national boundaries and borders. But first, allow me to share with you some data on recent major incidents which comes, not from a European source, but from a private insurance company.

Since 1985, we in the EU have been working together to promote solidarity between Europe's peoples, an objective which is also set by the Treaty of Rome. To this end, a number of resources have been created:
- a team working within a pan-European network which operates around the clock;
- an operating manual for operational decision-makers;
- a vade-Medical Evacuation Centreum;
- a system to pool specialist personnel and organise annual exercises in border areas;
- the setting up of a single emergency response telephone number (112).

A wide range of research and development efforts have also been financed by our department thanks to funding received from the European Commission.

In 1997, the Council of Ministers adopted a two-year action plan which has enabled us to roll out a number of major projects:
- pooling of specialist personnel (following up from the previous system);
- a crisis management project steered by Germany;
- a public awareness initiative;
- several smaller initiatives addressing specific risk issues.

Other project work underway concerns emergency responses to nuclear accidents or contamination of the water supply system.

The objectives shared by each of these projects include:
- identifying and bringing together qualified persons and organisations,
- drawing up common practices,
- promoting best practices and recommendations.

So what is currently happening in the field of disaster relief medicine?

A number of initiatives have been deployed within the EU's research and development programme into distance-medicine. Other efforts have focused on nuclear accidents and radioactivity. Similarly, university seminars were also organised by the European Community Humanitarian Office (ECHO) and a publication on specialist major incident medical structures within the EU has been printed.

The last major event in our field was the organisation of a workshop in Sweden, in 1996. Proposals are currently being made within the framework of this project on disaster relief medicine.

What are this project's chief characteristics?

One country acts as project leader and is assisted by a steering committee made up of member states that have expressed an interest in participating. Objectives include:
- identifying and bringing together qualified persons and organisations;
- preparing specifications for joint initiatives by year-end;
- defining guidelines for psychological support structures and an action plan for future initiatives, with the aim of ensuring readiness for the programme of initiatives proposed by the Commission for the 2000-2004 timeframe.

This, in short, forms the architecture for our project — my unit head is particularly admiring of our organisational chart! As you see, the chart shows each of the various initiatives being organised and their inter-relations. Our ultimate objective is to have a report prepared by the Netherlands by year-end**.**

So, what then are the chief phases in this project?
- first and foremost our workshop of today;
- a seminar, which will soon be organised by Spain on this basis of our results;
- a workshop to devise a framework for experimental classes, in Sweden;
- a workshop on psychological support structures for civil defense and medical personnel, to be held by a French organisation;
- a major conference to be organised by the Netherlands;
- an exercise to be organised by France in September;
- an experimental class to be organised by Sweden;
- a final report on our programme of actions.

Austria has proposed to organise a psychological support structure in the year 2000 which will be staffed by voluntary workers.

Other initiatives underway include projects on remote-medicine which receive funding from other programmes; a multi-year programme concerning the prevention of injuries, which will take place over the next five years. This last programme was ratified on 25 January of this year and will be progressively rolled out.

To conclude, our objective is to assist member states in their efforts at identifying and bringing together qualified persons, defining a framework for continuous training, guidelines, and a structure for psychological support, as well as an action plan for coming years.

As the European Union moves closer to becoming a Union of Citizens, I would like to quote a remark made by PERICLES as he addressed the Athenian people in the wake of a major defeat during the Peloponnesian war: "A great state or a great nation must be able to react with calm and serenity in the face of catastrophe".

Thank you for your attention.

Speech by Mr. Philippe HROUDA

Haut-Fonctionnaire de Défense
Health Ministry

Mr. Chairman,
Ladies and gentlemen,
My dear colleagues,

I am very pleased to be here amongst you on the occasion of this European workshop organised to explore avenues for the harmonisation major incident planning procedures amongst our respective nations.

The decision taken by INESC to launch this pan-European initiative testifies to importance of France's role in the development of disaster relief medicine. As you may be aware, the first university course in major incident command and control was created in France in 1981 following a disaster relief operation conducted by French doctors at the scene of a major earthquake.

This operation, though taken without a common line, concerned a team of professionals specialised in emergency medical assistance. The team included hospital doctors, doctors from the emergency services, and army doctors.

In much a similar manner to our workshop today, this first university course or, at least the first session of this course, organised on disaster relief medicine took the form of a self-training workshop. Some twenty years later, we can say that the success and effectiveness of this method has been demonstrated since, today, more than a dozen universities are accredited to teach disaster relief medicine.

Another strong indication is that the lessons learned from this course have enabled national contingency plans for emergency situations to be upgraded and facilitated the adoption of common reference procedures for all emergency services dealing with large-scale accidents and incidents in France. This effort largely concerned a ten-year period from 1980 to 1990. Henceforth, efforts at harmonising public sector responses will be directed from within the European Union.

For myself, as a witness and an active participant in this process, I would like to impress upon you, my learned colleagues, the importance of consistently

examining the analytical approach we shall be pursuing over the next few days within the light of your experience as a doctor.

Without this very necessary medical grounding, there is a risk that our deliberations may overstep the objectives of our workshop which, as you know, concerns the subject of disaster relief medicine.

In the world today, there are two principal schools of thought with regard to the organisation of pre-hospital emergency services. The first, what I shall call the "paramedical school", that of the American paramedics, is fairly widely adopted in the Anglo-Saxon countries, i.e. the Northern European nations. The second, which to simplify things I shall call the "Southern European school" is founded upon the systematic provision of medical care along the entire pre-hospital emergency services chain.

As emergency services professionals issued from a wide variety of horizons, I believe it is only fitting that I focus your attention on this initial difficulty which we shall have to address in attempting to promote a common medical approach for the harmonisation of our various reference systems.

In this area, your work should lead to a proposal with the necessary subsidiary strength to enable the drafting of a recommendation at European level.

As an example, I would cite the difficulties currently encountered by certain countries and their neighbours in defining cross-border agreements for the provision of emergency services to local populations.

To conclude my introduction, I would add that the government department I represent, the French Health Ministry, will be closely following your progress. Your deliberations will form part of an overall effort to achieve interoperability between emergency medical services, which will one day come into existence throughout Europe.

I would like to extend my sincere thanks to the workshop's organisers, in particular the Dutch delegation and to the European Union representatives. Ladies and gentlemen, my dear colleagues, I wish you a very fruitful workshop.

Speech by Col. Bernard VIALA

Army Medical Doctor
representing the Director of the Civil Defense and Public Safety

Mr. Chairman,
Ladies and gentlemen,
My dear colleagues

The Director of Civil Defence and Public Safety has entrusted me with the formidable honour of representing him at the opening of this colloquium, as a prior engagement prevented him from being present here today.

This self-training workshop on the methods used in Europe in disaster relief medicine is, as far as I know, the first of its kind organised in the field. At a time when European integration is fast gathering pace, I believe we can take great encouragement from this initiative of the European Commission as well as from the involvement of the DG XI, represented here today by Mr. Alevantis.

Over the course of the next few days we shall be spending together, amongst colleagues who each share a similar passion, that of providing care to our fellow citizens in situations of difficulty, I am convinced that our discussions will be particularly productive. The splendour of our setting, a 19th century château, and the exemplary organisation provided by Mr. Agostini and his staff will, I am certain, greatly facilitate our deliberation upon the deployment of a common strategy for intervention.

Each of our respective nations, by virtue of its culture, resources, structure, geopolitical context and the specific risks it faces, have developed national strategies for the provision of emergency services. The same is true of major incident medicine which is a relatively recent concept as Mr. Hrouda has just explained.

The notion of major incident medicine varies greatly in each of our countries. As a result, a variety of different approaches exist in terms of the resources deployed, the form adopted for coordination or staff qualifications and the inclusion of medical teams in the emergency services.

The result of this wealth of thinking, and not of this diversity, lies in the form of training provided within the European Community.

For us all, the objective for this first colloquium is to review the existing systems in place in each of our countries, without seeking to give precedence to any one approach and thus draw comparisons. From this basis, will come enlightenment. And in coming sessions, I am confident, that we will find convergency points.

Lastly, the objective is to harmonise our methods and resources so that European teams can cooperate with maximum effectiveness in responding to disasters whether they occur in Europe, on our borders, or even outside the community, where requests for international aid are made.

I am all too aware that the road ahead is a long one. But to paraphrase the French poet, Paul Claudel, "We shall not reach the objective one by one, but all together".

I would like to finish by thanking you for your presence today and for your willingness to share your insights and experience.

OUTLINE FOR WORKSHOP

Presentation of agenda for the three-day workshop

Mrs. Claude HANSEN

Social psychologist
at the Centre Académique de Formation Continue
Académie de Rouen

After this presentation on the outline for our workshop, we shall receive two presentations on major incidents which occurred in France and Great Britain.

Each of these incidents occurred in a sports stadium. However, both had different causes and both required different responses as well as different solutions for managing victims. This is, I believe, the particular interest of these presentations.

Our afternoon session will be given over to discussion. I shall provide you with a summary of the responses received to the questionnaire which you were kind enough to fill out. The questionnaires provide a fairly general picture, one which, I believe, suggests that we will have plenty of work over the next two days, as well as in coming seminars, since our principal concepts and methods vary greatly from one country to another. Our afternoon's discussion will thus take as its starting point the summary which I will be presenting to you.

I will be passing round a list in which I would ask you to note your preferences as to the working group you would like to join after the questionnaire summary. As you will see, these groups concern organisation, medical, and psycho-sociological aspects as well as a fourth aspect — legal and financial considerations — which concerns the entire Community. As we have already seen, the question of insurance systems for governments, local authorities, private individuals and associations is an issue of critical importance.

Each working group will work with two session leaders, one French and the other from another country. Wherever possible, we have sought to ensure that our non-French session leaders are bilingual so as to allow us to consider the meaning of the terms used and the specific realities to which they refer.

I am confident that the afternoon's round-table discussion will give us a better picture of the concepts understood by each of these terms.

The second day of our workshop will be given over to more concrete discussions. During the morning session, we shall receive three presentations on major incidents:

- the first concerns a single country and has been chosen to reflect the bulk of the answers received from our questionnaire;

- for the second presentation, we will ask Luc QUINTYN to speak on psychological support structures for emergency services personnel. He is one of the initiators behind an action plan that has recently been deployed in Belgium;

- the third presentation concerns the efforts of a multinational team of doctors, working in Cameroon.

For the afternoon session we will divide up into working groups by method family. To facilitate our deliberations, we will utilise the time given over to the presentations you have chosen to give. These presentations will take place tomorrow afternoon and on Friday morning. If you have any questions, Catherine DESFEMMES is the person in charge of this organisation. On Friday morning, the group session leaders will meet to prepare the afternoon's session.

Rapporteurs will be appointed in each group and will take part in the afternoon's round-table discussion.

For the evening, we will be visiting Euro-Disneyland, where we will be examining the safety procedures in place at this high-attendance attraction.

We shall then pass over to our colleagues from Spain, Sweden and the Netherlands, who will be responsible for future seminars. They will tell us how they perceive the workload ahead and how our work over the next two days will assist them in preparing our forthcoming seminars.

With this objective in mind, I feel it would be worthwhile that you be available to take part in each of the seminars that are to come. By so doing, you will be able to follow our deliberations throughout the year on this subject which will occupy us from today onwards.

"GREAT WITNESS'" TESTIMONIES

THE FURIANI DISASTER
Lt. Col. Digiambattista
Doctor-in-Chief, SDIS de Haute-Corse

THE BRADFORD DISASTER
by Dr. Sharpe
Bradford Royal Infirmary

The Furiani Disaster - Corse, France

(Dr. DIGIAMBATTISTA was the commander of emergency medical services at the Furiani disaster).

On 5 May 1992, during a France Football Cup semifinal held in the Corsican city of Bastia, a temporary stand holding 10,000 supporters collapsed, bringing 3,000 people down with it.

By 11:50 am the next morning, there were :

2,000 casualties
9 deads
some 700 patients were evacuated, 250 of them by air.

Allow me to give you some of the background to this case-study.

Corse is an island in the Mediterranean, 120 km long by 70 km wide, some 300 km by air from the nearest city on the mainland, Marseille. What's more, its 220,000-strong population have a passion for football.

And so, on 5th May, Bastia F.C. were playing Olympique de Marseille in a league semifinal.

As it happened, the match also coincided with the Tour de Corse car rally. All of our emergency medical services staff (ambulance service, health services and fire brigade) were on standby.

Located in Bastia's southern suburbs, Furiani stadium was built many years ago. By 1992, it was antiquated and in poor repair. The immediate vicinity had several obstacles, among them a rail track and a pond. A two-lane road, only wide enough to allow two vehicles led up to it.

A week before the match, an additional stand, accommodating 10,000 spectators, was erected in haste. A preventive structure was deployed at 2 pm.

I - *Preventive structure*

This preventive structure included
- 1 forward medical station
- 1 empty building used by the resuscitation team.

A Rescue Operations Commander was appointed from amongst the fire brigade officers, and the role of Emergency Medical Services Commander was assumed by a chief officer from the mobile emergency medical service.

At 7:40 pm, just a half hour before kick-off, the safety team was reinforced with :
- 9 doctors,
- 4 ambulances,
- a fire engine,
- 200 police constables and gendarmes.

At 8:20 pm, a section of the northern stand holding 10,000 spectators collapsed, bringing with it 3,000 persons. The crowd remained calm.

II - *Improvisation phase*

The match was televised, which ensured that the emergency services — fire brigade, medical personnel, and local civil defence groups — were immediately alerted. At the same time, the broadcast also enabled the news to be relayed throughout mainland France.

At 8:22 pm, the emergency operations commander requested the following reinforcements :

- all available fire-brigade ambulances in the *département*;
- civil defense helicopters as well as helicopters from the military airbase at Solenzara;

He also placed the zonal echelon at Valabre on immediate alert.

At 8:26 pm: the emergency operations centre for the Haute-Corse *département* (CODIS 2B) contacted the hospital to call out all available medical resources and place the town's private clinics on standby.

The Prefect, who was present at the scene, activated the « Red Plan » (multiple casualties).

While the less critically injured victims attempted to free themselves from the debris, the constables, working under very difficult conditions, tried to evacuate the casualties as best they could, but nevertheless unsafely and without any treatment.

The medical staff present were bombarded with requests for assistance. As the first casualties were extracted, the chief officer from the mobile emergency medical service, and his team performed resuscitation on survivors and prepared casualties for transfer.

The entire crowd rushed towards the foward medical station which was quickly overwhelmed and was even looted; the pre-printed medical identity cards disappeared.

Within a few minutes, the stadium's switchboard was overloaded. The central telephone exchange at Bastia was overwhelmed and was out of order; and just as everybody on the scene was attempting to extract the survivors from the stadium's wreckage, the first local reinforcements began to arrive, thus completely blocking the only access road to the stadium.

The Rescue Operations Commander attempted to appraise the scale of the incident, a task he had to complete alone, since the Emergency Medical Services Commander was busy treating the victims as they were being rescued from the wreckage; a reaction which contributed to the fact that there were so few deaths.

There was no way of precisely evaluating the number of victims since the Foward Medical Station had been looted and the initial casualties were evacuated without a medical card.

As the only anesthetist-resuscitator on the scene, the Emergency Medical Services Commander had to take charge of providing emergency treatment in the immediate vicinity of the collapsed stand. This, in turn, prevented him from participating in the operational management of the incident.

Without a clear and rapidly circulated operating procedure, the medical response, as provided for under the preventive structure, was rapidly overloaded.

Thirty-four minutes after the stadium's collapse, a civil defense helicopter with a chief medical officer from the fire brigade, arrived on the scene. Night had already fallen.

The Emergency Operations Commander and the chief medical officer conferred to conduct a preliminary review.

III - *Consolidation phase*

A decision was taken to manage the situation by modifying the COS/DSM pairing (Rescue Operations Commander/Emergency Medical Services Commander).

The tactical operating procedure devised was to :
- proceed with the immediate establishment of a command centre,
- cease all unsafe evacuations,
- set up a new triage station on the football pitch and abandon the Foward Medical Station and resuscitation building used as part of the preventive structure which was by now overwhelmed.

After rapid discussion with the chief officer from the ambulance team (SAMU), who had been acting as Emergency Medical Services Commander, a decision was taken to redistribute roles:

- the ambulance team's (SAMU) chief officer, the only anesthetist-resuscitator present, would continue to supervise the medicalisation underway;
- the Rescue Operations Commander, and Chief Medical Officer from the fire brigade, the new acting Emergency Medical Services Commander, would attempt to coordinate the emergency services present at the scene.

A meeting was convened between police representatives and the prefect with a view to setting up a headquarters. This command structure's operating principle was the following :

- Designation of team leaders for casualty extraction teams (3 work sites were defined),
- Organisation of a new triage station on the football pitch,
- Creation of a helicopter landing strip (DZ) along the entire west wing of the stadium, (the east wing was reserved for the Foward Medical Station).

Three evacuation points were chosen :

- Via rail (PEVF) to Furiani train station: exclusively used for minor injuries and expectants,
- Via air (PEVA),
- Via road (PEVR) using the stadium's only access road.

A doctor and fire brigade officer pairing were dispatched to each of these stations. The persons chosen had worked together on previous occasions thus enabling them to adopt a common approach.

Three radio frequencies were defined :
- a first for the stadium command centre and emergency operations centre
- a second linking the stadium command centre and victim extraction work sites
- a third linking the doctor/fire brigade officer pairing and the ambulance team's chief medical officer (SAMU).

Three specific tasks were defined :
- RESCUING : getting casualties out of danger.
- SAVING : performing basic first aid.
- TREATING : providing medical treatment.

This enabled the commanders to assign personnel to tasks for which they were trained, rather than giving them tasks where others were more capable.

By making optimal use of staff skills, this redistribution of roles provided a much more efficient structure.

By 9:15 pm, all of the casualties had been extracted from the wreckage. Most of these casualties were examined by a doctor upon their extraction.

By 9:37 pm, the first Puma helicopter from the nearby military airbase landed at the stadium.

The ambulance team doctors (SAMU), all familiar with resuscitation techniques, were able to rapidly condition the casualties, assisted by the many other doctors who arrived as reinforcements.

At the scene, the television journalists, who were far more interested in finding something sensational to write about than with the way in which the crisis was being managed, gave a very approximate account of the events taking place. Despite the requests made, no press relations officer or liaison officer for the families of victims was dispatched to the command centre, a fact which considerably increased the families' anxiety.

It was not until 11 pm that telephone lines were re-established with the *Préfecture*, the emergency operations centre and Bastia's general hospital.

In total, the Furiani command centre had to co-ordinate much of the crisis with only two radio frequencies.

IV - *Establishment of a medical evacuation centre at Bastia airport*.

At 11:00 pm, after a general consultation, we quickly discovered that the island's hospitals were overwhelmed. By this time, the toll had reached:
- 3 deads, crushed by the stand,
- 600 casualties to be evacuated.

Some hours previously, at 8:48 pm, a decision had been taken to establish a Medical Evacuation Centre at Poretta airport, some 10 km south of Furiani.

At Poretta airport, a similar procedure was adopted to that at Furiani, albeit with greater availability of resources. The arriving casualties were segregated into priority casualties (in the arrivals hall) and those with minor injuries (departures hall):

- admission of casualties,
- updating of an influx/outflow register by the chief pharmacist,
- triage and reinforcing of conditioning before evacuation,
- direct radio link with the air traffic control tower.

By 12:25 am the Furiani command centre was transferred to the airport while four officers remained at Furiani to supervise the last evacuations.

At 12:46 am, the first air evacuation was made to Marseille (five casualties with minor injuries). Fifteen civilian and military aircraft arrived in rapid succession.

V- *Secondary evacuations from Bastia hospital*

At 3:00 am, the hospital at Bastia had exceeded its capacity. Many of the injured, who had received emergency treatment at the hospital, could not be hospitalised or required specific treatments necessitating their transfer to the mainland.

As of 3:10 am, efforts to transfer the excess patients from Bastia hospital began.

Thus, after the mass transfer from Furiani, a second transfer from Bastia hospital to Poretta airport was organised.

However, at 3:00 am, most of the journalists left the airport to write up their articles for the morning editions. As a result, no one was present to report on the transfer phase from Bastia hospital. This goes to explain much of the subsequent criticism made by observers in mainland France, who did not understand why the operations went on until 11:00 am in the morning, whereas the entire operation was supposed to have been wrapped up by 3:00 am.

Despite the much appreciated contribution made by a series of commercial aircraft, the arrival of two military transports, which landed at around 4:00 am, enabled us to evacuate a far larger payload of casualties (89 in total) under optimal conditions. This shows that it is often more expedient to wait for special transport aircraft to arrive rather than to make early air evacuations under insufficient conditions.

As of 4:00 am, the command centre had no more tactical or strategic decisions to take.

At 11:00 am: the last casualty left Poretta airport.

VI - ***Toll.***

At this time the toll had reached:
- 760 casualties - 80% with head and spinal injuries;
- 470 hospitalisations - 250 on the island and 220 on the mainland;
- 9 dead (3 of whom died at the stadium and 6 in hospital)
- More than 150 air transfers (including 130 helicopter return trips)
- Involvement of 900 emergency services personnel, including 150 fire brigade officers and 60 doctors.

The casualties were classified as follows:

Priority cases	- PC	5%
Urgent cases	- UC	25%
Delayed cases	- DC	40%
Expectant cases	- EC	30%

These figures conformed to standard statistics for major incidents.

VII- ***Organisation on the mainland***

As of 9:00 pm a crisis team was set up in Marseille, with:
- crisis control;
- triage centre at Marignane airport;
- census taking of hospital beds in Marseille, Toulon and Arles.

At 11:45 pm, the triage centre was operative. The incident management structure had moved from a local/regional dimension to a national dimension.

As of 5:40 am the first casualties arrived at the airport. With each hour, the toll announced by Bastia increased, thus requiring the deployment of additional personnel at Marseille.

The structure deployed was particularly impressive: 66 ambulances and a forward medical station with 35 stretchers. This structure which was closed down at 2:00 pm treated and managed over 144 casualties, and allocated them to hospitals in Marseille and the immediate region.

The medical evacuation centre at Bastia-Poretta was thus duplicated with a reception centre at Marseille-Marignane.

This nonetheless complex structure — the result of the complete saturation of Corse's hospital facilities — was made necessary by the number of victims transferred and the changing nature of the initial injuries. It required the organisation of a massive airlift.

Since much time had passed since the stand's collapse, the extraction phase, the initial triage and the arrival of casualties on the mainland, a second triage was necessary to adjust the classification made by the medical evacuation centre in Corse.

Despite the staggered arrival of the casualties in Marseille, similar difficulties were encountered as in Corse. Chief among them, the insufficiency of communications facilities — radio and telephone — as well as a shortage of evacuation cards.

Unloading the commercial airliners which had been prepared at the last minute to transport casualties, posed additional difficulties and further increased the timeframe required to transfer patients to hospitals.

Some 400 public and private hospital beds were made available for 44 casualties; a figure which testifies to the strategy and logistics efforts deployed by the emergency operations staff.

In Nice a similar structure was set up to receive over 100 casualties. In addition, four casualties were transferred to Paris.

IX - Conclusion

At the moment the disaster occurred, each of the various persons qualified to draw up a suitable emergency plan were present at the scene. However, the reactions of the various emergency services present were more compassionate than operational, and the resulting confusion between emergency medicine and disaster relief medicine almost certainly caused bottlenecks.

This notwithstanding, how could trained staff, in the heat of the moment, transgress the ethical and deontological principles that are part and parcel of everyday medical care ?

In Furiani, the passing over of command to a person external to the situation after a latent period, enabled those involved to overcome their initial inhibitions and focus efforts on more concerted action. Once a decision was taken to abandon the pre-existing structure which was rapidly overwhelmed, the deployment of a new chain of command and the application of basic principles from disaster relief medicine enabled those in charge of the emergency operations to resolve the initial period of disorganisation.

The casualties were caught in a three-way trap :
- stand,
- stadium,
- island,

This required the organisation of three different means of evacuation which had to be simultaneously coordinated so as to anticipate the need for evacuations to the mainland and prevent congestion of hospital structures on the island. The event, which was initially managed at local level, was extended in scope by the deployment of considerable regional and national reinforcements. This demonstrates that an emergency plan must also include an evacuation plan.

In addition, in having to perform specific technical tasks, personnel should not lose sight of the fact that the objective is not to construct a field hospital, but to transfer *living* patients to a hospital environment where they can obtain the care required by their condition.

This, in turn, testifies to the importance of deploying well-defined emergency plans both to evacuate casualties and to coordinate massive patient influxes to treatment and hospital structures.

Thank you for your attention.

Mrs. HANSEN

We had chosen this presentation on the Furiani disaster to illustrate that, as in the case of the definition for major incidents, the planned resources were very quickly overwhelmed by the scale of the incident.

Thereafter a certain number of difficulties occurred :
- the break-down in communications facilities,
- massive numbers of simultaneous casualties and need to review the pre-established plan,
- need to organise evacuation with additional transit points between the stadium, the airport and the mainland.

Dr. DIGIAMBATTISTA

Over sixty doctors took part in this operation, thus representing one doctor for every ten casualties. What is particularly striking about this case study, is that the original structure in place, which we believed to be overdimensioned was revealed to be insufficient.

The second point is that the reliance on ordinary emergency medicine techniques quickly resulted in the medical response being overwhelmed. We thus had to organise operations according to a different set of criteria so as to gain control over the situation. In this, we encountered key difficulties during the conditioning and triage phases, as well as in their evacuation.

A third relevant point concerns the management of this incident which very quickly moved from a local to a regional, and then a national, dimension.

The Bradford Disaster (United Kingdom)

(Dr. Sharpe was responsible for organising the emergency services' response to the Bradford disaster)

I am speaking to you today as a plastic surgeon who is not specialised in the treatment of burns and who accepted this assignment, precisely because there were burns to be treated.

A few months later, the United Kingdom's largest ever disaster occurred. I would like to show you a video recording. The match we see taking place was being broadcast live on national TV.

The commentary opens with a one-minute sequence comprising a conversation between some of the police constables present and the TV presenter's commentary. During this sequence, we see the fire begin to spread throughout the stand — it is particularly important that you note this so as to understand the events that followed. We then see the police officers attempting to contact the stadium's management so as to get the stand's rear gate opened.

Though the fire was a minor one, fifty-six persons died since they could not escape the stadium. The gate was left closed because the key couldn't be found! The dead bodies piled up at the rear of the stand.

Fourteen years ago, social attitudes were very different to today. At the time, little effort was made to identify those responsible for the tragedy. The media might have done this job had they known how easily this disaster could have been avoided.

After you have seen this video, I shall present some of the background to the emergency medical services' response to the situation.

To deal with this situation, a logistics response comprising ambulances, transfer of casualties, triage, medicalisation of casualties and liaison with the media was deployed. The media play a particularly important role nowadays since their influence on public opinion and on the co-ordinators' morale can greatly determine the outcome of an operation.

The media also offer a means to communicate with victims' relatives. When a major incident breaks, the media are immediately present on the scene and victims' families can follow the events by television or radio. It is thus very important that the emergency co-ordinator establishes close working relations with the media. In the United Kingdom, this is systematically the case.

The communications difficulties were essentially related to the fact that the police's radio frequencies were rapidly saturated. The police were overwhelmed and this considerably increased the confusion.

Bradford's hospitals are well equipped in terms of facilities for plastic surgery. An intensive care unit for patients with burns also exists. In addition, the accident occurred on a weekend, which meant that the hospital had plenty of available beds.

Responding to this disaster was relatively straightforward insofar as the majority of victims suffered from superficial burns of the hands and head. Only two people had fractures. A total of 258 patients were treated for burns, of whom a dozen had serious injuries. These patients were transferred to a regional treatment centre for third-degree burn victims. Half of the senior citizens with burns perished as a result of their injuries.

Bradford is not a first division football club. There was a large proportion of elderly people among the supporters. The disaster also took place on a very cold day, and most of the crowd was wearing woolly hats or caps. The worst affected people were those who had no hat whatsoever.

The roof of the stand was ablaze and the heat was intense. Apart from a group of some fifty people, who tried to escape via the rear of the stand, the three thousand spectators moved to the front so as to get out onto the pitch.

Eighty people were hospitalised in Bradford for burns.

The hospital was some two to three minutes away by ambulance or ten minutes by foot. Many of those with superficial burns, who were not aware of the severity of their injuries, made their way to the hospital by foot, car or bus. Others went to another hospital, five miles away, as they assumed the local hospital would be unable to deal with the influx of casualties.

The emergency co-ordinators have to notify the hospital services as quickly as possible as victims are inclined to travel to outlying hospitals in the hope of being treated.

By chance, a conference of anaesthetists was taking place a few minutes away from the stadium. During the fire, many victims went there to be treated by the anaesthetist-resuscitators who gave IV treatment and effected preliminary patient management.

Enormous logistics difficulties were encountered: we had to find facilities near the hospitals — for example, sports centres — to accommodate the victims' families.

(Video projection)

The deaths occurred as a result of the fact that the stand's rear gate was closed. Fifty-six people were trapped in a corridor at the back of the blazing stand. The police suspected arson, however this possibility was dismissed in the subsequent investigation. Indeed, it emerged that the accumulation of waste papers and rubbish underneath the stand as well as the stand's wood structure had aggravated the fire.

A total of 258 persons were burned as they attempted to escape via the front part of the stand. The bulk of these burns were caused by the intense heat inside the stand; very few were due to direct exposure to the fire itself.

From a medical standpoint, we were very lucky that the situation was not worse. There were no serious cases of smoke intoxication. However, the smoke at the rear of the stand was sufficiently thick to suffocate the victims after two or three breaths.

(Slide projection)

During the patient triage phase, we adopted the following criteria for hospitalisation:

. those with superficial burns were able to return to their homes
. those with cranial or hand burns were hospitalised.

At the end of the day, only eighty people were hospitalised as many more had returned home believing that their burns were not serious. We contacted the other hospitals in the region to inform them of the hospitalisation criteria.

What lessons can be drawn from this experience?

For myself, I have learned a lot about treating burns. I also learned a great deal about working with the media.

How did we respond? We filled the theatres with patients and devised an approach for treating those with burns to the hand. The majority of these patients, in particular the elderly, required immediate surgery as they had serious burns. Under ordinary circumstances, these patients would have received skin grafts. Instead, we used reconstructive surgery. A large number of volunteer doctors travelled to Bradford and Leeds to deal with the workload. We made autografts and used slings or acrylic cement to immobilise patients.

A different patient was operated every hour. In three days, we operated on a total of eighty patients.

You need special bandages to treat patients with burns. We had enough staff nurses to prepare them. However, we subsequently had to open clinics to produce all of the bandages we needed.

Despite the advanced age of many of these patients, their burns healed relatively quickly. Overall, fifty percent of the skin grafts were successful; this was lucky, as many of these patients were elderly. I would say that our decision to operate at an early stage was the right one. This was made possible by the fact that many different doctors were present.

Half of the patients treated left hospital after three weeks. Had we adopted a conservative surgery programme, we would have encountered far more serious problems.

Similarly, things would have been a lot worse had we not been able to precisely evaluate the medical response required and had we not had enough anaesthetists at hand. In addition, as I have already explained, the casualty triage efforts deployed also made a key contribution.

The situation was chaotic. Naturally, the confusion was at its worst at the beginning of the incident. Hundreds of people converged on the scene in Bradford. Triage procedures were important, but we also needed people to evaluate those with burns. With 250 casualties to treat, there is little point in placing an eighty-year-old man with 40% burns in an intensive care unit (ICU) as his prospects are negligible. Conversely, if you free a bed to treat a younger patient, the media will report that an elderly man died because he was removed from ICU! So, you have to deploy experienced doctors to take the right decisions.

Communicating with the other emergency services and ensuring that experienced personnel are called out to the scene are just as important. Co-ordinators also have to determine how many people are expected, so as to allocate the various casualties between each of the available hospitals, and this is particularly important.

In short, you can't cut corners in a major incident situation. If something is required, one has to ask for it. No hospital administrator will refuse requests for urgent equipment. So it may be the right time to request the microscope you have been unable to obtain for years!

You also need the phone company to install additional phone lines, as the patients will need them to contact their families. So you should take advantage of the situation to obtain this.

Robert Maxwell, who later died under mysterious circumstances, called me personally on the evening of the disaster and told me: "Name your amount. I will give you whatever funding you require". So I asked him, "Is this a publicity stunt?" "Not at all," he replied, "it's an act of charity". The publicity may have done him some good, but the upshot of it all was that we all won out.

Another essential resource is equipment to make bandages. Within four to five hours, you have to have an effective operating plan to deal with the situation. And if you are struggling with the media at the same time and you are not adequately prepared, you will almost certainly receive bad press.

This worked particularly well in Bradford for a number of reasons, chief among them the fact that a single person was in charge. Certainly, one can request opinions, but decisions must be taken unilaterally.

My approach in handling the Bradford disaster was to give my opinion where required, long before the press started working on the case. Obviously, you can't interview every single member of each victim's family. And on the patient's medical identity cards you cannot just indicate whether the victim is a priority or less urgent case; you have to provide precise pathologies. You have to request the necessary assistance from experts.

As I have already stated, we had to prepare a lot of bandages for the consultations. We also required enough free space so that the plastic surgeons could check the bandages.

From a communications standpoint, we had to work in close collaboration with the emergency services representatives. As long as everything is working all right, you are okay; the politicians and local elected representatives come and visit you.

One thing I learned was that the next time, we will not be so lucky. And believe me, if there is a next time, I wouldn't like to have to deal with it; we were really very fortunate.

Mr. TREU

Was there any psychological support for the victims' families?

Dr. SHARPE

A psychological support group was set up. Many people attended meetings, whether as patients or as family members, to help us. I was asked to draft a report. We collected considerable funds for the victims and this was a big help to those most in need.

More importantly, I was able to interview each of the patients to evaluate the level of their psychological trauma.

Some of those who had been trapped in the corridor at the rear of the stand had witnessed deaths and were profoundly affected. Many of their families were in shock. However, the broad majority recovered relatively quickly; there was a strong team spirit, almost like during a war situation. Many of them had been injured together and had shared the same experience. This created strong bonds between them.

The older people, particularly the elderly women, were regular attendees at these meetings — it was almost like a bridge club! People came to share their story as they had experienced the same events and needed to talk about them. So, we had very few cases of emotional trauma.

Ten days after the incident itself, I was struck with the full force of the events I had experienced. I was at a very low point for a few hours, but I soon got over it.

Delegate

You spent three days in the operating theatre. Were there no other surgeons to assist you?

Dr. SHARPE

We tried to bring all the surgeons together in a single location because there was a lot to be gained from regrouping the patients in three wards; this also meant that they were close to their families.

However, we could only do this once we had evaluated the extent of the disaster, and once we had planned the duration of hospitalisation and the time required to provide the necessary surgical care within a two- to five-day timeframe. Though we had other operating theatres that were available, and that could have been used, we did not have the time to wait for the crisis to pass before operating.

Delegate

But surely these patients had to undergo subsequent operations to recover their hand mobility?

Dr. SHARPE

Many patients' tendons were damaged as a result of their burns. This particularly affected those aged between sixty and seventy who had been unable to evacuate the stand rapidly. We had many difficult cases, since our objective was to preserve their mobility. But we were very lucky; we performed a few secondary grafts some time later. I would say that, to a large degree, patients' mobility was preserved because we had operated so early. We placed them in slings for an entire week; had we waited any longer, they might have lost much more mobility. In the majority of cases, the fact that this mobility was conserved meant that a second operation was not required.

SUMMARY OF QUESTIONNAIRE RESULTS

This overview of the various methods and practices adopted in the European Union was used to lead the working groups' discussions.

Mrs. Claude HANSEN

Before we split up into our discussion groups, I shall give you a summary of the results of our questionnaire. These results are organised according to the order in which the various questions appeared in our questionnaire (cf. appendix).

What, then, were the objectives of this questionnaire? As you know, this seminar has been organised to examine the different ways in which "major incident medicine" is organised in each of the European Union's member states.

To fully understand the way in which major incident medicine takes place, one has to first understand the disparities that exist between our countries as well as those features of each system that are compatible and those that are incompatible.

Given, however, the relatively small size of our sample set of responses, we have not used statistical analysis methods. Rather we have compiled these responses to provide a starting-point for the working groups' discussions.

We also wanted to ascertain whether there exist specific reference texts in each country and if such texts concern the emergency services, treatments or evacuations. Alternatively, we were keen to understand specific attitudes in each country, which either stem from past experience or the need to clarify the roles of the various organisations involved.

We also wanted to identify those involved in major incident medicine so as to better understand their roles and functions.

Another aim was to assist you in preparing your contribution to this seminar since having to answer questions that at first seem "unusual" can provide a different perspective on the issue.

Naturally, some of the results from this questionnaire are less clear-cut. Some difficulties were encountered due to differences in usage or vocabulary. In other cases, certain concepts were misconstrued or were incomprehensible. Nonetheless, the questionnaire provided a valuable opportunity for reflection, which I hope, will enrich our discussions.

Who responded to the questionnaire?

Some of the responses we received were signed; others were jointly completed by a hospital department. Although we have no way of verifying this, we believe that the bulk of our respondees are doctors.

Three countries returned two questionnaires each, the remaining countries a single questionnaire. In processing the responses made by these three countries, we gave precedence to those who gave the most information — as long as their answers were not contradictory.

Many of those who answered did so conscientiously. However, in other cases, it was clear that doubts existed as to the questionnaire's relevancy or that there was some surprise as to the form of the questions posed. This notwithstanding, the additional remarks provided by respondees enabled us to clarify any replies that required more details.

How were the questions formulated?

In drafting the questionnaire, we chose as neutral a wording as possible for questions. This meant that we deliberately left certain superfluities so as to allow for possible subtleties.

Take, for instance, the terms which appeared in table one. The question was worded to find out which categories of doctor are present or called out to the scene of a major incident. We translated the French term *urgentiste* into English by "emergency medics" so as to differentiate between staff who are trained in emergency or major incident medicine.

We also distinguished between "specialists" and "non-specialists". As you will have learned from Dr. Sharpe's presentation, the presence of specialists in major incident response teams is especially important.

Similarly, the example of Furiani further illustrates the need to involve local general practitioners.

We also wanted to find out whether other categories of doctors — psychiatrists, traumatologists and military doctors — were also involved.

The general-purpose term "paramedics" was used to refer to paramedics, ambulance crews and nurses. Some respondees, however, were confused as to whether the term "emergency medics" referred to qualified doctors or paramedics.

Despite this, all the questions were answered, however strange they may have appeared at first glance! Ultimately, this would tend to suggest that the questionnaire was not a wasted effort.

More importantly, it should be noted that the answers given do not reflect the official positions of the respective governments in each country. While I refer to countries, it is more correct to say that respondees completed the questionnaire on a personal basis; if you find that you are not in agreement with some of the answers made, please do not hesitate to air your differences in the working group sessions. So, in spite of these imperfections, we will now look at some of the questions raised by the questionnaire replies.

The concept of time was undoubtedly the biggest difficulty we encountered. The notion of its evolution over time was more important than that of its quantity, however the form in which the questionnaire was presented did not allow this to be taken into account.

So, without any further delay, I shall provide a summary of the results, chapter by chapter.

Participants in medical organisations

This table had two sections:

- doctors or the medical community
- operational staff

a) Doctors or the medical community

We note that doctors and paramedics are largely represented in hospitals but do not generally sit on emergency response committees whether at local, regional or national level. Notwithstanding this, in certain countries they can be found at the scene of an incident, in the triage centres or in specially equipped units.

(We have deliberately chosen to analyse the questionnaire results as a whole without specifying how each country replied to the questionnaire).

As a general rule, doctors are not widely represented on emergency response committees. Those doctors that sit on such committees are generally major incident doctors and specialists. The primary difference is that emergency doctors are more frequently call out to the incident scene — albeit while working in pairings with other doctors — whereas major incident doctors are often involved in co-ordination and command, two areas in which emergency doctors are often absent.

Conversely, major incident doctors rarely take part in casualty evacuation operations, whereas specialists are much more represented in hospitals than in the field and large numbers of emergency doctors are involved in patient transfers.

To take this analysis a step further, I have made a comparison between these two different categories — i.e. major incident doctors and specialists. It clearly appears that these categories are not interchangeable since they are considered to be doctors with different qualifications. Major incident doctors are not deemed to be specialists. But does this mean that major incident medicine is not a speciality?

General practitioners are not widely represented. Indeed, we note that they are "completely absent" or "occasionally called out to the scene". Three respondees answered that they are "systematically present" at triage centres or hospitals; in the case of four countries, they are "occasionally called out" to the scene, the triage centre or evacuation point and "present everywhere" in the case of another four countries. This raises questions concerning the training given to general practitioners and the role-played by them in major incident medicine.

Similarly, the question of army doctors is another worthwhile subject for analysis. In four countries they are mentioned once, three times in three countries and five times in another four countries. Although they are rarely involved in the co-ordination of major incident medicine as this is understood within the civil defence sector, we note that they play a significant role alongside other participants and can be found in emergency response committees.

After this first initial study, one can raise questions concerning:
- the identity, role and function of this category of major incident doctors;
- the form of training for general practitioners;
- co-ordination with army doctors.

Are major incident doctors overwhelmingly considered as co-ordinators? Certainly, we see that in a majority of cases they are assigned to emergency response committees. And if they are indeed to be regarded as co-ordinators, what can be done to remedy the situation whereby specialists are, as a consequence of recent progress in medicine, the only category of medical personnel qualified to give emergency patient treatment.
On the other hand, paramedics, who play a major role at every level, are generally not included in national emergency committees, but can be found on emergency committees at regional or local level. This, in turn, raises

questions as to the form for co-ordination between personnel at the scene and those responsible for commanding them.

b) Operational staff

For the purposes of our questionnaire, we used the term "emergency medics" to distinguish the other staff categories involved in major incident medicine from ambulance crews, nurses, fire brigade and police officers, civil defence and army personnel, other public sector organisations, elected representatives, legal counsellors, the media and psychologists.

We note that such persons are more frequently represented on emergency committees than are doctors. This would tend to confirm the assumption that major incident management is not just the domain of qualified doctors.

We note that fire brigade personnel are present, to relative degrees, at each level, including on emergency committees. Similarly, police forces also play a preponderant role.

This specificity may be explained by the difference in the roles and functions performed by police and fire brigade personnel in major incident medicine.

The army, like the civil defence forces, is involved at operational level and is more widely represented on emergency committees.

Once again, we note the relatively importance of the role-played by other participants who can also be found at the incident scene and in evacuation centres.

Elected representatives are often included in local, regional and national emergency committees.

We also note that legal experts are represented on emergency committees.

Media representatives can be found either in the field or on emergency committees. However, this observation needs some qualification:

- Are we referring to the same media?
- Are they present at similar intervals?
- Do media representatives fulfil similar functions? Are they a help or a hindrance?

Is their presence necessary to ensure that the public is informed at certain intervals? And, if so, what criteria should be applied to determine whether this presence is required? Conversely, as participants does their presence further complicate the situation?

Regulations

In only one country — Italy — do doctors play a role in defining regulations? For the rest of Europe, we received four different types of answer:

- in a first group of countries, only doctors from the public sector are involved in defining regulations and this involvement is exclusively at national level; in Luxembourg, Greece and Sweden, however, we find that all of the participants represented.
- In a second group — Great Britain, Belgium and Sweden (one answer) — doctors play a significant role in defining regulations at national, regional and local level, however only doctors from the public sector are involved.
- In France, Finland and Germany, doctors are involved in defining regulations, alongside other participants, as well as in devising medical and administrative procedures. Participants from the public and private sectors, as well public administrators and medical professionals, are equally represented.
- The last group of countries, the largest of the four, includes all of the participants who assist doctors in drafting regulations.

This would tend to suggest that all the participants jointly draft regulations, however it also raises questions as to the form for co-ordination between such a wide range of participants.

We also asked you to provide information on the reference numbers, dates and signatories to each of the regulations drafted.

Half of the answers received provided dates between 1987 and 1999 with a majority of regulations dating from 1996, 1997 and 1998. Signatories to these regulations generally fall under the authority of the Health, Interior or Environment ministries.

Why was this question on regulations included?

- We wanted to know whether the concept of major incident patient care requires central co-ordination by national governments and whether this is centralised at the level of the incident or whether major incident medicine is organised along similar lines to emergency medicine.

- We also wanted to know whether the experience of past incidents in the European Union has motivated organisational changes or enhancements. All of the answers received on this question were negative. However, we know of several examples that disprove this.
- Lastly, we wanted to ascertain whether an international dimension exists in certain countries in the field of major incident medicine. We found this to be

the case of two countries: Austria and Sweden. Perhaps, however, we should discuss this further, as I only have the questionnaire results to go on, and this situation may well be more widespread than has been suggested!

Pathologies

In addition to organisational aspects, we were also keen to discover whether certain countries recognise the existence of specific pathologies in major incident medicine. Have the lessons learned from past experience as well as recent progress in medicine perhaps contributed to the definition of a specific medical approach for the individual pathologies encountered.

Our responses show that all of the countries, with the exception of three nations that did not answer this question, have identified specific pathologies.

a) Specific pathologies

Specific pathologies mentioned included those related to the disaster situation itself (i.e. crush syndrome) or to potential threats (radioactive fall-out or biological weapons). They may also be linked to situations occurring outside of the European Union, e.g. injuries caused by missile strikes or malnutrition as well as community clinics requiring international aid. Despite this, many countries believe that military doctors are better equipped to treat such situations.

The questions raised in light of these considerations include:

- training for major incident medicine and the need to take into account these pathologies found outside Europe;
- the notion that certain major incident situations may require medical responses that extend beyond national boundaries (e.g. the Chernobyl incident);
- major incident pathologies that should not be either military or civilian.

b) Priorities for treatment

We also attempted to examine the question of the prioritisation of medical care.

The concept of triage is accepted in seven of the fifteen nations and is adopted in cases of extreme necessity.

In one country, patient treatment prioritisation depends upon the number of casualties, the timeframe for their treatment, or the modifications required to the organisation of hospitals.

Another country believes that the pathologies encountered depend upon the nature of the incident itself. In its reply, it states that flood victims generally require internal medicine whereas earthquake victims suffer from multiple traumas.

To conclude, by identifying specific pathologies can progress be achieved in the medical response to major incident situations? Has this an influence on the organisation of patient care, which would take precedence over triage?

Emergency planning

a) Emergency plans

In this area, our questions aimed to reveal whether the emergency plans devised are correlated with the nature or cause of incidents. Eight countries answered in the negative and nine countries in the affirmative. This gives a total of seventeen replies, including the countries for which two persons responded.

We placed particular importance on the emergency plans defined for a list of disaster situations: chemical, nuclear, maritime, terrorist attack, civil unrest, multiple trauma, mountains, flooding, air crashes, massive numbers of casualties, road traffic incidents, earthquakes and fires. A wide variety of different plans thus exist.

A question may be raised as to whether plans have been deployed and co-ordinated in each country.

b) Specific structures

Our question concerning the deployment of specialised medical units drew a variety of responses:

- certain countries acknowledge that special units are required in certain situations, e.g. sniffer teams for earthquake or logistics teams for the delivery of mobile units or field hospitals needed to set up forward medical stations.

- Others mention the existence of specialist evacuation teams (large and small fleets in France) and point to the need for bipartite agreements between states in the area of air transfers.

However, few respondees mentioned the fact that hospitals require specific organisation. As we know, hospitals cannot admit patients with a wide variety of pathologies and treat them in standard fashion. I would say that the number and diversity of such casualties require a specific organisational response on the part of hospitals.

The organisations responsible for such specialised units vary greatly in each country and can include the army, the Red Cross, private ambulance services and county or district councils as well as the police and the fire brigade.

c) Co-ordination

When these various units are called out, who is responsible for co-ordinating them?

Three countries answered "a single structure".
Seven countries answered "two different structures"
Five countries answered "three different structures"

The question must thus be raised as to how the work of these structures is co-ordinated in each country.

Training

Training is yet another area that illustrates the differences in approaches to major incident medicine within the European Union.

On an arbitrary basis we adopted 100 hours of training as a baseline for the questionnaire. Our objective was to investigate whether, above this limit, training is provided to teach specialisation or consists of additional training undertaken as a complement to participants' initial training. We also wanted to see whether courses are organised by universities or by private or public sector institutions.

Another question was whether training includes simulation exercises. Here, we distinguished between "virtual" simulations (i.e. on paper or computer), which test an individual's abilities or an item of equipment, and real-time simulations (i.e. simulations in the field) which involve each of the various participants identified in earlier questions.

- Six countries answered that they do not have training courses lasting 100 hours.
- Three countries have training courses of less than 100 hours.
- Four countries have training courses of more than 100 hours.
- One country offers training courses of 200 to 800 hours.

However, the titles of these courses suggests that the training provided is not specific to major incident medicine, but instead consists of specific modules on major incident medicine offered as part of a wider training course.

One respondee stated: "Major incident medicine is a specialist area of emergency medicine". Another replied: "Emergency medicine is part of a wider concept of major incident medicine".

A single country replied that it offered an international training course organised by a university and the Red Cross.

Psychological support

In the majority of cases, i.e. with the exception of two countries, facilities for psychological support exist. This does not, however, reflect a specific doctrinal approach, but rather a growing awareness of the need for such facilities.

Certain countries replied that training has been systematically provided in this area for several years, but not to all of the personnel categories involved in major incidents. It also appears that although this role concerns healthcare professionals, it is traditionally allotted to paramedics.

What are the objectives of such structures? Do specific traumas exist in the medical sense or should psychological support consist of a compassionate response provided by volunteers rather than medical professionals?

In discussing the forms of psychological support practised by volunteers or associations, are we referring to more outdated approaches in paramedical treatment or more contemporary victim support approaches, which take account of issues such as post-traumatic stress disorders to provide more efficient care and thus avoid the onset of chronic psychiatric problems?

The question concerning the responsibility for the organisation of psychological support did not resolve this uncertainty. In seven countries, a doctor is responsible for such facilities, in others, either a psychologist, a police officer or a public health authority is responsible.

Responsibilities of participants and co-ordinators

Regarding the respective responsibilities of participants and co-ordinators, we note that very different approaches exist in terms of the organisation of patient care and the emergency services. Very often, we observe that doctors are left to take charge of co-ordinating treatment. This responsibility is shared with the police or another public authority in only three countries.

The situation regarding administrative responsibilities is quite different as these are frequently shared. In a few rare cases, doctors are exclusively responsible for administration and in one country, doctors take charge of

administrative, organisational and operational functions. We were keen to determine whether the concept of patient treatment is distinct from that of emergency assistance. This would indeed appear to be the case.

In five countries, two levels of co-ordination exist: i.e. regional and local committees.

In four countries, three or four levels of co-ordination exist.

In another four countries, six levels of co-ordination exist. This means that there are permanent levels of co-ordination at each grade.

The question is thus to determine what are individual realities that lie behind these different approaches to co-ordination.

Media relations

Concerning the existence of conventions with the media, eight countries replied that such conventions exist and seven answered in the negative.

It would also appear that spokespeople are appointed as a general rule, but are governed by a diverse range of national and local structures.

However, the answers to these questions, even when cross-referenced with those concerning the presence of media representatives as posed in the first table (1.1), do not allow us to evaluate the level of co-ordination between them.

Problems affecting public health authorities

Once again, we obtained a wide variety of responses to this question, which asked whether major incident medicine should palliate the shortcomings of structures, which are overwhelmed by a major incident?

In ten out of fifteen countries, the army, civil defence, health ministry, NGOs and the Red Cross all act as substitutes for the public health authorities in the event of a disaster.

Three countries cite neighbouring districts and regions. In other countries the existence of mobile intervention units or substitute organisations is evoked. However, there is little reliance on international agreements.

These responses show that the question is understood differently in many countries, a fact that tends to demonstrate the basic concepts and approaches vary considerably.

Civil and criminal liability

While doctors in France are sensitised to the problem, particularly in the wake of the contaminated blood transfusions scandal, this issue should only be raised in major incidents of a very specific nature.

However, in none of our countries are doctors held liable for their actions in dealing with a major incident situation. And I think this is an encouraging sign. Fortunately the North American model has not been applied on this side of the Atlantic!

Financing and compensation

The question concerning financing and compensation was posed since we considered that where such financing exists, budget projections must automatically exist. Similarly, where forms of compensation exist, these result from the conclusions drawn from past experience.

Concerning the issue of financing:
- In two countries, the state is the sole source of financing.
- In five countries, the state and another institution (county council, regional authority, NGO) provide financing;
- In three countries, the state and three other sources are responsible.
- In four countries, financing packages are devised with multiple partners.
- In three countries, the state is completely absent.

Regarding compensation:
- Seven countries gave no answer
- In the remaining countries, beneficiaries of compensation vary greatly

Indeed it would appear that there are problems in ensuring the adequate insurance of facilities, equipment, and populations as well as in reinsurance for country councils or the state. These problems, in turn, affect the way in which major incident medicine is managed.

Definitions

We asked respondees to provide a definition of major incident medicine as opposed to military medicine, emergency medicine and humanitarian relief. In our translation, however, we translated the French term *médecine humanitaire* by "human medicine" in English. This created confusion as to whether a distinction was being made between medical and veterinary treatment! Owing to this error, we were forced to ignore the replies made under this third category which was incomprehensible to English speakers.

Eleven countries distinguish major incident medicine from military medicine, however an ambiguity remains since we cannot determine whether this distinction exists in terms of organisation or pathologies, or whether it reflects the fact that each area is a sort of "private domain".

Twelve countries distinguish pre-hospital emergency treatment from major incident medicine.

A variety of factors explain these distinctions:
- organisational reasons;
- conceptual reasons (the quality of treatment cannot be maintained even with a redistribution or greater mobilisation of resources or a change in approach; major incident medicine includes research, training and teaching);
- reasons stemming from the large numbers of persons involved.

This, in turn, raises the following questions:
- When using the term "major incident medicine" are we referring to the same subject?
- Does major incident medicine represents an advance in the management and treatment of casualties' physical and psychological injuries?
- Is it part of a broader scientific development which seeks to promote greater responsibility in ensuring the physical and psychiatric integrity of victims?
- Alternatively, does it represent a growing awareness of human failings and an acceptance of the fact that such interventions are very costly?

SUMMARY OF WORKING GROUPS' DISCUSSIONS

Topics for discussion included:

Operational aspects
Medical aspects
Social psychological aspects
Legal and financial considerations

Mrs. HANSEN
In your group, did you reach agreement on a specific point?

Operational aspects group (G1)
We succeeded in adopting a common definition: each of our systems work well in their own, albeit in very different ways. I think that the distinction between major incident medicine and emergency medicine is pivotal and in turn raises the question of definitions. What is a major incident? What is an emergency?

Social psychological aspects group (G2)
We agreed on the point that psychological support structures should take the form of social support structures that address social and cultural factors.

We also agreed that the term "social support" should be used alongside that of psychological support since one must take into account the social and cultural diversity of the population concerned by a major incident or disaster situation.

Medical aspects group (G3)
Our group discussed the question of medical evaluation. Though we did not reach an overall agreement, we did agree that precise definitions must be adopted for each event, i.e. "disaster", "emergency" or "major incident". We proposed to use the definition provided in the questionnaire. However, we feel that a better definition is one that is based upon effective co-ordination between all staff categories involved in managing major incidents. This was our conclusion.

Legal and financial considerations group (G4)
Our group began by examining the situation of the emergency services in each of our countries. We spoke at length about the definitions for each of the various participants. We believe this to be particularly worthwhile and we hope that our efforts will continue over the rest of this year. We are keen to pursue our discussions using the Internet.

G4 participant
We got a little bogged down on point 1: the question concerning the categories of participants who work together in major incident medicine. We would like things to progress in the best possible way.
It was particularly valuable to obtain an overview of the situation in each of the European Union countries and we are ready to continue our discussions on this questionnaire using e-mail and the Internet.

We will also have to adopt a certain number of standard definitions. Our discussion focused on legislation and regulations in the field of cross-border co-operation. We also raised the question of co-operation between the emergency services and other organisations. Lastly, we discussed issues relating to the difficulties in obtaining necessary materials and equipment when one is working at an incident scene in another country.

Mrs. HANSEN
My second question:
Were you in disagreement about any key points? Will this require additional work or negotiations in coming weeks?

G3 rapporteur
No. We had no major point of contention in our group. Where we were in disagreement, we concluded that we share similar objectives.

Mrs. HANSEN
Your group was primarily made up of doctors and major incident specialists?

G3 rapporteur
No. I am a hospital anaesthetist-resuscitator. Some of us are also volunteers. I do not think any of us are doctors.

G4 rapporteur
We had no major disagreements in our group, which discussed civil and criminal liability — an area in which uncertainties exist. None of our countries have specific experience in defining doctors' liability since no paramedic or doctor has ever been sued in the wake of a major incident. The only exception to this rule is the United States and it is not represented at this conference.

Mrs. HANSEN
If this were to occur in Europe, can those involved in major incident medicine be adequately prepared to deal with the eventuality of civil or criminal litigation as in the United States?

G4 rapporteur
Our discussion did not cover such an eventuality. Instead we focused on the question of quality assurance procedures. Directives and regulations must be drafted to regulate the activity of the emergency services. So we agreed that standards should be adopted to protect against such eventualities.

G2 rapporteur
Regarding the disagreements encountered in our discussions, I would say that our group was no different from the others. For instance, key differences lie in the fact that in the United Kingdom, ambulance teams called out to major incident scenes do not include doctors whereas in the majority of other European nations, doctors are included in ambulance teams. This does not reflect a disagreement but rather a specific difference.

Secondly, concerning the question as to the various scenarios that could require different responses from a logistics standpoint; the group accepted this.

Irish representative
I have to disagree. In Ireland, doctors must be included in our ambulance teams. This is more than a procedural difference. Rather it reflects a key disagreement within Western Europe.

Mrs. HANSEN
Do you have a different approach?

Netherlands
In the Netherlands, we do not have doctors in our ambulance teams. But this is more than a procedural difference.

G2 rapporteur
Is this problem related to different organisational, functional or legal contexts or is it a conceptual difference?

Irish delegate
I would say a conceptual difference, i.e. one between the medical and the paramedical. Conversely, if you are managing a private foundation, you also have to juggle with financial and economic considerations.

Swedish delegate
In Sweden, doctors are not systematically called out to the scene. However, specially trained nurses are sent out. The trend is towards increasing the training and specialisation of call out personnel.

Mrs. HANSEN
I would like to ask our Irish colleague the following question: can Irish paramedics provide medical care or resuscitate victims?
Are they authorised to give more elaborate medical treatments than in the rest of Europe? Can they resuscitate patients?

Irish delegate
Overall, I would say yes.

Austrian delegate
In Austria, paramedics are only authorised to provide medical treatment under a doctor's supervision. We always use doctors.

Generally, we refer to everyday emergencies and not major incidents. Our ambulances are equipped to transport doctors to the scene of an incident. For everyday call-out situations, our ambulances do not have doctors on board, however, where necessary, they can be brought to the scene.

Mrs. HANSEN
Can one conclude that the best results are obtained in countries where a resuscitator-medic is included in ambulance teams rather than in those where they are absent? Or is my question irrelevant?

Delegate
No, it's not irrelevant. I am a member of the council of resuscitators, I am also aware that the European council of resuscitators includes a considerable number of countries and a broad consensus exists on the issue.

Delegate
We are gathered here to evaluate the current situation within the various EU nations and, ultimately, to work towards an agreement on reference procedures for major incident management. The question, which must thus be answered, is not whether a doctor's presence can be dispensed with in such situations, but rather to determine the precise scope for doctors' medical intervention. Personally, I do not see a problem in the fact that paramedics are called out to incident scenes. In our group we agreed that the paramedic is perhaps better suited to major incident situations. The question is thus: at what interval should medical treatment take place within the emergency response chain?

I would say that at both ends of the spectrum we have, on the one hand, the French, who are committed to intervention at the earliest possible stage and go to great lengths to ensure that their doctors are called out to the scene; and, on the other, we have the British, for whom medical treatment takes place in the hospital emergency room. We must thus continue our discussions if we are come to an agreement on the role of doctors in major incident situations.

Mrs. HANSEN
...And over time also! So at what interval should medical treatment occur within the emergency response chain ?

Dr. DESFEMMES
In the "Medical Organisation" group, we all more or less agree that doctors should be responsible for casualty triage. This task directly concerns the incident scene itself. Doctors in virtually all our countries perform triage.

Mrs. HANSEN
This necessitates that they be called out to the scene and that they arrive at the earliest possible stage.

Dr. DESFEMMES
That was indeed what I have understood from my group's discussions. Doctors are sent to the scene to perform casualty triage. This is always the job of a doctor. Each of the countries represented in our group agreed on this point.

Mrs. HANSEN
This nevertheless appears contradictory. It appears that we are saying that doctors must be present at the scene to perform triage and, at the same time, that their presence is not required? Is this not somewhat paradoxical?

Prof. ROUGEAS
I had a question for our Irish colleague. When he speaks of calling out an ambulance with staff who are not doctors, is he referring to a major incident situation or an ordinary emergency situation?

Irish delegate
In the case of a major incident, an emergency plan is immediately launched. If a paramedic is unable to deal with the situation, we call out medical teams to the scene. These teams are specifically chosen for such assignments and have equipment for traumatology, etc.

Mr. PIRROS
I shall be brief. Concerning the role of doctors — an item I had included in the questionnaire — the questionnaire enumerated a list of specialist disciplines and I would distinguish between two categories: ordinary doctors, who operate in the manner in which they were trained at university, i.e. a physical diagnosis followed by clinical examinations, laboratory examinations and, ultimately, treatment; and what I would call "extraordinary" doctors,

whose response consists of saying: "I'm not concerned with the patient's injuries! What I want to know is: can he breathe and is his blood flowing?"

These two categories of doctor are completely different. Our group agreed that in both emergency and major incident medicine, we need doctors who have this "extraordinary" approach.

Nonetheless, emergency doctors have a one-to-one relationship with their patients whereas major incident doctors do not. So, we have agreed that the emergency doctor and major incident doctor are very different. They both have to find an original medical approach and apply it.

Delegate
The doctor's primary role is to prescribe a treatment — this is primordial. As regards performing technical actions, I would much rather be intubated by a skilled nurse than a doctor who doesn't have the necessary experience.

Delegate
In the United Kingdom, ambulance teams work alongside all of the emergency services in the event of a major incident. If you have the right instincts, it can sometimes be easier to deal with a major incident than an emergency. We work in close collaboration with the emergency services and hospitals, and the ambulance teams work with the hospitals. If you cannot deal with a specific situation, you call out a medical team to provide assistance. When dealing with a disaster, we have to have to work with the utmost urgency.

Mrs. HANSEN
So, we have four types of participant:
- major incident doctors
- emergency doctors
- major incident doctors and emergency doctors
- paramedics

Many of us are of the opinion that being a major incident doctor or being an emergency doctor is not enough on its own. People have to be able to switch from one role to the other according to the circumstances. But this kind of flexibility requires training.

G2 rapporteur
One has to accept the idea that emergency medicine is pretty much routine for emergency professionals whether they are doctors or paramedics. Conversely, by definition, major incidents are not an everyday occurrence —

and this is a key difference. It is also why there is no real training. A disaster is something that, by definition, rarely occurs.

Rapporteur G1

I would say major incident medicine incorporates two areas: medical treatment and co-ordination. Of the two, co-ordination is the most important.

Delegate
I would just like to agree with what has been said. This distinction also carries over to the question of ethics. In emergency medicine, you're dealing with doctor and patient relationships whereas in major incident medicine it is more a case of doctor and group relations.

Rapporteur G1
Our group is in agreement with this. As for myself, I would make the following distinction: every doctor is trained in ordinary approaches to patient treatment, but not all doctors are familiar with extraordinary approaches. As a corollary, I would say that the emergency doctor is often not qualified to act as a major incident doctor, but to be a good major incident doctor, you have to have experience as an emergency doctor.

This means that an ordinary doctor does not have what it takes to be a good major incident doctor and that an emergency doctor may or may not make a good major incident doctor — it depends!

Mrs. HANSEN
What were the findings of the group, which discussed social psychological support?

Delegate
We observed that the majority of countries have adopted such solutions.

G2 rapporteur
I am very happy that we are discussing this subject and I think we need to emphasise the necessity for stronger links between organisations, i.e. co-operation between doctors as well as between public authorities. From the standpoint of strategy, some professions are more important than others are and I thus believe we should examine the role of army doctors. This could form a basis for developing stronger links between the various professions so as to render major incident medicine more effective.

Mrs. HANSEN
I think we should add two items. Since we have to respond to a highly complex situation do we first need to adopt specific methods and examine their implications for major incident medicine? Secondly, we should bear in mind that we have to deal with two types of doctor who each have different approaches and working methods.

You also appear to be quite optimistic insofar as you believe a consensus can be reached. However, regardless of the means used to achieve this objective, what counts is that we all attain our goal. So, what progress do you hope to achieve between now and tomorrow evening? What are your objectives?

I have participated in two European research programmes on major incident planning. On both occasions, we focused on the behaviour required of commanders and co-ordinators. We also observed that the various participants often have different objectives — even if their stated aims are to save human lives or provide more effective treatment. Depending upon what phase in the incident you decide to look at, or the level of responsibility of the participants involved, you will almost certainly find that the goals are different.

So what I would say is, over the next three days, can your group reach agreement on the following question: "What are the objectives we can agree to and how do we work to achieve them?"
That is my conclusion for you.

Dr. RICHTER - (France)
To answer your last question: based on the conclusions of our working groups as presented today, perhaps we can set an objective to determine by the end of these three days. What are the health — and not medical — tasks than can be left to co-ordinators or at least to those responsible for co-ordinating responses to major incidents?

Mr. ALEVANTIS
As I said this morning, the idea is to launch a process that will progressively bring us towards general agreement, common principles and the beginnings of a rapprochement. I deliberately refrain from using the term "harmonisation" insofar as it has not found favour amongst our hierarchical superiors. For instance, adopting common legal definitions would be useful, as this would enable us to achieve comparable results.

Mrs. HANSEN
Do you believe that we should adopt more modest goals than those I have proposed?

Mr. ALEVANTIS
I would say that the process is underway. If we can arrive at a solution in the next three days, I think we can all be very happy. But I think we still have a lot of work ahead of us.

Mrs. HANSEN
Certainly. However, my remark is motivated by the fact that I also believe we are keen to issue recommendations. If we are to do so, we have to agree on the underlying realities upon which these recommendations are based.

G2 rapporteur
I think that by the end of this conference, we will have to leave with a resolve to establish recommendations and bring together information on local situations so that we are aware of what is available. We should also exchange contact numbers and addresses so that a spokesperson can be appointed in each country. These persons could meet at regular intervals so as to establish common procedures, which could be adopted for major incidents involving multi-national teams.

G1 rapporteur
I would remind you that we reached a similar conclusion three years ago in Stockholm, i.e. that co-ordinators should be appointed in each country. However, nothing has since been achieved.

Mrs. HANSEN
Thank you everyone. May I suggest we adjourn for dinner?

VARIOUS TYPE OF INCIDENT

disaster occurring in a single country
The Eschede ICE disaster, Germany

disaster involving psychological support
Herald of Free Enterprise, Belgium

disaster involving several countries
N'Sam, Cameroon

Mrs. HANSEN

In the course of our discussions today, we shall isolate the role of the major incident physician from those functions that are performed by emergency services. We have to come to an agreement on these functions since different categories of personnel in line with the circumstances or scale of each incident and the types of treatment involved carry them out.

To this end, I would ask you to listen attentively to the three major incident testimonies we will be presenting today:

- Dr. Hüls will give the first presentation on the 1998 Eschede high-speed rail disaster.

- Col. Quintyn, who will discuss the establishment of psychological support services in Belgium and other countries, will give our second presentation.

- Finally, Dr. Viala will give our third presentation of the day on a disaster that occurred in N'Sam, Cameroon.

As you listen to each of these accounts, try to keep in mind the following question: What functions are being described and who is performing them? In this way, I hope that when we split up into work groups this afternoon to look at tactical, strategy and medical issues in major incident medicine, you will be able to appreciate and refer to the specific functions and roles fulfilled by each category of personnel.

Dr. Edwald HüLS

Surgeon
Medical operations commander for the Eschede ICE disaster

I am very glad to have the opportunity to speak to you today about the Eschede ICE train disaster. Let me begin by presenting some photos taken at the disaster scene.

Before going into the details of the disaster, allow me to give you some background information on Celle, the district in which the disaster occurred. With a surface area of over 1,544 sq. km, with 49 km between its furthermost points in the north and south, the district of Celle boasts 180,000 inhabitants of whom 73,000 are residents of the town itself.

In this photo you see the hospital... This aerial photo shows the district's different emergency centres. As is generally the case in Germany, these centres are strategically deployed throughout the district to enable call-out teams to arrive on the scene of an incident in less than fifteen minutes.

Celle is part of a region served by two major airports with facilities for helicopters. Hanover Medical College is located six kilometres to the north-east, while an emergency services helicopter base is situated some thirty kilometres away. This base is used for emergency operations and its helicopters are on permanent stand-by.

The district' emergency medical services boasts twenty, fully trained paramedics who gained their experience in Berlin before coming to Celle. These paramedics work in four divisions, which include surgery; emergency assistance; anaesthetics and internal medicine. All of our paramedics have been trained for emergency intervention situations. As in other countries, this training provides a fairly comprehensive qualification.

Next, allow me to give you some details on the accident itself. Towards 10:33 am, on 3 July 1998, the Munich-Hamburg Inter City Express left Hanover train station on its way to Hamburg.

The train was some 358 metres long and weighed over 850 metric tons. It has seating for 759 passengers. I think these figures give you an idea of the challenge we faced as well as the kind of casualties and the number of deaths caused by the accident.

The train was driven by two power cars located at each end and the ICE's locomotive was pulling eight passenger cars at a speed of approximately 200 km/h. At about six kilometres from the accident scene, one of the train's wheels shattered, unbeknownst to the driver. At a turnout located 350 metres away from the disaster scene, the broken wheel's flange caught in a guide and derailed one of the train's cars. The cars behind it crashed into the supports of an overhead bridge, which collapsed on top of the remaining cars.

As you see here, the locomotive, which was not damaged in the incident, travelled a further two kilometres down the line after leaving Eschede. The cars immediately behind it, which had been derailed in the accident, were relatively unscathed. The fourth car had rolled over and had come to a halt amidst a forest. The fifth car was ripped in two by the bridge columns that fell upon it and the remaining cars were crushed like a folding ruler by the rear power car which weighed over eighty metric tons.

At 11:00 am, the police was alerted and, immediately afterwards, so too were the fire brigade and the emergency services.

At 11:03 am, the district's helicopter bases were placed on stand-by. At 11:08, the Red Cross, the various civil defence organisations and the border patrol guard were placed on alert.

Our ability to mobilise these various facilities was the result of a fortunate set of circumstances:

- Had the accident occurred seven or eight kilometres further up the line, it would have been in Uelzen, outside our authority.

- If the train had continued another three or four kilometres, it would have derailed onto a marshland which would have posed much more serious problems as we attempted to free casualties and bodies from the debris;

- The accident occurred on a weekday, everybody was at work;

- Visibility conditions were good, the helicopter pilots were not affected by rain;

- The accident scene was not far from Eschede. This meant we could use the village's infrastructure for our emergency operations. Had the accident occurred in the countryside we would not have had any buildings to regroup casualties.

These conditions enabled us to access the accident scene without difficulty by way of the district's secondary roads. The weather was dry. Driving conditions were good. Sometimes a little rain can make country roads impracticable. We were very lucky!

The various emergency services were all alerted immediately by our emergency call centre.

In this photo, we see the ICE locomotive, which continued along the track for another two kilometres. At Eschede station, the stationmaster asked the driver: "Where are your cars?" It was only then that the driver looked back and noticed that he had lost his entire train!

The first three cars, which had been travelling at 200 km/h, took more than six seconds before they came to a complete stop. The three cars that derailed were also left relatively intact and were not destroyed.

This photo gives you a better idea of the scale of the disaster. Here, we see that the fourth car was crushed by bridge's collapse. Its shattered remains were found amidst a small forest.

The fifth car was completely destroyed and the remaining cars were caught underneath the bridge's debris.

Here, you see the various emergency service teams who were able to arrive directly at the accident scene. There was even enough space for the helicopter to land.

Here you see the access roads leading up to the bridge. There was some ten metres' distance between the car and the bridge. We had to transport the injured alongside the bridge.

An industrial warehouse was used to regroup the casualties. Transporting the casualties, especially the seriously injured, was particularly difficult as most of them were in the eastern section. We had to commandeer all available transport vehicles in the area, because we had no idea of the casualties we would have to transfer. We pitched tents, which were used, as a mortuary.

Each of the units was left in their original groupings on arrival. We started by creating a command structure by section and sub-section, each with their own leaders.

The seriously injured were transferred by helicopter from the field you see in the background. We had to be sure that the helicopters that landed in the western section would also be able to land in the eastern section. However, owing to communication problems between the military and civilian helicopters used, we placed the military in charge of co-ordination.

The Germany army had placed a relay helicopter at our disposal. This helicopter hovered over the scene for one and a half hours and co-ordinated the military and civilian helicopters as they arrived or departed via radio.

With over forty helicopters operating within a relatively small region, we were very lucky not to have had a collision. Even if the visibility was good, the pilots had to be careful.

As you see in this photo, it was particularly difficult to access the cars. We had to resolve this problem as there were a lot of injured and, depending upon their injuries, we had to find prioritise our response: should they be treated at the scene or evacuated immediately?

We decided to treat the casualties at the scene. First they had to be extricated from the wreckage, however, and the conditions were very tough.

Our own clinic dispatched fourteen emergency physicians who arrived by helicopter. They were not equipped at all, but their presence was vital nonetheless.

In this photo, you see the cars that were crushed by the rear power car. As you see, the cars themselves were not badly buckled and the train's windows were left virtually intact. This posed problems, as it was hard to access the people trapped inside, especially as the doors were blocked. We had to use axes to break the windows, and this was sometimes difficult.

Eighty-seven casualties needed immediate treatment. We had eighty physicians at the scene. Each patient had his own doctor, his own nurse, his own psychologist and his own cleric.

Using the facilities at our disposal, we transferred these casualties to outlying clinics within one and three quarter hours. This meant that we did not have to sort the patients. Each patient received emergency treatment and was then evacuated. By 1:45 p.m., there were no more casualties. Over thirty army helicopters were working at the scene.

Since the situation was changing from hour to hour, we had to take tactical decisions at only a minute's notice — for example, our decision to group the casualties in a single building. To set up a tactical centre, you need proper equipment. And if you are using a warehouse as a regrouping centre, you first have to install medical equipment and check that it works properly.

After we had evacuated the injured, we took a number of additional measures.

From 3:00 p.m. onwards, once the initial rescue operations had been completed, we established a technical co-ordination structure to direct the work of the police, the border patrol and the army. Everybody received the same information and all of the problems encountered were treated. This structure was critical in enabling us to address issues and devise problems. Update meetings were held every two or three hours to ensure everyone was kept informed. Physicians also took part in this co-ordination group.

The entire rescue operation took place over several phases:

- Phase no. 1: emergency treatment and casualty evacuation; and

- Phase nos. 2 to 5: here the work was more specialised. We had to extract the injured from the cars and clear the scene so that the railway authorities could begin their enquiry.

During the first phase, which lasted until 3:00 p.m., we set up casualty treatment stations and selected landing and manoeuvring areas for the helicopters and vehicles.

In the course of this first phase, we found sixteen people uninjured, twenty people we could treat immediately at the scene, eighteen who were transferred to a hospital, and sixty-nine seriously injured people, many of whom were in a critical condition. By 3:00 p.m., sixty-five people had been extracted from the crash.

Thanks to the helicopters we had at our disposal, we were able to evacuate patients 250 kilometres away, to Hamburg and Kassel, where they were treated in some twenty-three different clinics. This meant that we were able to avoid overwhelming the specialist clinics in the area; it also enabled us to treat casualties according to the seriousness of their injuries.

As regards transport facilities, we had two road vehicles for every helicopter. A helicopter's utility depends upon its equipment configuration. After we had

evacuated the injured, we scaled down the number of helicopters at the accident scene.

By Wednesday afternoon, half of the train was still buried under debris and could not be accessed. As a result, we did not know how many casualties or bodies were trapped inside!

In total, 1,889 people were present at the scene. Personnel from the police, border patrol, fire brigade, emergency medical services, voluntary health services and technical health services were all represented as were the Hanover co-ordination team and a host of anonymous volunteers.

We made use of these people in different ways during each of the different phases. We had eighty-five volunteers at the start, and thirty for the second phase. In total, we had a staff of 647 people who supervised patient care for the minor cases and treatment for the more seriously injured.

At 3:00 p.m., the co-ordination team held its first meeting in which we reached a major decision. Although we did not hold out much hope of finding any more casualties under the wreckage, we had to work systematically and exercise considerable caution as if we went too quickly, we risked endangering the lives of those who might still be trapped under the debris. This decision was particularly important in terms of the signal it sent out to public opinion. But it also meant that we spent an additional three days to remove the debris.

Conclusion.

The final toll was:
- 96 bodies found at the scene
- 176 dead whose remains were only partially recovered
- 87 injured who were evacuated or treated at the scene
- 5 patients who died as a result of their injuries.

At 11:09 am, the railway company informed us that it had switched off power supply to the line. At 11:20 am, a health team was informed — this was relatively late, as we had to proceed with caution. We had to take the decision to keep the airspace free. The media arrived on the scene almost immediately and started taking photos. They took up position around the accident scene, which considerably impeded casualty transfer. Other difficulties encountered were radio problems. Similarly, civilians have to be supervised closely. They recognise no authority! Some are even ready to set

up fast-food stands at the scene to sell hot-dogs and soft drinks! We also had to find engineering experts who could help us to dismantle the remains of the bridge. Lastly, we also had to liaise with the media and ensure that public opinion was kept informed. You have to ensure that the media are given correct information and not leave them to their own devices.

We also had communications problems. Initially our portable phones didn't work. The radio frequencies were saturated and the network was down.

Another aspect was the fact that we had 1,800 volunteers who had arrived spontaneously at the scene. We had to be careful not to place undue pressure on them, but to ensure that they were treated with deference and that their abilities used effectively. But from a tactical standpoint, they were difficult to integrate with our emergency services staff.

Co-ordinating the various rescue teams is essential. Not only do health services lack a chain of command, but also it is very difficult to get health-care staff to submit to a different authority.

We had no real idea of the specialisation of the physicians present. The general practitioners had never had to deal with a disaster on this scale. They didn't know where to go to find the mortuary or the casualty regrouping centres. We had twenty different emergency doctors who wore a coloured marking on their jacket backs so we could recognise them. This meant that people always had an idea of who was in charge.

Lastly, we held a psychological debriefing for all of those who had helped us — this was particularly important.

Thank you for your attention.

Mrs. HANSEN

Thank you, Dr. Hüls, for this presentation on the emergency co-ordination plan at Eschede.

Col. Luc QUINTYN

Psychologist
Director of the Brussels Disaster Psychology Centre

I am an army psychologist working at the Disaster Psychology Centre at Brussels' Military Hospital.

I have been asked to describe the background and aftermath of the Zeebrugge ferry disaster, which occurred on 6 March 1987.

On the day in question, towards 7:30 in the evening, a ferry capsized as it was leaving Zeebrugge's harbour. In the space of just eleven minutes the ferry was overturned on its side.

Of the 463 passengers and 80 crew members on board:

- 190 died from primary or secondary drowning;
- 5 died after resuscitation;
- 165 were hospitalised; of which 23 had serious injuries and 152 were walking wounded.

It took two months to raise the boat from the sea bed. This meant that the 190 bodies on board spent two months in the polluted waters of Zeebrugge port. And it took us another two months before we could begin identifying these bodies.

But before we look at the disaster relief response and the patient management and staff co-ordination efforts deployed, I would ask you to consider the following. Why was I not asked to discuss the Heysel Stadium Disaster, or another disaster for that matter? Why has Zeebrugge left such lasting scars over the intervening years?

Another, more general, question I would raise is: why do we, as a society, tend to forget certain disasters whereas others become a part of our collective consciousness?

Let's try an experiment. Close your eyes a second and try to answer the following questions. Where were you on the day John F. Kennedy was assassinated? What were you doing on the day the Berlin Wall came down? I'll bet that many of you are able to answer these questions without hesitation.

What is this phenomenon and how does it work? Recent research in the US has shown that certain major incidents and disasters enter the collective consciousness while others do not. One of the findings of this research is that the disasters that remain in people's minds tend to unleash creative energy over a long period.

Another observation I would make is that the disasters that unleash this creative energy generally have a lifetime of twenty years or so.

For instance, in the two decades that followed President Kennedy's death, people around the world chose to honour President Kennedy in spite of his involvement in the Vietnam war. Certainly, although he was a target of criticism in America, this was not the case elsewhere in the world. But why is it, when so many of the world's leaders have been assassinated at one time or another, that thousands of cities have their own John F. Kennedy boulevard?

Allow me to give another example, this time one that concerns Belgium. In 1998, researchers from Brussels University interviewed a sample of one thousand Flemish-speakers, one thousand French-speaking Walloons and eight hundred residents of Brussels. Each interviewee was asked the same question: "Name a major disaster?"

- For Flemish-speakers, 84% spontaneously answered Zeebrugge, which would appear to have remained in the collective consciousness. Only 23% of Belgians still think of the Heysel Stadium Disaster as a major disaster.

- The responses made by Walloons were even more surprising: 78% remember the Marcinelle disaster of 1956, this was a firedamp explosion, which caused 262 deaths.

- Brussels residents recalled the 323 deaths from the 1968 Innovation Fair.

Certainly, scientific research in this field is far too recent to offer comprehensive analysis and conclusions. Nonetheless, I shall try to share with you the benefits of some of the discoveries made.

It would appear that an inability or a prohibition on discussing crisis events that have a major significance — what some call "silent memory" — creates the most powerful shockwaves and unleashes the most energy. I am referring to prohibitions that are due to repressive governments or fundamentalist fanaticism. This phenomenon of "avoidance" creates a situation whereby the

subconscious takes on the task of dealing with a traumatic memory and so the fact of not discussing the subject stimulates reflection and dreams.

This is one of the factors explaining the incredible energy unleashed by the memory of a disaster. Those of us working in the services are all too familiar with such taboos. In so many of our services — fire brigade, the army, and the police — we shy away from discussing our emotions.

Some disasters create other types of energy such as guilt or shame.

It would appear that the real source of this energy lies in the collective consciousness of such "silent memories". This observation leads us back to the Zeebrugge disaster and the conclusion that, a major disaster will only become part the collective consciousness when there is a feeling that something has been left unfinished. As we shall see later, this is probably one of the principal factors explaining the changes that have occurred in Belgian society, and also in major incident management, since the Zeebrugge disaster.

Let's go back, then, to 6 March 1987. On 4 August of that same year, I received an invitation from the Red Cross director, the emergency services commander, the chaplain of Zeebrugge Port, and a police officer to share a meal with them on a Sunday afternoon. We met at the home of the Red Cross director: it was around three o'clock. We talked through until two o'clock the next morning. We were among colleagues and, although we didn't know it, we had a real need to talk.

What were our findings? I remember that, at the time, one of my impressions was that in spite of our rank, our uniform and our diplomas, none of these things had vaccinated us against the impact of what we had experienced.

As a psychologist, I felt powerless: "What was my purpose here?" The setting was wrong. I wasn't wanted. I remember the police officer who was present said to me: "I knew this was going to be hard. But the thought that a psychologist would be here today kept me awake all last night!" If you like, my presence there increased the feeling of anxiety rather than diminishing it. I can tell you, this didn't make me feel very happy!

I was at a loss: I was familiar with the theory, but had no practical experience to fall back on. As I said earlier, the cultural context was inappropriate. Speaking about one's emotions amongst people from the forces means "giving over the floor to someone". This brings with it a notion of democracy

and in a world as structured and as regimented as the armed forces, democracy is a dangerous thing.

A year later, I met a neurologist who asked me to attend a congress in Tel Aviv. There, I met a chief psychologist from Great Britain who had worked with families and victims of the Zeebrugge disaster. His name is Peter Ashkinson. Like me, he needed to get things off his chest. He also felt isolated.

We decided that we would meet again in Belgium in a year's time to hold a round-table discussion. We invited five or six people and met on 26 May 1988. Very quickly, word of mouth took over, and we found we had to refuse people. More than 150 people from Belgium, all of them from the medical services, contacted me, as they wanted to take part in the discussions. Finally, we had 152 people, just two years after the disaster.

After Zeebrugge, I noticed that there were no specific services to help police or army personnel overcome the build-up of stress which is accumulates after such operations. In August 1990, the army contacted the hospital I worked for to see if I could be discharged from my functions as a psychiatrist and assigned to create a centre to treat stress and trauma-related illnesses among army personnel who had been involved in disaster relief operations.

We set up a therapeutic unit, we gave classes on stress management, we conducted scientific research and, little by little, and the idea took form: something had to be done to deal with the problem of post-disaster stress.

Within a few months, our psychology centre was overwhelmed with requests. We had to deal with an explosion in demand for our stress management classes and our practical exercises in coping with disaster situations. The police forces, the fire brigade, hospital emergency services, missionary orders, disaster relief organisations like Médecins Sans Frontières or Action contre la Faim, as well as private-sector organisations from the petrochemicals, banking and occupational health care sector all came to us.

In 1990, my colleague, Peter Ashkinson, published the first edition of a work on private therapy. This gave us a scientific and pragmatic basis for our work at the Crisis Psychology Centre.

On 29 December 1995, we received our first ministerial mandate to hold a conference entitled: "Research Project for the Organisation of Post-Disaster Psychosocial Care". We held this conference over three years running. Then, as an unprecedented outcome of this work, on 23 February 1999, the

Secretary of State responsible for emergency planning presented our plan at a press conference.

Why should society take on the responsibility of psychosocial planning for major incidents? And I emphasise the importance of the term "psychosocial", and its specific medical, financial and legal aspects. Just as there are human reasons for which society has to react to a crisis situation, so too there are legal reasons. One should remember that the famous post-stress trauma disorder was officially recognised in 1980 by the World Psychiatric Council, and I can assure you that while psychiatrists recognise the existence of PTSD, it is solicitors and lawyers who make use of it.

Just as important are the financial reasons. Treating symptoms is a costly affair and the financing has to be found.

Another important area is public relations. We protect the victims of a disaster, but why is it that we fail to protect our own staff? Our police and fire brigade officers, our nurses? In professions where these human considerations are addressed, and where staff are given recognition and respect, people are much better motivated to work in a team.

What approaches do we use as physicians, as psychologists or as professional staff to treat disaster victims? Certainly, we are all familiar with traditional, therapeutic approaches. But increasingly the focus is switching towards a more curative approach. This is a well-known area and something that is easy to apply. It is a purely medical model. We find that it is most widespread in the Latin countries whereas the opposite model, the preventive approach, is much more common in the Anglo-Saxon countries.

What is the difference? I am not saying one approach is better than another. But I would like us to look at the differences between these approaches.

For the therapeutic or curative model, the physician or the therapist does not go to the victim; rather the victim must first express a desire to be treated. Indeed, law prohibits this. No doctor, no matter where he or she practices, can simply decide to call round to his neighbour and say, "Madam, you look unwell, I am going to treat you!"

However, when you look at disaster victims and their requirements, we see that victims do not want to be treated in a medical context. They want us to come to them. So we will invite them.

The curative approach consists of repressing undesirable behaviour and unpleasant emotions. There are no good and bad feelings, if you like, just what is "pleasant" or "unpleasant". When a mother wakes up in the morning to discover her infant child dead in its cot, she screams. This is a problem for the family doctor, the rest of the family and the mother's entourage, so she is given a Valium and, in the meantime, her child is sent off to hospital.

The difference with the preventive approach is that it seeks to stimulate and give expression to these feelings.

The curative approach focuses on individuals. When we organise a therapy session for disaster victims, what our participants want is to be "together".

You will remember I spoke earlier about the feeling I had with my colleagues from Zeebrugge: we didn't need a psychologist, we just wanted to be among ourselves. And that's what we did: we focused on the group, and the psychologists who were there encouraged the group to help each other.

In the therapeutic or curative system, medication is prescribed or patients with psychological problems are sometimes admitted to hospital. Under the preventive model, there is no medication; we try to avoid it. Nor is there any hospitalisation.

In the curative or therapeutic context, personnel have to be qualified, they have to have experience, and they have to be very familiar with their discipline. This gives them their power, and in medicine this is very important. But disaster victims are not interested in any of this, what matters most to them are the therapist's human qualities.

And when I say "human qualities", I mean vulnerability. That is to say, the vulnerability of the person who reaches out to the victim. You cannot forget that each victim is the victim of an abuse of power, whether human, mechanical or natural.

We consider that disaster victims show an ordinary reaction to an extraordinary situation. We don't speak in terms of patients, because victims have other needs. And, in Belgium, I think that psychologists and psychiatrists are increasingly aware that victims do not need a "head shrinker", but something, which is much more complex.

In compiling our report, we observed that in most disaster situations, assistance is provided over a month-long or six-week period after the disaster. The approach is a little similar to what takes place during mourning.

If you lose a child, you may mourn for a period of roughly three months. After three months, your neighbours will say: "Stop thinking about it, you have other children to look after!" In a group situation, the same process takes place: together the group overcomes the disaster they have lived through. This is why we set up a structure to deal with the critical period, the initial phase, which lasts between eight and forty-eight hours. But this is a theoretical measure; sometimes it can only last a few hours.

Any human being who has lived through a disaster, a major incident or who has witnessed death around him, or who has seen death affect those close to him, needs time to get over this shock, to assimilate the experience and integrate it within his personality.

During this initial period, victims have normal reactions to an extraordinary situation. It is only after a few months — three months, six months, and a year, depending on the disaster — that chronic states begin to emerge.

At our Crisis Psychology Centre, we attempt to evaluate victims' specific needs at each of these periods, for example the "working through" period or during periods where victims are already encountering problems. As you can imagine, that requires a curative medical approach. At the same time, the legal professions and the social services also have a role to play. We define a number of principles for our work, and we see that these principles are the same as those that have been adopted by the military for centuries. Providing localised treatment is one such example. If a disaster occurs in the South of France, you don't transfer victims to Paris for psychological treatment.

What are the techniques we use? In the armed forces, for example, we often organise post-incident debriefing sessions.

Alongside this, we have researched the question as to who is best placed to apply these techniques using an approach that meets participants' needs? We have observed that in groups made up of people from a similar environment, the biggest impact comes from the group leader. So this means we have to train people to be leaders.

In applying this principle of localised treatment to the context of Belgium, we find that psychosocial assistance must be organised as close as possible to the victim's place of origin. Belgium is a small country that is made up of different provinces. Each province is administrated by a governor who is responsible for commanding emergency operations. The governor is seconded by the medical-inspector of hygiene who is responsible for co-

ordinating the emergency response committee. Psychologists have to know their place within this chain of command. Generally, they report to the inspector of hygiene who is their hierarchical superior.

Working alone, in isolation, we didn't know what to do. The minister told me: "Do what you like, but make sure it costs nothing". I was furious! But I am happier now, because we were able to join forces and co-operate with existing organisations such as the Red Cross or mental health centres.

Another key area is that of planning. We determined what would be the psychosocial impact on society. Holding brainstorming sessions, analysing disaster situations, as we have done this morning, is something we have done on numerous occasions.

Thank you for your attention

Delegate

I wanted to ask you a question concerning psychological support for rescue services. You spoke of the need to act before stress accumulates and of the need for dialogue. Do you think that this should be the role of team leaders, when sometimes these people do not have the training or necessary psychological skills to create such dialogue? Secondly, do you think, this could take place while the disaster is occurring? For example, during breaks, when staff wind down, or during team changeovers? So my question is, can team leaders perform this role without having the necessary psychological or psychiatric training?

Mr QUINTYN

This is a very interesting question; I have a few remarks to make.

Firstly, you speak of the rescue services and of health-care staff. This involves a lot of different people, physicians, nurses, and other emergency services staff, each having their own "corporate culture". Fire brigade personnel have different needs to nursing staff; you have to treat them differently.

Next, you mention the issue of dialogue. In a group with the same "corporate culture" and if, as a group, you can discuss feelings openly, then yes; it is possible, especially if you are familiar with post-stress debriefing techniques or methods to work against denial.

After the research conducted with the police, we found eighty-five constables who had been involved in a major fire incident. A year later, they were asked who gave them the most assistance? In first place, they answered, "my colleagues"; second, "my family and friends"; third, "my superior"; fourth, "professional assistance", i.e. a psychologist or psychiatrist; fifth, the magistrate responsible for investigating the fire.

Then, when we asked them who played the greatest role in helping them overcome the incident, surprisingly enough we learned that the most efficient assistance was provided by their superior, secondly by their family and friends, thirdly, their colleagues and, thereafter, psychologists and the investigating magistrate.

You ask me if the chief physician, the team captain or leaders should be trained to use psychological techniques? I would say that I certainly hope not! However, they should be trained. For this, the ideal solution is a three-day training course with one day of theoretical work, one day of practical exercises, role playing, etc. — because leading a debriefing session is not easy — and a day of personal development and understanding one's own emotions.

Dealing with victims' emotions is a very difficult task. You can't deal with victims without being affected. The bible says something similar. He who deals with victims, sooner or later, one of them will enter his spirit, his thoughts and he will never be able to forget him.

So the question of corporate culture is essential.

Your question is a pertinent one: yes, often the leader can get to the bottom of the situation. Afterwards, a psychologist should be called in. The psychologist's role is to help the leader, to debrief the debriefers if you like.

Col. Bernard VIALA

Army Medical Doctor and Medical Advisor to the Director of Civil Defence and Public Safety

My name is Bernard Viala; I am the medical advisor to the Director of Civil Defence in France. As part of my responsibilities, I am responsible for medical co-ordination of French medical teams working in disaster situations.

I would like to present the background to a disaster that occurred in Cameroon. Why did I choose this example? Principally, because our intervention necessitated co-ordination and collaboration with foreign partners. So, in the course of my presentation today, I will not give a description of the medical aspects of our intervention. Instead, I would like to focus on the importance of co-ordination with foreign partners in the areas of crisis management and logistics.

The disaster occurred on 14 February 1998, Saint Valentine's Day. In Cameroon, an explosion occurred, many of the casualties had serious burns. The headlines in the newspapers in Cameroon read: "Roasted on Saint Valentine's Day"!
Allow me to give you some of the background to this disaster.

N'Sam is a small community near Yaounde.

At 5:00 am, at N'Sam's petrol depot, a train hauling oil derailed and collided with an oncoming train. Both trains were overturned and petrol began to gush out of the ruptured tanker. Bystanders came in their droves to scoop up the petrol. Over the intervening hours, men, women, children and the elderly, with pails and improvised recipients, formed a human chain to try and salvage the 120,000 litres of petrol. Some children even climbed on top of the tankers to recover the petrol directly.

Such was the concentration of petrol fumes that many were overcome by illness. Nevertheless, the villagers continued to collect the petrol, right up to 2:00 p.m.

Towards 1:00 p.m., in the village, just 800 metres away from the petrol depot, people were preparing the afternoon meal. Barbecues were lit to cook chicken. And what was going to happen happened. The petrol fumes in the air suddenly engulfed in flames, creating an enormous blast, which covered the entire area. Everything within a 200-metre radius of the train was immediately destroyed. The remains of over sixty people were found.

All of the bystanders who were within 400 metres of the train were burned to between 40% and 100%.

In Cameroon, emergency services are practically non-existent. There are no ambulances and no facilities for treatment. Faced with the scale of this disaster, the Cameroonian President appealed to President Chirac for emergency medical assistance.

This photo shows the immediate area around the train. Sixty-two people had been burned to death, some without leaving a trace. Fortunately, a fire engine with a carbon foam spray had arrived in time to prevent the tankers from exploding.

So what happened next in the sequence of organisation? The Cameroonian government's request for assistance to the President's office was immediately transmitted to the civil defence force's operational command centre in Paris. I was ordered to form a medical team capable of treating burn victims and of procuring the necessary equipment, since nothing would be available in Cameroon.

It was a Sunday afternoon. Most of our staff was away for the weekend; however, we have a system of twenty-four-hour teams on rotating stand-by. Within an hour, we were able to form a team of four doctors and two nurses, from the civil defence forces and the Paris fire brigade. We were also able to organise three tons of equipment and drugs for burn victims in less than two hours thanks to a co-operation agreement between the civil defence forces and the defence medical services.

The alert had been raised at 3:00 p.m. By 7:00 p.m., the entire medical team and our three tons of equipment were on board an aircraft bound for Yaounde. Four hours separated our departure from the moment the alert was raised.

Upon our arrival the next morning at 6:30 am, local government and health services representatives met us at the airport and organised an ad hoc briefing.

At 8:00 am, our team was split up into groups that visited each of the nine hospitals and local clinics to which the casualties had been admitted. No one, however, could confirm the exact number of casualties or the treatment they were receiving.

Our initial evaluation very quickly revealed the inadequacy of the local facilities. There were no resuscitation ambulances — just a few Toyotas that had no medical equipment. Medicines were in short supply; there were no drips of any kind, no anaesthetics and no antibiotics. Worst of all, the city's health-care structures were completely disorganised; if even one could say there was any organisation at all! Cameroon had never experienced a disaster on this scale, and didn't know how to respond to it.

The first death toll was ninety-four dead, and this immediately raised a problem. In a disaster situation like Eschede, DNA tests can be used to identity bodies. Obviously, in Cameroon, this was going to be a problem, if not an organisational nightmare. To give you an idea, the bodies were stored in a warehouse while outside it was between thirty-five to forty Celsius, there were flies and sand everywhere.

The government officials had the idea of having the local villagers identify the bodies in return for a small reward. But this had to be quickly abandoned when we noticed that once they had identified a body people would line up again and again to collect more money.

Our teams had found 143 casualties, with 60% burns or worse. Most of these patients had been left on the ground for over ten hours without even a mattress. None of them had been treated in any way, not even an analgesic.

The main thrust of our intervention was to work with the local health authorities to set up a co-ordination structure.

The first decision that we took with them was to regroup the injured in a single location. We had no hope of treating 143 casualties who were in nine different hospitals scattered around Yaounde. Out of a similar aim of efficiency, we decided to set up the pharmacy we had brought with us in the same place where the casualties were being treated.

Everything was regrouped at Yaounde's central hospital. This involved organising a complete medical chain, which went from collecting the injured right up to treating them. More importantly, the entire process had to be supervised by a single command. This was something the local health services agreed to immediately, since otherwise we would have come up against bottlenecks, which would have further increased the time needed for treatment.
Next, we worked with the local health services to devise a strategy to treat the patients in order of priority. In our international missions, our objective is not to merely provide assistance, but to work together as partners. This also

enabled us to deploy a complete logistics structure for French aid, since we were the only country represented.

How then did we organise this medical and logistics support?
The first difficulty we encountered was to provide treatment for 150 burn victims. We were thousands of miles away from Paris or Marseilles with their special treatment centres for burns. What could we do to overcome the shortage of medicine and basic equipment?

To give you an idea, in African hospitals you will generally find beds, but never mattresses. Mattresses, like sheets, just cannot be found. The patient's family generally supplies sheets, or rather boubous.

Similarly, there is no catering for patients, not even for the staff. No basic equipment, not even a stand to hold a drip, and no bandages either. You have to treat burn victims by giving them baths. Of course, however, we couldn't get a bath anywhere. There were no surgeon's gowns for the staff. We had to find solutions for each of these deficiencies, not to mention the complete ignorance of basic health-care techniques and hygiene procedures for burn victims.

We also had to conduct a complete inventory of the equipment and drugs we had brought with us. In the time it took to unload our equipment from the aircraft and the time to transfer it to the hospital, a box of one thousand syringes had gone missing. But it hadn't strayed too far, because the next morning we found the syringes on sale in the dispensary outside the hospital. At the same time, we also had to keep track of our medicines day-by-day so as to make sure we were resupplied in time.

What other problems did we encounter? Before we could provide solutions, we had to address the specific difficulties related to the local situation. For example, the hospital's lackadaisical operating procedures. The local climate was another problem. Similarly, we had to deal with the local culture and mentality. Their religion is different from ours. Many people in Cameroon are also animists.

The problem we had with the animists ...as Dr. Richter, who was in charge of medical treatment, will attest... was one of diet, and since we didn't have enough proteins for our patients, we decided to give out eggs every day. One of the patients refused. For an animist, eating an egg means running the risk of turning into a chicken. This is the kind of thing you have to deal with.

We also had a problem in restocking our medicine supplies. Once these were used up, we couldn't obtain supplies in Cameroon where there is no indigenous pharmaceutical industry and there are also problems with the dosage and purity of drugs. Everything had to be sent from France.

As I have already mentioned, the local medical teams lacked rigor. We even had to teach the nurses the basic rules of hygiene and prophylaxis.
For instance, we would often have to check back at the hospital during the night to make sure that the drips were still connected. Very often, the nurses would stop them, so as not to have to get up during the night to change a patient's drip!
The only solution was to make use of what was available locally. For example, we were able to have drip stands or bed frames made for next to nothing by local ironworkers.

To give the patients baths, we bought an ordinary bath on the local market. This was installed in the hospital's courtyard and filled with pails of water. It certainly wasn't the state-of-the-art!

The anti-bedsore mattresses that had been used for patients with over 60% burns were replaced with orthopaedic mattresses, which we purchased in Yaounde.

This should give you an idea of what happened during the first phase of the operation.

During the second phase, we began co-ordinating the international aid. The disaster had been widely reported and all of the embassies represented in Cameroon offered to provide assistance. Fourteen countries and a host of private companies offered financial assistance or equipment.

All the ambassadors we approached wanted to donate something, but they wanted to be certain that want they gave went directly to the victims. The total amount came to approximately FRF 3.31 million, and this had to be accounted for right down to the nearest franc. A decision was taken to organise a central structure to manage these funds. All of the ambassadors present decided to allow France to provide this structure.

The first problem we encountered was to ensure that the money was used for emergency treatment and not considered by the Cameroonian authorities as "rehabilitation grant". That is to say, we had to make sure that the money was spent on the victims and not on rebuilding a hospital or something else. This

necessitated tight discipline in our accounting, as we had to provide the embassies with receipts for each purchase.

For example, every time a delivery was made, we had to notify the concerned ambassador who would come to officially hand over his country's donation to the Cameroonian government. On top of the basic responsibility of verifying our orders, this also entailed tipping off the local TV station, so that each ambassador could be recognised officially as having provided aid.

We also had to set up a co-ordination committee to administer the funds under the supervision of the French embassy.

This committee comprised a representative from the UNDP, the French embassy, the European Community, the Prime Minister's office, the Cameroonian health ministry, the hospital director, Cameroonian, French and Red Cross doctors, as well as a number of NGOs. We held daily meetings, and every purchase order and invoice was scrutinised and signed by the committee members. Nothing was bought without the approval of the competent medical authorities.

The end-result of our intervention was that fifty-two people were saved. Most had 50% burns some had more than 70%. With such rudimentary means, how did the medical teams achieve such a result?

- Firstly, we did not encounter major pulmonary problems. We were very lucky, because we had no oxygen canisters, although we did have an artificial respirator. Fortunately, the blast had only lasted a few seconds and had not caused burns to the upper respiratory or pulmonary tract.
- All of the patients were exposed to multiple parasites, those who had lived long enough were immune locally.
- None of the patients had ever undergone antibiotic treatment, so the antibiotics we gave them worked. We didn't perform antibiograms; we gave them antibiotics at high doses. I'm not sure that the same would have worked in Europe!
- Lastly, they were fairly hardy and we were very lucky.

To conclude, in disaster medicine, you are faced with a load which exceeds capacity. The necessity to implement a co-ordinated emergency relief plan was demonstrated from the moment we began co-ordinating the emergency medical services' response.

Secondly, you have to have abilities as a logistician as well as a physician. Sometimes, we had to focus more on the logistics side; sometimes it was the other way round. In any case, it is a major issue for co-ordinators.

I also think that organising an international logistics response was the breakthrough that largely determined the operation's outcome. I don't think we would have been able to treat as many people without the financial assistance of so many countries.

To our minds, I would say that the real efficiency of the co-ordination structure adopted lay in the fact that we had a central command. We had a single entity responsible for allocating equipment, defining priorities and supervising operations. This was the key to our success.

I chose this example to show that we may have to work together one day in a foreign country. This is the goal of our seminar and of the European Union's programme. And I think it is the objective we all hope to achieve.

Mr. RENNER (Austria)
I really enjoyed your presentation, Dr. Viala; you had to treat a large number of third-degree burn victims. Yesterday, we listened to a presentation on the Bradford disaster and on rapid surgery techniques. We saw how the necessary skin grafts were performed to save peoples' lives.

You say you didn't need artificial respirators, but did you have to perform skin grafts? Did you have to transfer the patients to other countries or other hospitals to treat them, or was this impossible?

Dr. VOLPINI (Italy)
I would like to know if the team you sent to Cameroon had already been hand picked? Do you have special medical teams for each type of situation? Chemical disasters... Earthquakes... etc? Do you have specialised medical teams?

Dr. VIALA
I would say that half a century separates the kind of surgery techniques performed in a disaster situation like Bradford, and those we had to use.

You raised the question of whether we were able to transfer the patients. The central hospital in Douala, which is about two hundred kilometres from Yaounde, has a fire accident unit with two or three well-equipped beds.

However, in Africa, you have to remember that when you are treating a patient, the patient's entire family is present.

Perhaps I didn't mention this earlier, but the families of our patients had to camp out in the hospital's courtyard. There were about three to four hundred people there who did their own cooking as well as for the patients.

Had we transferred these patients to another city, we would have cut them off entirely from their families. And we didn't have any psychologists with us to remedy this. So, from a cultural standpoint, this wasn't feasible.

Next, there were also political considerations. Hospitals in Cameroon are independent. So, if Yaounde hospital admitted the patients, this meant it would receive all of the international aid. The hospital's administrators would not have been happy if we had transferred patients to another hospital, as they would have lost a portion of the aid allocated to them. We had envisaged such a solution, as we had transferred someone from Douala, however, we very quickly saw that this was creating a sort of conflict between the hospitals in Douala and Yaounde.

None of the ambassadors were willing to accept the patients in their own countries — a burn victim needs months of treatment. Moreover, this would no longer have been emergency relief and there was also the question of who would pay the cost of this lengthy treatment?

As for performing the skin grafts in Cameroon, this was something Dr. Richter, who was in charge of medical care had investigated. However, no dermatome was available locally. Then when we did find some dermatome, there were no blades. We had to order dermatome blades from abroad. When they finally arrived, they were the wrong kind.

This initial obstacle was overcome thanks to Médecins Sans Frontières, who sent Greek and Israeli doctors to perform the skin grafts over three to four days. But that was all.

On the other hand, a decision was taken to send international reparative and reconstructive surgery teams to Cameroon. This is currently going on. However, there was nothing we could do in Cameroon itself.

Concerning Dr. Volpini's question, at the time of our departure we were able to select some of the team members. We had personnel from the Paris fire brigade who are all used to dealing with fire situations and treating seriously burned victims in emergency situations. We also had two other qualified people.

All of the physicians who came were from the civil defence forces. All of them are specialised in emergency medicine and in major incident medicine, but not in treating burn victims.

However, the problem wasn't really a question of the therapeutic treatment for these burn victims, the bulk of our work consisted of rescue medicine, resuscitation and emergency medicine, rather than treating the burns.
However, when we go abroad we have specialist major incident teams who have experience of natural disasters. This was the case of several of our recent missions, as for example in Central America or Colombia.

Regarding chemical or nuclear disasters. No country can really say that it has doctors who are qualified in such situations. We have medical teams with the necessary basic skills, who know how to deal with chemical disasters. But I wouldn't say we have specialist chemical disaster teams. It wouldn't be true.

Delegate
Where did the staff on your team come from?

Dr. VIALA
Our staff came from the forces. Firstly, the Paris fire brigade, which is a military brigade, and next, the civil defence forces, who are under the authority of the Interior Ministry. All of them, physician or not, know how to administer an injection, but they wouldn't know the first thing about using a kalachnikov! So it was a fairly homogenous group.

We have also worked on other relief operations, for example in Congo. Here, we had military personnel from the civil defence forces and civilian firemen... Their officer-in-chief is here amongst us today. But we have never encountered problems. We all share a similar approach and training, as well as a common philosophy.

Another example of the kind of cohesion I'm referring to is provided by our relief work in Guatemala and Honduras for Hurricane Mitch or in Colombia. On each of these assignments we had medical teams from the civil defence forces as well as civilian personnel from the emergency medical services. These were all civilians in the strict sense of the term. But, once again, we had a single command structure and no cohesion problems because the philosophy, culture and references are the same.

Delegate
Who supplied your equipment?

Dr. VIALA
Our supplies were provided by the civil defence forces and the army's medical services which both use similar equipment. We also procured other supplies in Cameroon, for example drugs, which were ordered from private pharmaceutical companies who shipped in deliveries by air.
Lastly, we also left France with our own supplies of drugs.

Dr. PIRROS
You had to improvise intensive care for the casualties, and you even had to improve the ordinary health-care treatment at the hospital. You provided humanitarian assistance and aid, and you also managed the disaster situation. On the other hand, you didn't provide emergency care or even major incident medicine? To my mind, the operation you have described is something different. We are not talking about pre-hospital medical care.

Are we talking about the same thing? Or is our problem a question of terminology concerning the assistance you provided? You gave emergency medical treatment, but not major incident medicine.

Dr. VIALA
Effectively, we have to agree on a number of our definitions. Indeed, I believe this is the real purpose of the presentations we have given on "major incident medicine". I would say that there are major differences in what is understood by the terms "pre-hospital medicine" and "major incident medicine".

Dr. PIRROS
Humanitarian assistance... Humanitarian aid… Major incident management… Improvisation of ICU treatment… Improvisation of hospital treatment for the severely burned… What you have described is not major incident medicine, as I understand the term! Certainly, you did an excellent job, but you didn't perform major incident medicine. Had this been the case, you would have been present at the scene of the disaster, or immediately afterwards, to provide pre-hospital treatment.

Dr. VIALA
I think we are beginning to reach the heart of the matter. Firstly, you are right, there was no pre-hospital treatment.
To my mind, major incident medicine consists of providing medical treatment within a context where the available means are overwhelmed by the needs.

We were dealing with a major incident insofar as we were providing emergency medical treatment. I would say that the difference between pre-

hospital and major incident medicine is that in pre-hospital treatment, you have one doctor per patient. In our case, we had four physicians dealing with over 150 casualties! Is that not a major incident?

In my opinion, major incident medicine is not pre-hospital medicine, but emergency medical medicine, i.e. providing basic medical treatment to the widest number of patients.

In a major incident like that which occurred in Germany, for example, the emergency services arrived at the scene immediately to treat the victims. But if, for instance, you are talking about an earthquake, it may take between ten and twelve hours before the emergency services arrive. So, automatically, you arrive once the disaster has occurred.

Conversely, emergency medical treatment consists of co-ordinating the available means, with the assistance of medical personnel. But not just medical people, because in a disaster situation, you have to deal with humanitarian and social issues.

Mrs. HANSEN
So, do you think that major incident medicine consists of palliating deficiencies until back-up arrives?

Dr. VIALA
In a context similar to that which you have just described, I would say yes. Outside of a disaster relief context, the role of major incident medicine is to take over from local structures, which are overwhelmed, until such a time as they can reinforce their own staff teams with enough people to deal with the situation. So, we supplant local structures for such a time as they are able to perform adequately. This is what I am referring to when I talk about major incident medicine.

Dr. PIRROS
The purpose of my question is to highlight the confusion that exists as a result of the differences in our definitions and the problem of finding translations for this terminology in English or French.

Take, for example, the English translation of "medic" for the French term *médecin*. As far as I know, "medic" doesn't exist in English. It doesn't mean the same thing as "doctor". But in French, a *médecin* is a doctor. If you like, the term "medic" entered the language as a term used to describe US army paramedics. During the Korean War or the Vietnam War, they were called "medics", instead of "paramedics", to make them sound more important. This

was also reassuring for ground troops who called these people "medic" and not paramedic.
I think we have a real need to adopt common definitions. Perhaps we could take the time to discuss this issue and try to define our terminology and find equivalent terms in French or English. Maybe then, when we leave this seminar, we could take these definitions and translate them into the other languages of the European Union.

Regarding the question of emergency or major incident medicine, a number of definitions exist. Some physicians work with a single patient; others have to treat multiple patients. Such situations are common as you are working in a situation where you have to improvise and you have a lot of patients. It's a question of emergency rescue or emergency medical treatment.
Ordinary doctors do not modify their thinking. As far as they are concerned they are dealing with one patient at a time. But if you are a major incident physician, you are dealing with multiple victims. So, when a doctor is treating several patients at once, then you are talking about major incident medicine.

Dr. MASON
I am a consultant in emergency medicine in the UK, and I would just like to express my agreement with what Mr. Pirros has said. Certainly, this conference has been very interesting, especially this morning's session, I think I have understood the difference between emergency and major incident medicine. For example, the French term *catastrophe* does not have the same meaning as its equivalent term in English, "disaster". Proper translation is really very important. We really have to agree upon a standard set of definitions and adopt similar terminology. We also have to see whether or not we agree on these terms.

Dr. VIALA

I would like to say to our Greek and English colleagues that I find their remarks very encouraging. Effectively, from the outset of this seminar, the problem of terminology has been a key issue in our discussions.

I would also like to echo Dr. Mason's comment concerning the French term *catastrophe*. Effectively, the English translation "disaster" is not used in the same way as its French equivalent. I think we will have achieved considerable progress if we can leave here with similar definitions. This is the best way for us to achieve progress. So, I really wanted to thank you both for what you said, because I believe this is the precise role of our seminar. Thank you all very much.

WORK IN SUB-GROUPS

AND PRESENTATIONS BY

Spain

Sweden

the Netherlands

Mrs HANSEN

This afternoon we are going to ask you to divide into three groups. The three groups will use the example of the major railway incident which occurred in Germany. This morning you were given information which was very detailed both in terms of slides and written material, clearly showing the different areas involved in the way in which this problem was managed.

The three groups will not deal with the problem from the same point of view. One group will deal with the problem of strategic organisation, that is anticipation of events. A second group will deal with the problem on a tactical level. The third group will deal with the medical problems.

Participant

Could you explain what the words "strategy" and "tactic" cover ?

Mrs HANSEN

We need to make a distinction between the different organisational levels.

The word "strategy" implies an approach to co-ordinate and anticipate events from a global perspective.

The word "tactic" implies a ground-level approach depending on the situation and the location of the personnel. It is to do with the immediate reaction on the ground depending on the situation.

As for the "medical" approach, this is the treatment to be given depending on the situation.

The aim of the working groups is to say : "If this incident had happened in my country, this is where we would have come across difficulties, this is how we would have organised the strategic aspect", that is, depending on the country it may mean planning, clarification, connected with the nature of the incident.

The important thing is to know what are the essential functions which have to be assumed if one looks at things from the point of view of global strategy, from a tactical point of view on the ground, or from the point of view of medical priorities.

What I feel is important is that everybody understands each other's language. When somebody says a word, they must know what concept it represents for the others. The important thing is for everyone to know what lies behind the words used.

Tomorrow morning, the Swedes, the Spanish and the Dutch will present their intentions regarding the construction of these common thoughts. We will then make a summary of this afternoon's work and what is presented tomorrow morning, in a global summary which will highlight the different stages of the workshop.

Presentation of Spanish project

by Dr Esther Pardo - Sanchez

Mrs HANSEN
The question which I put to the participants from these countries is the following : "Has the work which has been done during the last two days reinforced the preparatory work in relation to the forthcoming seminars, or have new problems arisen which will give more food for thought?"

It is with this in mind that it would be interesting for the three reports to be given.

Mrs PARDO
I would like to present the module which we organised in the field of major incident medicine for the first time in Madrid.

It is a concept for civil protection and major incident medicine, organised in Madrid with the National Institute. This module relates to the medical aspects of major incidents. This training lasted for one week. It took place at the Military College.

We are organising an international training module in the month of April 1999 and the different subjects which we will cover are as follows :
- a presentation on the different health aspects which have an impact on each country. We will look at the German model, which is similar to the Spanish model. We will compare our administrative structure with the French and German systems,
- We will then position and analyse the situation of the different incidents in Europe using a few examples.

Some years ago we started a discussion on co-operation between different European countries, Portugal, France and Italy.

We are going to imagine the possible co-operation between UN and European Union countries, with the help of Médecins sans frontières and other organisations. You are all welcome to an exchange of experiences in our country.

Presentation of Swedish project

by Mr Fredrik Frederikson

What is the Swedish proposal ? Training the trainers.

We have a lot of experience in centralisation on a national level, in training medical personnel on several levels.

As this slide shows, the National Board of Welfare trains 500 people per day during seminars lasting 4 or 5 days.

These training programmes are aimed at teams of specialists, debriefing teams, teams of surgeons, treatment of victims of chemical accidents, and training the trainers in major incident medicine.

We organise specialised training programmes for surgery. We have some interest in chemical accidents. We have special decontamination systems in Sweden with which many of you are familiar or which you have seen. We also produce publications. We publish directives and national procedures. We have succeeded in implementing training programmes, in disseminating principles common to all.

We have had national directives since 1992. This year we are going to publish directives on prevention. Even if we do not have the necessary authority at the highest level, people listen to us because we have a good reputation, a certain credibility.

We live in a very cold country. We specialise in hypothermia and injuries associated with the cold.

We have seen the necessity and the importance of co-operation between those involved in major incident medicine at the site of an incident and we have integrated it into our training programmes. Many of our training programmes are compulsory. We require these training programmes to include the police and other bodies involved.

We have a great deal of experience in the field of methodology. All our methodologies are based on concrete, practical experiences, and we always draw conclusions from our experiences in real time.

We do not tell ourselves we are the best. We do not say that we always have the best method, the best approach, but in the last few days a lot of different opinions have been expressed. We are unanimous in saying that there is a need for exchange and a need to change the way of thinking, the approach to major incident medicine, and the way of dealing with things. Everybody recognises the need to develop. This often raises problems or political questions, in Sweden as elsewhere.

Major incident medicine and major incident management are not simply an extension of medicine. There are other political dimensions which exist. We all seem to recognise the importance of co-ordination and co-operation. By co-ordination I mean co-ordination between nations, between authorities, and even between our own systems, co-ordination between the different players, between the member states.

With regard to command, we want to keep unity of command. If three organisations are present at an incident location, there may be problems if unity of command is not clearly established.

The general idea in all our workshops is to promote international co-operation. Our long-term objective for the course we are going to organise is to promote a state of preparation in common with other countries.

The first measures are training measures to facilitate training in international co-operation. But we also have to compare our doctrines, our philosophies, our approaches, our cultural differences, as we have begun to do this week.

The aim could therefore be to reach a better understanding of what is happening on an organisational and statistical level elsewhere in Europe.

Yesterday we listened to case studies, but we still have a lot to learn in this respect. We have to be more familiar with our respective national organisations.

In terms of co-ordination, the co-ordination between agencies and between different sectors of society must be studied more closely.

With regard to command, as I have said, there must be unified command, very clear, with a legal basis, i.e. legitimate, credible. And this is where questions of strategy and tactic crop up. There is the whole question of definition which we have talked about.

In terms of resources, we have to have better knowledge of the equipment, the human resources, the level of competence of the personnel. We must try and go beyond the labels in terms of competence and find out what lies behind the words.

Another aim could be to promote concepts in different fields such as operational planning. We have to compare things without making judgements as to their value, in an objective manner. We can promote basic concepts in the medical field and in the communications field.

The member states have come to an agreement on the improvement of radio communication which allows the emergency services to communicate materially. It would be interesting to discuss radio systems. This has been set up in Jersey, Finland, and in the United Kingdom.

We must also talk about basic concepts in our experience in the field of rescue, research and development.

Research is being carried out on the same subjects in different countries, and we don't know about it. For example, media management.

There is the decisional process too. We think that, in order to take decisions, the best approach is in terms of solving problems. This involves having good tools, good assessment methods. It is true that the resources available vary from one country to another. But we must isolate the key factors and try to share with each other.

Other objectives could be to train ourselves to work together, in a co-ordinated manner, in a spirit of co-operation, both on the rescuer side and on the medical personnel side. But our experience shows that the different players have to be forced to collaborate and to try and understand each other, by doing it concretely on the spot, during exercises or incidents. It is sometimes difficult to force people to do something, but it is sometimes the only solution. It is perhaps a good idea to define the command structure better. We have to be trained in communication.

Co-operation between the pre-hospital and the hospital functions sometimes poses problems. This would be an interesting area for discussion of incident management plans in hospitals. We have done a great deal of work on this subject in Sweden.

The pedagogical approach : the methods will be lectures, discussions, but also practical simulation exercises on the ground

We have a powerful simulation system which helps training in different scenarios. This system is available to all. It is partly manual, it is something you can do yourself. It is something you can apply in your country. It is an extremely simple system which is starting to be used more widely. There is a computerised system and a manual system.

What are our objectives ? We want to define a pilot training session in the first workshop on the planning and preparation of training sponsored by the European Union for trainers in major incident medicine. We can talk more about objectives.

In a second workshop, we will draw the conclusions from the first workshop and we will have training based on the resolution of two problems, using what we have learned during the first workshop in April.

There will only be one day of lectures. The others will be used for discussion of scenarios and assessment.

On site, all the trainers involved could be given the benefit of this training. But the target group is not you or me, but the trainers, doctors, non-doctors, policemen, the people who train people in rescue, in an emergency on the operational and tactical aspects of rescue medicine.

I will stop there. That is roughly what we would like to do. I would like to inform you that the first workshop will be held on 7 and 8 April.

Presentation of the Dutch project

by Mr Dick Fundter

I would like to talk to you about the European Union project in major incident medicine because it is directly connected with our conference in June.

I work for the Dutch Ministry of the Interior and I am not a doctor. I am, on the other hand, a member of the Dutch Army medical corps. At present, I am in reserve at the Ministry of the Interior. I work in the fire brigade department. I am responsible for co-ordinating medical treatment at times of crisis and in the event of a major incident. I am a member of the select committee for the European major incident medicine project.

So far, the following countries are members of this select committee - Austria, France, Germany, the Netherlands, Spain and Sweden. We have been asked to be the pilot country, our head office is in The Hague. We try to collaborate with all these countries within the framework of this select committee.

During the first phase of this project we concentrated on what we could do in 1999. We drew up this action programme within which there are a lot of activities. We regarded this conference as one of the activities necessary for the project to work properly.

I would like to talk about the objectives of this project. An interesting preliminary comment is that we cannot achieve all these objectives at once. But we have established a pilot project for this year which will, in fact, be the start of this project. It should be the result of an analysis of the subjects dealt with afterwards and the different actions which could be undertaken. The general objectives are as follows:

- **Improving the capability of the member states.**
It is an idea about exchange of information which will help us to study how things are done in each country and to develop a plan. It is not about bringing out a directive which would be copied and implemented by each country. Our idea is the exchange of information.

- **Improving the possibility of cross-border operations in the Netherlands**.
We think that absolute agreement with one's close neighbours is necessary. I think this is a good idea, because the capabilities of the different member

states would have to be improved, this cross-border co-operation would have to be engaged. A huge number of cross-border activities are already taking place. We have European regions which are working on this cross-border co-operation. But it should be extended.

In the context of operations associated with the field of major incident medicine, we have already done a lot of work in the medical field. When an accident is located close to the border, systems have been set up, for example, between Germany, Belgium and the Netherlands, according to the information which I have.

We should look at what already exists on the level of this co-operation and see if the existing cross-border capacity programmes could be improved.

The means and the resources for European co-operation in the event of a major incident should be improved. This already exists in different co-operation programmes.

I remember, six years ago, the El Al plane, which crashed onto apartments in the city of Amsterdam itself. It was a freight aircraft. There was immense debate on the nature of the freight. It is really a big question, not only a political question, but also a medical question, because there are still many unknown elements in relation to the different injuries sustained. It is a huge problem which must be analysed in an international context.

Six years ago, when this accident occurred, there was a natural and spontaneous response from the neighbouring countries. Within a few hours of the accident we were in communication with the other countries offering specialised teams, medical teams which could leave by plane immediately to help us with the incident. France was there, as well as Belgium, and Germany too. Fortunately for us, we didn't need them because there were fewer victims than we thought.

You see that this type of close co-operation is possible. We could take it further. A lesson must be drawn from each major incident. Co-operation is what is needed in this area, not competition, collaboration and competition are often linked.

➧ Establishing the network.

It is obvious that these discussions between the different members of the delegations got off to a good start two days ago. But we could improve and strengthen our resources thanks to a network of people who already know

each other and who can exchange information. I think that we could ourselves increase the capability of our different states.

This personal network is even more important than an official network with representatives of each government. We have this network at its seat in Brussels. But I think it is important to establish a very personal network where everybody knows each other and where we can exchange information. The fact that we know each other, the fact that we know each other's feelings is very important.

⧫ Database.
For me, a database is a key, a tool. In order to have a worthwhile database, we must have access to information.

We are going to set up a specific Website on major incident medicine within 3 months. We need the co-operation of all the countries to collect information to start this database and gradually expand it.

We can phone each other if we have a question on this or that air accident or this or that railway accident or flood or the medical consequences of a terrorist attack in the Underground for example. This would be easier if you could find analyses or published studies.

This is why we need each other so much to set up this Website and to keep storing specialised information. It is a modern tool. I am in favour of using modern technologies for the exchange of information.

⧫ Activities for the current year.
We are in the month of February. This is the first activity we have started under this action plan - this workshop in Nainville. This afternoon we are going to analyse the progress of this conference.

In fact, it is a work programme which is a flexible tool that you can use. But you can only use it if you listen to each other and if you agree to collaborate - "I know such and such a field, I'm interested in this field. I know all the specialists in this field."

With your collaboration, with the information that you give on this or that specialised subject or other aspects which concern you, our initial programme in Nainville with this workshop and the assessment that will be made this afternoon will help us to see the subjects which will be dealt with during the forthcoming activities. We can therefore perhaps revise our programme of activities for 1999.

The second activity we have planned is a workshop in Spain. This morning our Spanish colleagues told us about the content of this seminar. We know the background and the different subjects which have to be dealt with during this forthcoming seminar.

A very interesting seminar is planned in Sweden. With this seminar we will be able to understand the different programmes relating to major incident medicine. We will be able to analyse the different training programmes, because there are many very different training programmes in the hospitals for ambulance drivers and nurses.

All this doesn't necessarily have to be formalised with a plan written in stone for each state. There should, on the other hand, be an analysis, as there are always aspects in this or that training programme which are of a national nature, but which can help us. Our Spanish colleagues talked about their collaboration on the level of training. If we make all these countries fit into a precise framework it won't work..

Of course, we must leave room for national characteristics. We must also leave room for national culture and the national approach in the field of major incident medicine, not to mention military and civil co-operation which must be included in these training programmes.

In June, we will be organising some activities in the Netherlands. We have a brochure to give you and a list of the subjects covered. But it is a preliminary programme which you have. Afterwards, in September, it will be France's turn, with a simulation exercise. We will end the year with the conference organised by our Swedish colleagues.

Then, in the select committee we will analyse all this year's activities. We will use all these tools to redefine our objectives, then to polish them up. I am counting on your co-operation and I hope that this afternoon you will give all your feedback on these two days.

As a pilot country, we are at present organising and co-ordinating the different meetings of the select committee with the different participants. We are doing it We are acting as co-ordinators of all these activities in order to provide all the assistance needed so that the activities take place satisfactorily in each country.

We exchange information with the key organisations in the field of major incident medicine, this is something very important in this field.

I am here in front of you today and once again I ask for your kind co-operation with regard to the information which may be of interest to us. Please don't hesitate to give us any comments or observations on this subject. I will be delighted if you give me this information.

Of course, our intention is to share this information with you, with the help of this Website, for example. All these exchanges of information can help you to see that you may have the same problems as a colleague in another country. We are studying the working methods.

I have already said that I am a member of the Dutch Army. In the army we say: "Do something and learn all the lessons you can about what you have done and what you haven't done". I think it is very important to do this.

You can't just sit all alone behind your desk legislating or bringing out a policy. You must have the knowledge or the savoir-faire of your foreign colleagues. You should, if need be, have a kind of catalogue of people who may be specialised or who have this or that training or experience, who can help you. You have to know how to contact these people to gain the benefit of their own experience, their practical experience.

June conference
The city of Amsterdam is very friendly and you will be able to visit it and get to know a bit of the country.

The conference will be held from 14 to 16 June 1999 in the RAI conference centre. This is a major international conference centre, there will be other meetings organised on the site - there will be an inter-ministerial health committee which will have meetings at that time; there will be an exhibition called Fire. It is an exhibition about major incident and rescue medicine teams.

But nor is it a commercial activity. I think you have realised that it is a public conference financed by the Ministry of the Interior, the Ministry for Health, and the Ministry of Defence. There is also a contribution from the European Commission to organise this conference.

What will we do at this conference? In general there will be debates and discussions on the best practices with professionals and authorities representing local government and specialists in the medical field.

We will talk about the role of local government. We will also talk about major incident management and major incident medicine which concern local government.

I have noted that the Ministry of Defence is very sensitive to this question of civil and military co-operation. I have spoken about it in great detail with my Spanish colleagues. Perhaps this doesn't concern all the countries of the European Union or the European Commission, but we see that there is this need, even on the military side, to call on closer co-operation with the civil sector.

In the Netherlands, we have a particular problem. We have difficulty in finding competent doctors within the military service.

We have set up a training programme which says that army doctors will not be restricted to treatment which has to be given to soldiers or military personnel. These military doctors will be able to work in public hospitals, as there are many specialists who are not used to their full capacity.

This conference is aimed at local government and elected politicians, legislators, specialists in the medical field, specialists in medical organisation strategy. We must set up and design a programme which will be of interest to all these people.

It is for this reason that we will have some very high calibre individuals. The Mayor of Atlanta in Georgia, USA, the Mayor of Montreal in Quebec, and the Mayor of Wou-Han in China have already agreed to give presentations. They are not speakers you see every day.

Wou-Han is a town which has suffered a great deal from the flooding of the Yang-Tsé a few months ago. Very important decisions had to be taken to strengthen the dams or the polders. Where should the inhabitants be evacuated to? It isn't an easy decision to take, nor a decision which should be taken too quickly. Just imagine! Evacuating 4 to 5 million inhabitants!

The Mayor of Montreal, Quebec, will talk about his personal experience. The province of Quebec was hit by storms last year. The town was without electricity for several days and some parts of the town had no electricity for two months. I don't need to tell you about the consequences for this town and the lives of the citizens. He, as the mayor, had to consider the reaction of the population of Montreal. He had to reconcile the different opinions, take decisions which were not based solely on the technical responses he had

received because he had a political and administrative role. We will be very interested to hear him.

The Mayor of Atlanta will be there to do this key presentation. In modern society, we will have more and more world events - staging the Olympic Games, the World Cup, the European Championships etc. As the mayor of a city, you are responsible for public safety. You have to deal with this problem. How can you bring equilibrium back to your role as mayor taking account of the scientific and technical aspects ?

He will talk about his personal experience in relation to the organisation of the Olympic Games a few years ago.

Then, there will be training or workshop modules. The first module concerns local government. There are eight workshops planned for the first module. Some of the questions tackled by local government will be very technical, others will be more concentrated on a discussion, a debate between participants.

The second module relates to the organisation of major incident medicine, with eight workshops. This module is intended for people who are, for example, directors of mobile emergency units, directors of health centres, people involved in organisation.

One thing which may be of interest to you is the presentation of the four towns which we have invited, and I am delighted that the members of the Marseilles delegation will attend.

Four major port towns will make presentations. We will see their different approaches relating to major incident medicine.

With this module, we will be able to tackle the history of the different approaches on an organisational and medical level. We will deal with three typical scenarios in the context of this presentation :
- simple scenarios, for example a road traffic accident, 4 or 5 injured, the type of accident which can happen every day,
- basic scenarios, for example an incident with 50 injured,
- a major incident scenario, more than 100 injured. We will see how, in this situation, it is better to analyse one's own resources, that is the pressure on the existing organisation and the internal or external resources which it may need, for example, the help of a nearby town.

With this third scenario, you will be able to bring up the implementation of your programme or your system for responding to major incidents.

This should help us to understand the minor and the major differences between the United States, San Francisco, for example, Marseilles in France, or Hamburg in Germany and Rotterdam in the Netherlands.

The third module will be geared towards the medical aspects, the medical specialities intended for accident and emergency specialists, both military and civil.

The fourth module, which will be led by Mr Quintyn who was here yesterday, will be geared towards psycho-social treatment.

I have told you about this conference. As you can see, there are a lot of people involved, a lot of different modules. We still have a lot of work and preparation to do.

On the third day, Wednesday, we will end the conference with visits - a visit to the accident and emergency centres; a visit to the military hospitals; the visit to a hospital which is part of the university hospital centre and specialises in major incident medicine.
We will visit Rotterdam. We will see the problems raised by balance and the link between industrial populations and districts. The Netherlands is a very small country and the residential districts are located close to the industrial districts.

The local authorities are very involved in this project. They are very interested in planning. We have learned some interesting things, for example that safety is something that must be taken into account during planning.

I will end my presentation by asking you for your co-operation. I am responsible for the major incident medicine project. We cannot work on our own. We need your co-operation, your help, your contribution as delegates representing the member countries of the European Union. Contact me if you have any comments, any suggestions, any ideas, any information, please let us know, and please keep us informed.

SUMMARY OF WORKSHOPS

Mrs Claude HANSEN

Social psychologist
at the Centre Académique de Formation Continue
Académie de Rouen

I put together the summary of these three days bearing in mind that it was the first activity of a programme which will be applied in other countries of the European Union.

The first thing I noticed is that we feel that we are on the right track. It is certainly the need for us to face up to the outbreak of major incidents in the best possible way which has led to our presence here.

Each of us, depending on what he has encountered, directly or indirectly, has built up ideas of what he calls a major incident, a disaster, a disastrous event or something else.

These ideas are coloured by predominant aspects. For some, it is the extent of the incident and the number of people involved which is important, for others it is the disproportion between the weakness of the response resources and the enormity of the needs. It is therefore a more technical dimension. For others, it is the psycho-social trauma felt by the Union affected by the event. But for everyone, because the medical field is involved, it is about improving the quality of the treatment given to the victims, in order to make their rehabilitation easier under the best possible conditions.

It is therefore not about simple prevention work, but preventing deterioration. It is about fighting urgently against a possible deterioration of their condition, fighting against fatality and excess.

The medical aspect of the management of a major incident therefore raises problems which are difficult to solve. I will quote the *Haut-Fonctionnaire* of the Minister of Health who spoke on the first day and said : "without a strong medical analysis, organisation of assistance given to populations who are victims of a major incident would be inopportune."

In an attempt to understand this medical analysis, we have tried to present a certain number of major incidents. And if we quickly tried to analyse these incidents, a certain number of things would come to light :

With regard Furiani, it is "how the application of a specific doctrine helped manage a major incident involving numerous victims in an extremely isolated setting, at the expense of a revision of the planned medical organisation."

The analysis of Bradford is "how the huge influx of victims into a hospital changed the normal therapeutic attitude of a team of specialists".

The analysis of the Zeebrugge ferry incident is "how the need for a psycho-social solution helped break down the barrier preventing expression of feelings and helped take account of the reactional anguish of a whole population, the victims and the rescuers."

The analysis of N'Sam, in the Cameron, is "how international co-operation, effectively and transparently managed by a single team, which had accepted a single leadership, was possible while respecting the culture of the recipient country".

In each of these situations, the strong medical presence conveying the spirit of medicine on all levels existed from acceptance of responsibility until management of an incident, whether in statutes, in the administration of treatment, in the organisation of the mechanism, in taking account of specific pathologies associated with the nature of the incidents, in the need for a multi-partner approach, and finally in the acceptance of the questioning of sovereignties as they are exercised from day to day.

Coming back to the work of the groups, this raised a certain number of points :

- the first is that each system in use in each of the countries is acknowledged to be effective,
- the second is that even if the differentiation criteria vary, the distinction between emergency medicine and major incident medicine is divided more and more. In particular, we have seen, it is necessary to abandon the one-to-one relationship, in favour of several relationships.
- the third is that experience shows that the psycho-sociological approach to supporting those involved, and by involved we mean the victims, their families, and the rescuers, must develop towards a psycho-social dimension.
- the fourth is that the required collaboration of various participating structures, even if they have different aims, and by their nature and culture they do, must, at some stages, become common.

For me, only a witness to these debates, I have noted two or three which alone prove differences :

The first difference is that the degree to which scientific discoveries of the last twenty years have been taken into account in the field and techniques of resuscitation means that, in some countries, resuscitators can, for example, make very early choices in the triage, as diagnostics relating to the possibilities of monitoring individuals have made progress which must be taken into account. Also, for these resuscitators, their almost daily confrontation and struggle with and against death have helped them to more easily accept the responsibility of this triage. In an international perspective, this poses the concrete problem of the location where this famous triage can take place.

The second difference which I have noted for me lies in the complexity of the disaster situation. This complexity is obviously exacerbated by the number of structures involved. This complexity does not now always allow natural and immediate aggregation of the classic emergency participants on the ground. It requires greater coherence of a greater number of participants. And, depending on the country, I have noticed that this role of making structures cohere or co-operate is played either by a specific structure or by the participants to whom it will be allocated.

It seems that these two differences alone justify having to concentrate the European Union's action, initially, on two levels:

The first level is making a glossary, a tool regarded as essential for improving exchanges between countries. Whether it is made by specialists or following a joint collation, this glossary could not be limited solely to the semantics of words, but to the realities which lie behind them.

The second level relates to setting up inter-country training sessions. These sessions must constitute real common training programmes and in particular must include practical exercises. This will help to synergise everyone's best performances, then to analyse them in order to enrich them. These training sessions, these comparisons, will help to refine and promote the bringing together of these co-ordination strategies as they are practised and as they are taught in our different countries.

They are therefore theoretical and practical training sessions whose concepts and achievements must be compared.

But I am very much aware that what was asked of me was to give my opinion as an observer of the work done in this seminar. It is only my perception of the debates which is wanted. It is for this reason that I now propose to react in order to add to it so we can present a better shared summary.

I would like you to add your comments to what I have just said.

Mr MASON (UK)

I hope that after the seminars our Dutch select committee would in the final event have to decide to say if there is really a project which should be pursued from 2000 to 2004. I don't yet know if this project can survive.

We have certainly seen today and during the last two days that there is major diversity in the way in which we put assistance in place in the event of a major incident and with regard to major incident medicine. Despite the fact that we do not use the term *disaster medicine* in the United-Kingdom, I have found these exchanges very useful. However, I have not yet seen specific clearly designated areas in which we should work to achieve harmonisation.

I think that collaboration is useful, exchanging ideas is something very useful, but I am not sure that this comes under the European project on which we are working. I know that this project will continue until the end of the year. I reserve my judgement on the question of whether this 5-year plan should be continued.

Mr ALEVANTIS

You talked about harmonisation and I prefer not to hear that word here. I think that learning from each other, working on synergy is already a project, and a project doesn't necessarily have to lead to a concrete result. That is you can assess things after the project, see where possible improvements lie, but it isn't a goal in itself.

I entirely agree with you. We mustn’t have a project just for the sake of having a project. We expect results - the establishment of a network, the improvement of services.

There will be an improvement in services thanks to this co-operation, and it will be much better than improvements imposed by harmonisation of the legislation. I am impatiently awaiting a development in our field to go forward. Let's be honest and we will clearly see the following stages at the end of this year.

Mrs HANSEN.

May I make a comment ?
I wonder if it is the insular nature of Great Britain which makes it doubt the need for collaboration or co-operation. The example of Furiani, on the island of Corsica, clearly shows that there is a need for collaboration with the continent.

Even if we believe that international collaboration is not necessary, I think that experience shows that we cannot get by without our neighbours.

Mr MASON

First point - co-operation is something very useful. I was talking about harmonisation of legislation. I am less sure about harmonisation of our legislation.

Second point - Great Britain isn't isolated, it is the rest of Europe which is isolated!

Mrs HANSEN

Mr Alevantis didn't talk about harmonisation. I don't think I talked about harmonisation in this summary. Let's not make false accusations.

Mr ALEVANTIS

The word "harmonisation" is a word which is banned. I have never uttered it.

Mrs HANSEN

I think that the remark has helped us to appreciate English humour.

CLOSING SPEECHES

Mr PANAGIOTIS ALEVANTIS
representing the head of the “Civil Protection” Unit
DG XI - European Commission

Mr DIDIER MONTCHAMP
Head of Private Office
representing the Director of the Civil Defense
and Public Safety
Haut-Fonctionnaire de défense

Speech by Mr Panagiotis ALEVANTIS

representing the head of the Civil Protection Unit DGXI
European Commission

I would like to express my warm thanks to the INESC for organising this excellent seminar, which is the beginning of this important project on major incident medicine.

I apologise on behalf of Mr BARISICH, my superior, who has had to stay in Brussels to deal with a mundane problem of resources.

I have followed the work with great interest. I have tried to intervene as little as possible, particularly with words that are prohibited.

I have noticed that Europe is different, we all know this, but it works.

It has been said that countries can't change their systems. I want to put this question to you - What happens, from the point of view of the quality of services offered, when a Swede is in Sweden or on holiday in a Southern country?

What happens for a Frenchman, used to a certain quality of service in France, when he is in Spain or Ireland?

Without touching the structures, but establishing certain levels of quality, this may help to move things forward.

I have also noticed that the objectives that we have set ourselves, in collaboration with the countries of the *Core Group*, match the needs fairly well. I don't know if this is because, at the beginning, I presented the objectives and you fitted in with them, but I think it is more the opposite, that the objectives that we have set ourselves correspond to the real needs. Obviously there is work to be done. I have noticed a problem of communication, and the problem of vocabulary, which has been mentioned.

In other disciplines, there was the problem of communication in the event of a major incident, radio communication, practical communication, and the problem of communication with the media. I will extend this point to also mention the problem of communication among us, the psychological problem, and support.

I think we are going to deliberate with the *Core Group*, to see what can be planned.

From the point of view of lessons learned, there is a Commission initiative that will shortly be implemented. This is an analysis of several natural disasters with analytical records. A methodology on a voluntary basis will probably be proposed, to be extended to other incidents.

Finally, we want to develop a European approach to the field of major incident medicine.

Do you remember that, when Robert Schuman made his decision to put European coal and steel under a single authority, he made a declaration inviting the British to join him? They didn't do so at first, but they were forced to not long afterwards. If Schuman had suggested a single currency, he would have been completely out of context. Today, the single currency has arrived. It's a reality even Monnet couldn't have imagined.

Do we want to move slowly forward on things that unite us? That's the European way. Do we each want to keep our doctrines, our points of view, our ways of working, like the different schools of painting represented at the Louvre? Do we want to end up with inter-changeable systems that can work together like the spare parts of a car? Do we want a system like that of lawyers or doctors, who can practice with their mutual knowledge from one country to another?

We cannot say. The most important thing is to gradually realise that these questions of civil protection on a Community level merit appropriate political support and a few articles in the treaty, as well as a more common approach, to end up with something we can't even imagine now, just as Schuman or Monnet couldn't imagine the Europe we know today.

Thank you for your attention.

Mr Didier MONTCHAMP

Head of the Private Office at the DDSC

representing the Director of the Civil Defense and Public Safety
Haut-Fonctionnaire de Défense

Ladies and gentlemen,
Friends of the European Union

First of all, I would like to pass on a message of regret from the Prefect, Jean DUSSOURD, the Director of French Defence and Civil Protection, who had intended to come and close these discussions, for not being able to be with you this afternoon.

You know that current events move as quickly as theoretical discussions, and this week, even as you were starting work, current events in major incidents caught up with us in France. As you know, in a little valley in the Alps around Chamonix, on Tuesday afternoon an avalanche destroyed 17 chalets, killed 11 people, and we are still looking for a twelfth missing person.

At the same time, meteorological conditions are so bad, the risk of avalanches is so great, that in this same valley several tens of inhabitants of isolated hamlets have had to be evacuated from their homes and put in places of greater safety. Once again, your work assumes even more significance when it is being done in the immediate context of a contemporary event.

On behalf of France I would like to thank all the participants who, by their quality and their diversity, have honoured the work of this seminar with their presence.

I would like to thank the Institut national d'Etudes de la Sécurité civile for helping to organise this seminar and, I hope, helping to make it a success.

Your seminar is part of a series of joint discussions, which will extend over the whole of this year. Even now, during a first seminar whose progress I have followed from a distance, I have realised the immense variety of work that has been done and the discussions, which have aroused your enthusiasm.

These high-calibre discussions have helped you to analyse the different aspects of the emergency medicine chain, the organisation, the medical, but also the psychological, strategic, legal and financial techniques.

This problem of major incident medicine is at the heart of my concerns. As I have understood it, there are words, which we should be careful not to use too much. I will try and use simple words by saying that, in the chain of rescues carried out in France, medicalisation exists, by its essence, through a medicine, which is at the forefront, which is in direct contact with the event.

In France this is put into practice institutionally by a strong medicalisation presence. The medical service is directly integrated into the rescue structure, whether within the fire brigades, which have their medical rescue service, whether within the civil protection intervention units, which also have their medical corps through the army health services' doctors, or whether on the level of the medicine provided by the emergency medical assistance services.

This French strategy gives me food for thought. I am personally not technically qualified to make a judgement on this quality. Nevertheless, I must note that this strong integration in the emergency chain appears to be an important asset for the French.

Beyond that, is there a major incident medicine which is part of an emergency medicine? Isn't any medical practice by definition dictated by emergency? What distinguishes it? Would it be the number of victims, the scale of the victims involved? Would it be that intervention would be located at the heart of the event, that the medical intervention becomes located, while the event, in many cases, continues to happen? Would it be due, also, to a very severe psychological destabilisation of the victims affected by the event, which constitutes a shock for the victims, but also for the others involved?

On a European level, I think that your seminar has certainly illustrated how this comparison of practices and strategies is necessary in order to make progress and go forward.

Our organisation of rescues and the integration of the medical chain into these rescues is marked by the long history of each of our states, the individual traditions of each state, their individual cultures, their own individual organisations.

I think that in the short term there would be no point in wanting to impose a single model on the diversity and wealth of our many experiences, I repeat, we can learn valuable lessons from comparison and exchange, so we can all progress and develop.

One of the first problems is to agree on the vocabulary. The production of a glossary of terms and expressions seems to be an important pre-requisite.

If we wanted to see how to integrate a common European approach to medicalisation in terms of a rescue or major incident, I think we could ask ourselves what would happen if this meant equipping ourselves with a multinational tool for helping victims in the context of a major incident. We know how frequent these incidents can be in inter-tropical or equatorial zones, with extremely high natural risks. It would be an opportunity to illustrate, on virgin territory, how a common European practice could be created on new bases.

Even now, at the end of this seminar, we have established important points of convergence, which it may be useful to reinforce in two directions :
- exchanges in terms of training;
- also exchanges in terms of joint practical exercises between countries.

For these perspectives which should be reinforced, I believe it is important that the different players today continue, by their personal involvement, to follow the development of ideas, so that the progress which will be made in 1999 can be effective progress. For their part, the French are ready.

I would like to end these few words by thanking you all once again for coming to join us, and by saying how pleased we have been to welcome you to Nainville-les-Roches, to the Institut national d'études de la sécurité civile, and by wishing you all a safe journey home. We hope to have the pleasure of welcoming you again in the future.

FREE PRESENTATIONS

Dr Geert SEYNAEVE

Sanitary help to the civil population
Ministry of Public Health (Belgium)

We have learned here that there are some differences between countries. But, this may reassure you, in Belgium we feel that in one single country we combine almost all the contradictions that exist in Europe.

This is perhaps why medical organisation in the event of a major incident can be described as a compromise between three structures.

First of all there are the mobilisable structures of the federal chain of, let's say, normal emergency medical assistance, which is generally called the CENT system, and which is based on the emergency medical assistance law of 1964. It is a system that works well. It is comparable with concepts of the Public Health system in England. They have contracted with a national state structure that organises and centralises.

Secondly, medicine in Belgium is private medicine, high-quality medicine, and private in the way it works, but subsidised by the state. The National Insurance system bears almost the full cost of this private medical system. This means that there are a good number of private interests involved in the logic, in the price structure, and in the work of those who treat and the work of the hospitals.

And thirdly, and this is something which is felt in every country, as the Ministry for Public Health, we have in the recent past to some extent felt that the Ministry of the Interior is tending to subordinate all the rescue services included in the medical chain. This means that often there is a spirit of safety to do with public order, which takes precedence over medical logic.

In Belgium, this is done through laws, but also through the structuring of medical organisation in the event of a major incident by the governors of the provinces, who are authorities comparable to Prefects in France, and who are more or less controlled by the Minister of the Interior on the provincial level.

If I have said that the Ministry of the Interior plays a predominant role, in fact everything started with the European directives, which have been incorporated into Belgian law by the Seveso law. It is the "Seveso" law which more or less organises all the work for chemical incidents, and which has been the model for organisation of all major incidents.

There are therefore two important pieces of legislation - a royal decree of 1990, which organises the major incident plans on the basis of the province, and a ministerial circular, which acts as a common denominator for all sorts of intervention and preparation plans for incidents of all kinds.

An exception can be made for everything to do with the nuclear field, which is governed by another decree.

Finally, a decree of 1991 imposes an obligation to organise MASH plans, internal and external major incident plans for hospitals. In general the structure in Belgium is relatively simple. We talk about four levels of emergency and intervention plans :

- the first phase stays at the level of the commune {local district};
- the second phase is the reinforced communal level;
- the third phase, the most important for the medical chain, is the provincial phase. My colleague, Isabelle RENARD, will explain how these provincial major incident plans are put into practice from a public health point of view. In fact, the provincial plans are co-ordinated by the governors.
- It is only in real major incidents on a fairly large scale that we get to the national phase, where the Minister of the Interior co-ordinates the entire rescue services.

It is a system with five disciplines :

- a rescue discipline, which corresponds to the fire brigades' fire services;
- medical and health assistance;
- the police;
- civil protection;
- the media.

Let's concentrate on discipline no. 2. Here we make a distinction between strategy and tactics. The person in charge on the strategic level, the governor's adviser, is the provincial hygiene inspector located in a crisis cell. On the ground level, the Director of Medical Assistance directs the operations relating to the second discipline.

The missions of this second discipline are defined in the law. This means that the five disciplines are quite clearly defined. All the emergency plans are organised on this basis.

The missions of the second discipline relate to:

- organisation of the personnel and equipment, and the vehicles sent;
- first aid triage;
- the advance medical station;

- the organisation of ambulance transport so as not to shift the incident from the field to the hospitals;
- measures regarding the deceased;
- material and psycho-social assistance;
- hygiene and supply measures and directives, which we saw with the last floods.

The Inspector of Hygiene, who is a state civil servant, plays a decisive role.

Who are the players? The players taking part in the CENT system are the SMURs (emergency and resuscitation medicalised services), who come from the hospitals and who are active in day-to-day classic medical assistance, with a specialised nurse, an emergency medicine specialist (anaesthesia, internal, or casualty). The CENT ambulance drivers take part in this rescue system.

For the major incident plans, if necessary we mobilise ambulances which are not part of this CENT system, and which provide the transport between different hospitals and other establishments.

We have the hospitals that have a recognised emergency service. Now there is stricter legislation, which recognises only emergency services operating in accordance with well-defined criteria.

There are also hospitals that do not have recognised emergency services, but which sometimes have to be included in the major incident plan. General practitioners are also included, but they do not play a large part, this depends on the province.

There is also the Red Cross, which is an organisation of volunteers or semi-professionals.

Curiously, there are some chemists, other health professionals, and even some vets. But I must say that vets are rarely found in today's major incident plan.

What we have tried to do with public health and the people involved in major incident medicine is to avoid being too tied to the Ministry of the Interior and its priorities. We have therefore tried to develop a doctrine, which we call the Ghent doctrine. Various participants from the universities, the Ministry of Public Health, and the hospitals have come to an informal agreement. It has no legal basis but acts as a model to organise what is difficult to organise, that is discipline no. 2, where there isn't a special body, but private doctors and hospitals taking part. The idea is to create a certain hierarchy.

This Ghent doctrine tries to create a set of consistent principles of public health in order to avoid subordination to the Ministry of the Interior and standardisation of provincial plans. In fact, it is a doctrine that has flexible directives so as to be able to mobilise the ordinary assistance resources and personnel and the unified call system. This means that instead of having individuals, ambulances or rapid mobile emergency services, we want to organise things in a more collective way.

As for developing a common language, we have already seen that it wasn't easy. In Belgium too there are many differences. There are quite a few peculiarities in the provinces, even in some towns. To find a common language, this Ghent doctrine can serve as a reference. For example, alarm thresholds have been defined - my colleague will come back to this - which will trigger immediate action from the call centre, that is action which does not require a decision either from a crisis cell or from a rescue director, who are not on the ground.

Then, under this Ghent doctrine, medical action is segmented; that is, we try to find a few main principles that define a few specific functions and responsibilities. There is the triage and categorisation aspect of the emergency. There is the aspect of preparation for treatment, survival and prevention of after-effects, and there is everything to do with regulation.

This is the plan followed by the Ghent doctrine. The main principles are:

- rescue, which is done in a disciplined way (by firemen);
- preliminary triage;
- evacuation (start of medical chain);
- advanced medical station (recording, triage, stabilisation, preparation, and regulation).

The different SMUR doctors have a certain definition of the functions. There is no room for imagination and certain rules have to be observed.

The same applies to evacuation. Then, we have the reception phase - hospitalisation where we have certain plans that stipulate minimum thresholds. The hospitals must guarantee that they can accept a minimum number of patients. We can thus calculate in advance how many patients can be sent there. Even for casualties with burns, there is a special plan called the BABIT plan, which says how many places there are in all these hospitals.

The first pre-defined reactions are recorded. The TAS are well defined in this Ghent doctrine - the first contact, setting up a command post on the ground, the announcements made by the first participant. Then we find what has to be done in a medical report - the organisation of the victims, setting up the advance medical stations, registering the victims, organising the triage, standardising the principles, preparing for evacuation.

To conclude, in Belgium, a certain process has been accomplished, but there are still a lot of gaps.

Looking to the future, we plan three things:

- to improve this field, to try and develop it, to improve on its weak and ambiguous points, to give it a legal framework, without this being a major constraint, to draw the financial conclusions, and to allocate funds to logistics;

- to have more rational planning, that is, to centralise, to systematise, harmonise, develop models for specific services, which does not yet exist on a rational or scientific basis;

- all the major incident plans are limited to one kind of special category of emergency medicine, but with long-term consequences. If people have seen Bhopal, even Seveso, and if we look at what happened in Amsterdam with the El Al aeroplane, we must have a strategy for the long-term consequences of a major incident. We rarely plan the planning.

These three points are urgent points, which we will develop in Belgium.

Now I leave the floor to Dr RENARD.

Dr Isabelle RENARD

Inspection Doctor for the province of Liège (Belgium)

The province of Liège is the Walloon part of the country. It covers an area of 3,850-sq. km. and has 1 million inhabitants. There are 15 hospitals which collaborate in the emergency medical assistance system, 8 teams of doctors, and 26 ambulance services which provide 45 ambulance shuttles.

The provincial emergency medical plan is the medical part, the medical/health area, of the emergency and intervention plans, which are subject to the authority of the burgomaster (Mayor) in the context of the communal phase, and which my colleague talked about, or, in its provincial phase, under the authority of the governor. Here, there is already a distance, because the provincial plan is immediately on a provincial level, as we don't have enough commune resources to deal with an emergency in the commune. On a medical level we go straight to a provincial phase to get enough resources together.

In the legislative framework that has been briefly touched upon, you have seen that there have been different laws, most organised by the Ministry of the Interior.

The laws of 1963 and 1971 simply said: "The Inspector of Hygiene is responsible for the organisation and management of medical and health assistance to the population".

In the Seveso plans, this organisation was made the responsibility of the Inspector of Hygiene, with a series of very important missions, but without the resources being defined.

Finally, I think that the easiest law to settle major incident problems is the law of 1964 relating to emergency medical action, because it has the great advantage of not defining what is an emergency. An emergency can therefore be individual or collective. In its objective it explains that it is the immediate administering of appropriate assistance to all people whose state of health, following a serious accident or illness, requires urgent intervention, after a call to the central system which provides assistance, transport and reception in an appropriate hospital service.

It is the best law. There is no conceptual difference, in my opinion, between day-to-day urgent medical assistance and medical assistance in the event of

a major incident, as an individual or a collective emergency requires the same resources and the same procedures, with the exception of co-ordination and any reinforcements. So it is on the basis of the law of 64 that I have organised my different assistance plans for the province of Liège.

The trigger threshold, as you have seen, was defined in the Ghent doctrine. It can seem minor compared with all the terms of catastrophe, disaster etc., I will therefore restrict myself to the definition of a collective emergency. It is 5 seriously injured, several slightly injured, or 10 injured with unknown pathology.

If we stick to the definition that a major incident is an inadequacy of resources in relation to the needs (on day-to-day emergency medical assistance, we send an ambulance, a SMUR, one doctor is quickly overwhelmed by five seriously injured persons), it is better to immediately plan to increase resources. The resources are implemented directly by the CENT worker. There are three medical teams, 5 ambulances, and, in the province of Liège, we send the advance medical station directly with first aid boxes. It is public health logistics that help us to take care of 100 injured:

- one civil protection telecommunications truck;
- nurses trained in emergencies who help to manage the medical supplies;
- the provincial Inspector of Hygiene (myself);
- the CENT hospitals, which may be involved so they can, if necessary, put their alert plans, the MASH plan for the hospital services, into action;
- the Red Cross assistance service;
- the crisis psychology centre, the development of which was presented by Mr QUINTYN yesterday.

These resources are put to use straight away as soon as the threshold is reached, because I have found from experience that if we wait for the doctor's preliminary assessment before we send these initial resources, we waste a lot of time. I prefer them to set off automatically, perhaps for them to be disengaged after the first assessment, but our truck carrying equipment is quite heavy to move. It takes 45 minutes for it to get to all the places in the province. If we delay calling it, it often arrives too late.

The aim of this provincial emergency medical plan is, with medical and health resources, to organise various points of origin which are not accustomed to working together under someone's authority, in order to jointly create a single treatment and evacuation chain under the operational authority of the medical assistance director on the ground and under the administrative authority of the Inspector of Hygiene, who is at the governor's crisis command centre.

In order to achieve this objective of working together, each participant has action papers containing clear and precise instructions. After any particular situation, we review the instructions written on these papers.

For 1998, we had to deal with a mass carbon monoxide poisoning incident. 99 people had to be transported.

You have certainly heard of the lorry exploding in the town centre causing a fire - two dead, 63 poisoned.

In Liège, there was a mass carbon monoxide poisoning incident in a primary school, 116 infants below the age of 4 were poisoned, 69 were treated on site with the logistics equipment.

Recently we had the derailment of a passenger train, 4 seriously injured to be looked after.

I have come to an end. Thank you very much.

Professor of Medicine Bernard NEMITZ

Amiens Faculty of Medicine (France)

In a few minutes, we are going to try and describe the teaching of major incident medicine as it has been developing in France for 17 years now.

I would remind you that, as early as in the 70s, France realised the need for specific training for doctors who wanted to be useful in major incident situations. This was not so much because strong particularities had to be given prominence in medical action, even though we subsequently saw that special competencies had to be acquired in this field. It was mainly because doctors did not, with their basic training, seem adequately prepared to take account of the logistical, strategic and tactical considerations to be able to deal with these exceptional situations.

To be very precise, it was during the first intervention of French medical teams in Algeria, for the El Asnam earthquake, when this need to better prepare the teams for this type of situation was realised.

In Créteil, Professor Pierre Huguenard created the first university diploma in major incident medicine in 1981. The purpose of this first diploma was to help doctors working in exceptional situations, in France or abroad, to be better able to become part of powerful teams.

The aims of this training can be broken down as follows :

- to prepare doctors to intervene at the site of accidents or natural, technological or social incidents, armed conflicts or accidents leading to numerous victims and large-scale damage;

- to prepare doctors to take part in the organisation of assistance and mass medical/surgical treatment within the framework of a pre-determined doctrine, to which we all contribute and towards a definition of which the seminar has been notably working for two days.

- the acquisition by these doctors of a real culture of major incidents and risk, different from that of applying day-to-day emergency treatment.

From 1986, five years after the first Créteil experience, it was suggested that the French Ministry of Education recognise a national diploma in major incident medicine. This national diploma is called: "capacité de médecine de catastrophe". The ministry accredits it. Certain universities are authorised to

teach and award it. There are at present 9 universities which are authorised to award this diploma; the 8 which are shown on this slide, plus the University of Bordeaux, which wasn't in the first wave, but which is now one of the universities authorised to award this qualification.

Who are the people at whom this teaching is aimed ?
They are doctors who are already emergency doctors. It is one point on which we insist a great deal. We do not think that we can really produce competent doctors for major incident situations if they don't already have a sufficiently solid grounding in emergency medicine.

Emergency medicine is still not a speciality in France, unlike in the United Kingdom or Belgium. We have, on the other hand, for several years had an emergency doctor qualification, which constitutes the minimum prerequisite to then gain access to training in major incident medicine.

Of course, when assessing the candidates for the major incident medicine qualification, we also take into consideration the professional experience which doctors have gained, either in civil or military practice, in particular in the emergency services, including the civil protection services and the fire brigade.

This requirement for initial emergency medicine training and practice of emergency medicine in order to obtain additional training in major incident medicine seems absolutely essential to us.

We don't confuse the two - major incident medicine is different from emergency medicine. We simply think that they can complement each other, but practising major incident medicine without being competent in ordinary emergency medicine is not, in our opinion, appropriate.

The major incident medical qualifying programme lasts roughly three weeks. If we take the average of the universities, about 80 hours of theoretical teaching are spent on the pathologies resulting from major incidents, notably victims of explosions, burns and poisoning. But it also develops the tactical, strategic and logistical aspects. In tactics, it develops the strategy and logistics of assistance for victims of major incidents in both the systems of metropolitan France as well as in the overseas areas and territories and in foreign countries.

The students we have been receiving in our universities since starting this national diploma in 1986 are French civil and military doctors working in the hospital emergency services, with the tire brigade.

In our different universities, these French civil and military doctors have always been accompanied by foreign doctors, who have come particularly from French-speaking countries or Latin Europe, that is, from Belgium, Switzerland, Italy and Spain.

Also, we regularly welcome doctors from the African French-speaking countries, in particular the countries of the Maghreb (Morocco, Algeria, Tunisia), but also from Black Africa. These doctors register at all these universities every year.

We have also set up special training programmes for nurses. These programmes complement for nurses what we do for doctors. This is the general framework of the training we provide.

For this training in major incident medicine, the universities need to call on varied abilities from those taking part. Our students are obviously emergency doctors, but also military doctors with different specialities. They are specialists in toxicology, nuclear medicine, legal medicine, safety in a broad sense, risk management, and in means of communication. During the last few years, they have taken a more and more important part in crisis and major incident situation management.

There can be no worthwhile training in this field without practical exercises on the ground. All our universities must finish each training session with a full-scale exercise on the ground, organised jointly with the regional fire brigade and the police forces.

Here are a few illustrations of some of the exercises that we have carried out in our universities with our partners from the Red Cross and the fire brigade. The doctors are put in as realistic a situation as possible, with mock victims. They are asked to apply the techniques of triage, patient preparation and stabilisation, and evacuation organisation on the ground.

Of course, the exercise also includes the use of an inter-service operational command station. For all our services it is the opportunity, once a year, to make our inter-service work level between the three major types of services involved (he fire brigade, he SAMU (mobile emergency medical service), the hospital service, and the services dealing with order). These exercises use large resources. They are relatively expensive for all the partners. But we all think that the cost incurred by these exercises is more than compensated for by the benefit that those involved gain from the operation. Not only the doctors and nurses who have taken part in the training, but also the services

which, every year, benefit from enhancing of their knowledge in the field of exceptional situation management and of crisis situations.

Dr Bernard VIALA will complete this presentation by showing you how this training for French doctors to better take control of major incident situations is carried out in France in the different response modes and how it has been possible to extend it to respond to requests made by foreign countries and friends.

Dr Bernard VIALA

Medical Advisor to the DDSC (France)

To return to what Professor Bernard NEMITZ has just said, I would like to say that in France the aim of the university training in major incident medicine is to train doctors in order to put them on the ground and put them to work as quickly as possible.

This means that, in order to be a doctor in the civil protection units with which I deal, this diploma is absolutely compulsory. Without it, it is impossible for anybody to join our units and go on a mission.

The same applies to doctors in the fire brigade, where this diploma is compulsory because these doctors are called not only to major incidents in France, but, as we have seen recently, to major incidents abroad. This training is practical training, which is applied immediately.

All these doctors have been trained according to a single doctrine. This doctrine covers the whole of the country. This means that when different bodies take part in a major incident in France, whether it is the fire brigade, the civil protection units, or the SAMUs, everybody is talking the same language, everybody is familiar with the organisation, and therefore is completely integrated into the assistance chain.

Secondly, something which is just as important, all these people are extremely specialised, and this experience is required for all our missions abroad. For these missions, we use these kinds of doctors without their abilities. You should know that these doctors are specialised in major incident medicine, but some of them are also specialised in chemical decontamination, in nuclear decontamination, and in all technological risks.

To give an illustration of what has happened during the last few years, I will talk about our interventions in major incidents in the different countries. We intervened in this way, with teams of specialist surgeons specialising in major incident medicine, fire brigade surgeons, who went to be involved when the war in Congo-Brazzaville was at its peak, where they completely restored a surgical hospital with the resources they brought from France.

In the same way, units intervened very recently during the cyclones in Saint-Martin, Haiti and Santo Domingo, where this represented roughly the equivalent of 300 people being put on the site. They have intervened in

Central America, in Honduras, Nicaragua, and Guatemala, and last year in the Cameroon. Each time, these interventions were by people trained in this type of medicine.

This major incident medical training is done in France with French doctors and with doctors from the different countries in Europe who attend our training. We do the same thing abroad - in Rumania, in Africa, in the Cameroon.

In these circumstances, it is the French trainers who go to the country to do the major incident medicine training, always bearing in mind that we cannot export a strictly national doctrine abroad. We therefore have to be able to adapt to the country. When we do training in Africa or Rumania or in the Maghreb, it is not, for example, about wanting absolutely to impose a doctrine. We adapt our doctrine to the local resources in the country, this is what we call working in partnership.

I wanted to describe all this to give you a little idea of the way in which France has conducted major incident medicine training for more than fifteen or so years.

A participant

Who finances this teaching at the university ? Is it the universities themselves ? The students ? Are these doctors paid ?

Mr NEMITZ

With regard to the tuition fees, it is university education. It is therefore the university's budget that pays for the training. But, to reply to your second question, the doctors who come to attend this training pay attendance fees.

You should know that French university attendance fees are extremely modest. It is indeed the university's budget that bears the heaviest burden. As an indication, a student wishing to attend this type of university training pays roughly 2,000 French Francs for the whole training programme.

Some doctors pay these attendance fees out of their own pocket; others have their training paid for by the service in which they take part. The fire and assistance services sometimes send doctors to attend training programmes and pay their registration fees. Both systems exist. Overall, the heaviest burden is borne by the university, that is the state.

A participant

Is there a limited number of participants for each course?

Mr NEMITZ

Yes, most certainly. The accreditation given by the ministry states the maximum number of doctors that can be allowed into each training programme. Overall, this varies between 20 and 30 students per session so that it remains worthwhile on a teaching level. There is more and more work being done in small groups. Also, the final exercise cannot include 50 doctors to be examined simultaneously.

Dr Reinhold RENNER

Surgeon - Austrian Red Cross

I am a surgeon in an Austrian hospital in Burgenland, in the East of Austria, close to the Hungarian border. I am a doctor specialising in emergencies. There is no emergency doctor's diploma in Austria. I am a volunteer in the Red Cross, where I work for the Emergency department. I represent the Austrian National Society of the international Red Cross.

There is no system of state mobile emergency ambulances in Austria. More than 85% of the mobile emergency services and ambulances are services managed by the Red Cross. There is an ambulance system in the city of Vienna, but in the rest of the country there is only the Red Cross providing emergency services. In some parts of the country and in two or three regions, there are a few different emergency services.

We are in particular an organisation of volunteers. We have 31,000 volunteers in our society which provides emergency services. How are they trained ?

We have different levels of training, as in every country.
- the first level relates to first aid;
- the second level relates to advance treatment with the intervention of rescuers who come to help the doctors. We have a special word for this, which isn't easy to translate, but they do the same job as hospital nurses on the site of emergencies.

We have national training for those working in the field of major incidents.

At the Red Cross, we have serious incidents, with which our normal forces can cope. For these we have our ambulance services and our emergency doctors who can cope with serious incidents with the equipment which we have in our normal services and special equipment.

A major incident exists as soon as the government officially announces it. This has financial implications. The financial assistance, which is made available, depends on an accident or an incident being declared a major incident.

We have a legal definition, which must be officially declared by the authorities, and we have our definition as the Red Cross. It is important for us

because we cover 85% of the ambulance and emergency services in the country.

We have 31,000 volunteers and 3,500 permanent staff who work in our emergency accidents system. Our doctors are qualified emergency doctors. This represents 80 hours of training. They follow a training programme in the emergency services. The doctor must be either a general doctor or a specialist. He must already be a general or specialist doctor before undertaking this training in emergency medicine.

The Austrian system works according to the federal principle. We have the national level, the regional or canton level, and the local level. There is a difference as regards emergency medicine depending on whether we work on a national or international level.

On an international level, we have to collaborate with the international committee of the Red Cross whose head office is in Geneva. It is in a sense our parent company. It is very important because, when a major incident occurs somewhere, the first person sent to the location is a delegate of the international committee, who assesses the situation. It is he who decides what to do next. It is he who is responsible for defining the Red Cross's missions. The international committee defines our missions.

On a national level, we work with the national authorities. We have an independent emergency and major incident service, which is ready to intervene at any time, 24 hours a day, in major national and international incidents.

We have special training programmes for people interested in major incident medicine. I will tell you more about this training later. We have training in first aid, training in transport in the context of a major incident.

I would like to say a word about our equipment. Our normal emergency ambulances represent 2,000 vehicles. We have helicopters. The list of equipment for our intervention in major incidents is as follows:

- fifty or so trucks, 250 trailers that can be hooked onto the ambulances and which bring the equipment to the site of the accident;

- 110 pieces of medical equipment for serious accidents can deal with about thirty injured people. The ambulances can transport the equipment. You can obtain synergies between all this equipment, which can be got together very quickly and allows us to treat a large number of injured;

- 350 tents which can hold 3,700 people, 9,450 beds, 4,800 blankets;

- about sixty field kitchens which can provide 18,900 meals a day for not only our forces but also for the population;

- about a hundred dogs specially trained for major incident medicine. They have been used in Armenia and have been specially trained. Many have a great deal of experience;

- units to supply drinking water. We can supply 62,000 litres of drinking water per day. It is very important.

The international committee of the Red Cross has divided the assistance into several divisions:

- medical assistance (communication and synergy);
- the emergency response unit;
- units to supply drinking water. We have engineers who can, if necessary, provide drinking water in the event of an alarm in a given area. The engineers and the equipment are available 24 hours a day;
- twenty or so short wave radio stations. It is very important to have telecommunication resources. We have mobile communication resources;
- electricity generators and lighting equipment;
- field hospitals.

Here are a few examples of social projects in which we have taken part.

We took part in the *neighbouring need* project to help the people of Yugoslavia. We have taken part in actions in Uganda and Somalia to supply drinking water. In Rwanda we took part in the reception of refugees. We worked in Rumania at the Esca hospital.

We have a budget of 130 million florins for 1998.

Mr PIRROS

I would like to say that I am slightly troubled with regard to the link between the Austrian Red Cross and the International Committee. You haven't talked about the Federation of the Societies of the Red Cross and the Red Crescent. I thought there was a movement of the international Red Cross and that the ICC was a separate entity, and that the national societies were part of the Federation of the Societies of the Red Cross and Red Crescent.

Has something changed? Is there a special agreement between the Austrian Red Cross and the International Committee?

Mr RENNER

There is the international Committee and the LIGA, which is the league of national societies.

On an operational level, it is the International Committee. It is the first to arrive on the site and it assesses the needs and gives the mission orders to the different validated member countries of the Red Cross. The situation has to be assessed to ensure the safety of the personnel who will be sent to the site. 5 years ago the emergency units told us that we had to take our units to the incident very quickly. They set up this 24-hour stand-by system for the special units. All countries can't do everything. Each country has been given part of the responsibility and we have this responsibility of a 24-hour stand-by.

Dr Georg ROSENMAYR

Austrian Ministry of Defence

The military field hospital.

I am a doctor working for the Ministry of Defence in Vienna. I am responsible for the medical training of the personnel who go abroad, with the troops taking part in peacekeeping operations under NATO or other missions of this kind.

For some years we have had a modular approach to the field hospital, which I am going to describe to you now.

The idea of a modular structure is to allow those directing rescue operations to use made-to-measure medical treatment equipment for the missions which have been defined, as there are about a hundred people. There is expensive equipment, and not every major incident needs the same resources. Sometimes we need to treat the injured urgently; sometimes we need mobile treatment units. We have developed certain modular structures to meet the missions' specific requirements.

Within the Austrian armed forces, there are several specialised units, and the field hospital is only one example within the system.

We have two infantry battalions, one logistics and engineering reconnaissance unit, and one search and rescue unit. The largest medical unit is the field hospital, with about a hundred people.

We have a medical section, which comprises about forty people who support the infantry battalions.

We have more modest units with about fifteen people, which take part in the search and rescue operations.

They include specialists such as firemen responsible for rescuing people and evacuating people from the site of the accident. To support the victims, we have a small medical team in this rescue unit.

Historically, these activities began about thirty years ago. The first mission in which Austria took part with medical personnel was in Africa, in the Congo, in 1963. Since then, the Austrian forces have striven to provide well-structured

medical treatment equipment. Our last major intervention was in 1991, a large field hospital in Iran.

For 10 years we have been taking part in many exercises and certain rescue operations in Europe. The following slides will show you the tasks for which we are responsible.

Within the United Nations, we must be able to support a mission involving 2,500 soldiers. We have to be able to provide all the medical resources necessary for a force of 2,500 men. All the personnel in this field hospital are volunteers, either civilian or military.

The field hospital must be able to function independently for 6 months or, in the context of major incidents, for 2 months.

The training phase is very hard: 3 or 4 weeks for a major incident operation. The field hospital must be usable within two weeks.

In the search and rescue operations, we have to be quicker, and we are in the process of studying the resources for being able to set off for the site of the major incident within 12 hours.

Some tasks have already been mentioned. We have to operate without the local infrastructure. You need electricity, a kitchen, laundry, a generator etc. One of the major challenges is to be able to work without the normal infrastructures.

I have already talked about the support for the units 2,500-men units in a field hospital. We can perform surgical operations. We can have 50 beds for limited treatment periods, not only for primary treatment, but also in some circumstances when there is no transport available. We must be able to keep the patients for two or three weeks.

When we are involved in humanitarian missions where the local infrastructures have been destroyed or are absent, we have to be able to supply not only the personnel and the patients, but also the people who come to ask for help during an operation. We have to be able to maintain a distribution system for the native local population. This field hospital now contains 14 modules, including the means of transport. To make it easier for you to understand the organisation of this military unit, I am going to show you the organisational strategy of the field hospital with its different modules.

One of the options of the modular structure is as follows. We have very limited hard shelter resources. What we have is mainly tents. This has both advantages and disadvantages. The tent system makes the field hospital very flexible, very pliable, easy to manoeuvre, but also, as regards design and construction, it is easier to bulled and to set up.

I am going to tell you about the treatment that we can give, including general medicine, a surgical unit, internal medicine, and other specialities. We have included paediatric treatment. We have formed a new module that treats tropical diseases.

As far as surgery is concerned, we have an operating theatre equipped for visceral surgery, casualty, and also female conditions. The advantage is that this system means we can not only select the equipment on a modular basis, but the personnel working within this module is also distributed on a modular basis. The personnel profile must correspond to the objectives of each module. A module must have the training, the equipment, and the human resources appropriate for the objectives, the tasks for which it is responsible.

Our role is to help in search and rescue, to provide support for the troops involved in peacekeeping activities with the United Nations, and to help in major humanitarian incidents.

It is very important to have a legal and logistical framework. A country or the international community like the European Union asks for our field hospital. We sometimes waste a lot of time, but this gives us a longer preparation period; because several days elapse before a request arrives from the other countries of the international community. These modules are regularly maintained. The personnel practise regularly.

To conclude, I would like to say that the Austrian army doesn't regard major incident medicine as the most important thing. We think what is important is intervention in a wide sense, reacting to major incidents. This goes beyond the purely medical objective. It is about providing support, providing help.

Thank you for your attention.

Dr Adriana VOLPINI

Emergency Rescue Department
Italian Civil Protection Office

(A video on the Sarno and Quindici mudslide)

This major incident occurred between 14.00 and 20.00 hours.
- 160 dead in Sarno
- 11 dead in Quindici

The difference is certainly due to the mayor of Quindici, who immediately put an evacuation plan into action. The entire population was evacuated in 2 hours. Among the 11 dead in Quindici, 2 belonged to the rescue units.

In Sarno, on the other hand, the mayor did nothing. He was far away. People weren't worried because mudslides happen all the time.

Sarno and Quindici are two districts close to Vesuvius. This proximity was the reason for the mudslide. There is rock and volcanic material located under the rock. The disturbance in the area caused the landslide. There was no deforestation in this zone.

You can see that the mudslide covered the first floor of the houses. In the night of 3 to 4 May, the evacuation lasted more than 48 hours. In the day of 4 to 5 May, the meteorological phenomena became persistent, but they were not of exceptional intensify. It was very hot.

Until 17.00 hours, no communication about the special situation had been received. At 18.00 hours the prefecture of d'Avelino (Sarno province) announced an overspill in the region and said it was necessary to find and save the inhabitants who had taken refuge in the most difficult zones.

Military helicopters were immediately prepared for action. They were equipped for night flights and specialised in winch rescues. They carried out numerous operations and rescued 80 people.

At the Avelino prefecture, a crisis cell was formed. The Civil Protection Department started to co-ordinate the activities, 200 beds and 1,000 blankets were supplied. Two hours after the wave of mud, the population of Sarno was brought together in nearby schools, inns and hotels. 500 people were homeless.

The mudslide devastated a large part of Sarno. The hospital, which had 62 beds, including 29 surgical and 14 orthopaedic, decided to send doctors, nurses, and an auxiliary to arrange improvised inspections. 15 hospitalised patients and relatives on the first floor of the hospital were moved onto higher floors. The sub-secretary co-ordinating the crisis unit set up his office close to the Sarno site.

The forces, which intervened, were the fire brigade, volunteers, and the military.

Dr Demitrios PIRROS

National emergency treatment centre (Greece)

I am going to describe the special unit for major incident medicine.

Ladies and gentlemen, colleagues. Whether you are a normal or an abnormal doctor, welcome to my talk.

I will begin by giving you some information about the organisation of our national consultation centre, before talking about the special unit. Greece is a very small country with 10 million inhabitants. Numbers increase in summer, because 10 million tourists come to join the 10 million inhabitants, but most of them go to the Greek islands and not to the mainland. You should know that 5 million Greeks live in the area of outer Athens. These demographic changes pose many problems in the management of emergencies.

The consultation centre is the only supplier of hospital treatment in Greece. It was formed in 1985 by the merger of several ambulance services that existed at the time. It is run by a management board and a scientific board. The scientific board is responsible to the management board. But the scientific board also has a training and education committee. We have appointed 500 additional people, which means we have almost 2,000 employees.

The basic treatment, the day-to-day treatment, is provided by the ambulance, which you see on the screen, which is driven by two people.

On the left, you have a typical ambulance. On the right, we have some mobile intensive care units, which operate in the Greek cities with two people on board plus a doctor. What you see there is the mobile intensive care unit. And you see the medical equipment that these new mobile units have. We have fitted 75 mobile units with modern resuscitation equipment.

One of the most important things that I would like to share with you is our training. I am going to tell you about the training for our teams of ambulance men.

70% of our ambulance teams have one year's training before joining the ambulance service, thanks to a 5-year programme financed by the European Union. It was managed for 5 consecutive years. Since 1994, we have had a lot of people trained in the ambulance service. Then, each year, there is a

continuous development programme, a one-week seminar followed by an examination. We have supplemented it with a two-year programme by the creation of a college for training emergency ambulance men, and we hope that this programme will start in September.

As regards doctors, there is an annual programme in emergency pre-hospital medicine, which takes place in four training centres across the whole country. This one-year programme gives the official title of emergency specialist, as there are no emergency specialists in Greece. Emergency specialists only exist in Belgium and the United Kingdom, as specialists recognised by the State. But there is a European emergency specialist manifesto, which clearly states that the emergency specialist is someone who already has a speciality and who adds two years of training in emergency medicine.

One of our training activities as doctors is to train other people. We think it is the best way to recycle ourselves, while training others. We do this by training nurses and other specific categories of the population.

When a major incident occurs, the special major incident medicine unit that intervenes is a voluntary service within the ambulance service, which is staffed by doctors and ambulancemen from the ambulance service. When a major incident occurs, you don't have to look outside the ambulance personnel to find help. You take people who already work in it and you turn them into a unit specialised in major incident management. At the same time, you mobilise additional services, so that the daily flow of work is not interrupted. All we have to do is train the personnel. It is a rapid response unit - it could be transported by air - with pre-packed medical guides. It is something different from what exists for management of day-to-day affairs.

Up to now, as a specialised unit, we have already fulfilled concrete missions. We have had to manage different earthquakes, 50% of all European seismic activity takes place in Greece. We also intervened during a terrorist attack on a Greek tourist coach.

In Greece, we work - when we respond to major incidents - under the aegis of the General Secretary for Civil Protection, under the Ministry of the Interior. We have to work inter-dependently with our colleagues from the fire fighting and the civil engineering sectors. The civil engineers play a major part in ensuring the safety of the victims.

You know our philosophy - we want our team to be small, mobile, complete, autonomous and independent, particularly when we have to go abroad. We

organised the "1997 Olympics" involving military personnel from the Bulgarian, Rumanian and Dutch air forces as NATO partners for peace. We were the only civil, non-military bodies who were invited because the scenario involved the response to an earthquake.

If there are no questions, before leaving I would like to invite you to the 11th congress of the World Major Incident Medicine Association in Osaka, Japan, from 10 to 15 May 1999.

Mr Wolfram GEIER

Head of Rescue Services Department
Arbeiter Samariter Bund (Germany)

I would like to thank you for inviting me to attend this very interesting seminar about the role of our medicine in Europe.

I would like to describe the programme of the German Ministry of the Interior to give you an insight into the activities relating to the management of major incidents in Germany.

It is a complex situation, particularly because of our political situation, since, as you know, our country is divided into Länder (regions).

We deal with problems of natural disasters as well as other major incidents. Particularly in the case of floods we have an early detection system which works very well before we can take the necessary action.

Germany is a very industrialised country and we are very vulnerable from the point of view of chemical or nuclear accidents. We have not really experienced any important major incidents in Germany, except, of course, the ICE accident in 1998.

Control of major incident medicine is devolved to the public sector. The federal government is responsible for civil defence and protection of the citizens. As for the 16 Länder, they are responsible, on a legislative level, for initial assistance, the fire brigade, and control of major incidents. The different Länder are also responsible for organisation of all these services.

The German system is based on the principle of subsidiarity between the public sector and the private sector. There are many private associations involved in the management of major incidents. In Germany, we have public and private associations that work together.

These are organisations or associations recognised by the State, able to work with the public sector. They include the Samaritan Federation. These different associations are integrated on a State level. There is very close collaboration between them as regards fulfilment of their tasks.

The German constitution also allows the use of the Armed Forces during a major incident. With this military assistance, we have major support for accidents at sea or those like the ICE accident.

We have a lot of volunteers without training, but who is really the backbone of our association. We know that these volunteers are vital not only for the assistance that they can provide, but also as regards financial assistance, for the gifts they can bring. These associations were formed in the middle of the 19th century and therefore several tasks relating to prevention and assistance during major incidents are their responsibility. Their main task is to help the fire brigade, the first aid service, and the Red Cross at times of natural disasters.

After the war, we formed a disaster control committee among the different Länder (regions).

Financing this whole system is only possible thanks to this quasi-military system, which is very structured. We can also offer training to the volunteers and the personnel of these different associations.

In the event of disaster professionals provide 80% of the different services. There is a huge potential thanks to all this experience in the field of major incident medicine. We have units that are organised for training each member of the team so as to encourage the closest possible co-operation.

You can see the figures - with regard to the volunteers, we have roughly 3 million volunteer firemen, 64,000 work for technical support, and 90,000 in the rescue associations. 90% are volunteers who work without pay. These volunteers can carry out tasks either as unpaid volunteers or as full-time employees.

The federal law is such that people who do not want to do their military service can work in civil defence (40%). They can receive training in major incident medicine. The federal government pays for this training. We provide continuous and technical training for all these people, who are financed by the Länder (regions) and the federal government. Several thousands of professionals work in each Land on this level. Colleges give the training. You can clearly see that the volunteers are very motivated to assist and help people and victims but we have to know how to organise them to respond to the different requirements.

In this field, the federal government decided in the 90s not to create a special federal system, but to continue this decentralised system, by Länder (regions). There is a risk that the impact will be felt in the future. We have set up specialised civil defence units in the 16 Länder (regions). These different units provide first aid for victims of major incidents. Each Land manages one.

As for the psychosocial aspect, we have a team that provides first aid, on the level of shelter, food and water. We have the fire brigade, and we work closely with the NGOs who can provide technical assistance even on a federal level.

As for the training in each Land and in each city, we have a training unit. During operations, there is a person in charge on the site who can manage the different first aid activities. This unit comprises doctors, firemen, emergency doctors, etc. All these people have had specific training in the first aid field. First aid workers must follow a 2-year training programme involving 520 hours. For the volunteers of these different associations, they are trained in programmes lasting between 90 and 112 hours.

The doctors must follow an 80-hour training programme and inter-disciplinary or multi-disciplinary courses. They must also demonstrate their experience in the field of emergency medicine. Head doctors must also do supplementary training lasting 40 hours, and they must have taken part in emergency or major incident medicine for 3 years. These associations exist on a regional and federal level so as to be able to deal with these major incidents.

Our system in Germany is being revised. Government bills should modify the current system. Finally, the future of our system requires the following action :

- the design of a specific federal system intended to assess the situation following a major incident and list all the volunteers available on a national level;

- development of an integrated rescue system comprising prevention, first aid, the fire brigade, the technical service, and civil defence.

In the event of a major incident, we have our rapid response teams, which are professional units, which will provide the link between these different associations and the volunteers. We would like to start integrated training programmes in the field of civil defence. We would like to improve the training programmes for those in charge.

Some questions may touch on aspects of insurance and finance. We have to think about the situation after the major incident: the post-traumatic stress and hospitalisation, which can last for varying lengths of time. The design of different programmes and cross-border co-operation are on the agenda.

These different projects should make our assistance in the event of a major incident or accident even easier.

We also wanted to promote international co-operation between the different organisations and associations in Europe and around the world. We have started exchanges among the members of our different organisations.

In view of the number of major incidents in Germany and the problems that we may encounter, we are ready to issue a maximum of proposals to organise the volunteers under different major incident management programmes. The professionals are working side by side with those who work in the field of civil defence, including the volunteers and the different associations existing in our country. This constitutes a real network, which must be made more and more active.

Mr. Duncan MACPHERSON

Ministry of Health (Great Britain)

I am responsible for a unit within the Ministry of Health, the emergency services co-ordination and planning unit. Dr. Andrew Mason, an emergency surgeon in Great Britain, and Robert Seaman from the Ambulance Service are real experts. You will have to address your questions to them. I am only a civil servant.

Because of the discussions that have taken place, we, as Anglo-Saxons, thought we would say a few words about what we wanted to express by certain terms used in English.

Medic: this term isn't used in England. It's associated with American cinema.

Emergency Medical Service: this service provides ambulance personnel.

Ordinary, day-to-day emergencies are dealt with by hospital and ambulance personnel who work within the framework of the National Health Service.

Then, we talk about major incidents, serious incidents; the same people as those who manage our emergency services, that is the ambulance men, manage these incidents. All our ambulance men can respond to a serious incident, an accident.

In the United Kingdom, there are health authorities, which have overall responsibility for planning in the event of serious incidents, the response to serious incidents, that is the response of the ambulance men and the hospitals and the response in terms of public health. I am thinking of serious incidents of a chemical nature. A serious incident isn't necessarily a large explosion. We have talked a lot about explosions, but a serious incident can be an epidemic.

Then, yesterday, the discussion focused a great deal on paramedics and their function.

I will very briefly talk to you about the role of the paramedics in the United Kingdom and what we mean by paramedic. It means the personnel in the ambulance services. They deal with the triage and transport of the injured at normal accidents. If you have a road accident in the United Kingdom and you are treated on the spot, it is possible that your intravenous injection will be

given by a paramedic and not by a doctor. They can intubate, defibrillate etc., but they operate within a very narrow control structure. Medically, they have to comply with very strict protocols supervised by doctors.

On the other hand, the paramedic does not have a very special role in the management of a serious accident. Paramedics are often the first to arrive at the scene of a serious accident, they assess it until the ambulance officer arrives, who then takes command, then a medical officer if the ambulance officer thinks it is necessary, likewise, if necessary, one or more mobile medical service teams.

In the United Kingdom, it is the Ministry of Health which determines the health policy and which allocates the funds to the different health authorities and the different local services.

The Ministry of Health is divided into eight regional offices. Emergency planning is defined on a regional level. It finances medical treatment through the hospitals and the ambulance services.

The citizens, the generalists, must be involved, concerned, integrated in the management of emergencies.

I now pass you over to Andrew MASON, who is going to talk in concrete terms about what he does, that is the role of the hospital. We will show you a document, within the health service, which will explain our emergency procedures. This document is available on the Internet.

Dr Andrew MASON

Surgeon - Medway Hospital - Kent (Great Britain)

I am going to give you an overall view of the way in which the English hospital system manages emergencies. We work in close collaboration with our American, Canadian and Australian colleagues.

The Minister of Health has given hospitals directives on how to deal with major incidents.

- They have to provide a clinical response, obviously; that is, they must comply with the national directives. Each hospital must prepare a local plan on the basis of the national directive.

- Secondly, we have to work in close liaison with the ambulance services and the other hospitals, the police and other State bodies. It is rare in the event of a major incident that a hospital can manage the response to this incident on its own. Generally several hospitals can be involved, as well as other public organisations. The hospital is often called on to co-ordinate the response to serious incidents, in particular after the reception of the patient.

- Our role is to communicate with the community, the media and the important people involved. We have to communicate with the families of the victims. Generally, the police are often responsible for overall co-ordination of the response in the event of a serious incident.

- Sometimes it is a doctor specialising in emergencies who can co-ordinate a medical response to an emergency. This doctor doesn't need to carry out all the tasks. He is responsible for supervising the team.

- The serious incident management plan is our role. We have to demonstrate flexibility. We have seen different types of emergencies described, but nobody can tell what is going to happen tomorrow.

- We have to create a command team within the hospital, generally made up of experienced personnel (doctors, orthopaedic surgeons often, administrators, and nurses). Most of the doctors and nurses have not had special training or have not had the opportunity to manage a serious crisis situation. We have compiled action documents where our serious incident

action plan is made available to doctors, whether experienced or not, and nurses, which very briefly gives them ideas about action to take.

- We have to manage the flow of patients. We have talked about triage; it is our responsibility to see that there are places in our radiology and surgical departments to take all the patients who arrive. The medical teams generally include one anaesthetist, one doctor specialising in accidents and emergencies, one nurse, and one assistant. This team can be increased, doubled, trebled or supplemented by teams from the hospitals.

It is essential to emphasise that our teams and our projects are up-to-date and have been tried and tested. In particular we have to test our communication systems every six months. And every two years we carry out a full-scale exercise.

Mr Herman KERS
Head of the emergency medical assistance project
(the Netherlands)

I come from the Ministry of the Interior in the Netherlands. Our structure is very similar to the British structure. The only difference is the financing of the whole health system by the insurance services.

Several studies show that, either in the financial or operational aspects, there was a problem of up dating. We have started a project to improve these points. That is why I am here, to find out what the other European countries do, in order to put the good ideas that we can learn from our European colleagues into practice.

We are trying to make up for these deficiencies in three ways :

- We are trying to improve the medical treatment chain. We have organised incidents into a hierarchy.

  We are trying to develop doctrines for the different parts of the treatment chain (casualty services, mobile teams, and teams for major incidents).

  We want to lay down regulations.

- There is inter-dependence within the treatment chain. There must be a unified doctrine for all the participants in the chain (doctors, operational personnel, firemen, who are all involved and who must know what is expected of them).

- There must be a structural framework, an organisational framework, which involves all the medical services and the government.

In the first year of the project, we succeeded in defining, in collaboration with all the people involved, the organisations involved in the emergency services and major incident medicine, and all the parties involved in the chain.

With all these people involved we have also agreed on a method for describing and assessing quality in relation to a certain number of criteria.

The biggest challenge will be to reach a consensus with the government and the other bodies to implement a professional structure. The regional authorities are responsible for this. We are trying to establish a structure that will work for many years.

At the conference in June, we will show you some slides. I didn't prepare any for my talk today, but by then we will have an overall view of everything that has been done and we will be able to tell you what we will have done between now and the end of the year. Thank you.

Dr Esther Pardo-Sanchez

National Civil Protection College (Spain)

I would now like to quickly describe the different emergency units in Madrid, which come under the authority of the Mayor of Madrid.

350 people work in the mobile emergency units in close collaboration with volunteers. They are called out 1,800 times a year. They collaborate with the police services. These bodies work closely together, particularly as regards relations with the hospitals. Each unit has a doctor, a nurse, and a driver trained in first aid.

340 units have an immediate intervention system, with a doctor and a first aid driver who can use this very sophisticated equipment inside these units, while transporting the victims. We have a specific system for rescues in very high buildings or underground.

We have a psychiatric treatment unit. Our head office is in Madrid and we have a communication system across the whole city, which means we can be on site within six minutes. We give six months' training to all the first aid personnel working for the mobile emergency units in Madrid.

In the event of a major incident, we can call on volunteers for six days. We have several cardiac specialists available at all times.

On 14 May, there will be a conference in Madrid to present our structure in a better way. You are all welcome. Dr FRUTOS will talk in greater detail about the military health service in Spain.

Dr Pilar HERNANDEZ-FRUTOS

Captain at the Military College (Spain)

I am a doctor at the Madrid Military College, where I am responsible for statistics. I work with NATO and in peace missions. I work as a "normal" doctor and I have the opportunity to practise my profession.

We, military doctors, have been involved in many non-war operations for years. In 1973, we found that the medical structures were inadequate. We created a system of flexible units, which is more effective in the event of a major incident. We have a very lightweight model which can be operated at any time and which can be used even for surgical operations on site.

There are two or three doctors per unit. They are naturally military doctors. We have precision teams, of three, four or five people.

Of course there is always one doctor, always one military nurse, then a radio assistant and a driver who has had specific training. We work with armoured cars, helicopters, PUMAs and Super PUMAs. These teams are enough for certain rapid assistance operations.

We also have a team that works in a field hospital with the different neurological services and specialists, paramedic assistant doctors and officers. They can intervene in the event of emergency surgery, because in some situations it is not always possible to immediately transport the victims to a hospital. This question of pre-hospitalisation is very important for us. Each time it depends on the physical condition of the victims.

I would like to explain what we do as regards training and information for civil and military doctors in Spain, for any non-war operation, including major incidents. We have two kinds of training:

- for professionals, we offer a general logistics diploma, instruction in defence and management for chemical risks. We also organise a competition on medical logistics in the event of war or a major incident (the question of logistics, the number of beds, etc.), and courses for nurses, in the event of a major incident. Some of our nurses are on an officer level and they may have a role to play, not in the management of major incidents, but as support.
  Finally, training in surgery in times of war. We do not concentrate on surgery itself, but more on the organisational and logistics side.

The different units of value (CREDIT) which lead to the general logistics diploma last three months initially. Then there is an intermediate examination. If students fail, they cannot go any further.

- Then we organise six training modules:
  - human resources,
  - work,
  - necessary supplies,
  - medical support,
  - the different aspects of relationships in civil society,

  Which last 100 hours for each module and which give you a total of 60 credits.

  There are then practical lessons - 20 hours of practical teaching for the training. I would like to emphasise that military war operations are not included in this training.

It can clearly be seen that we also concentrate on other medical aspects in collaboration with the different military forces. There is an advanced training programme, intended more as training for non-doctors or even private individuals. There is an initial four-month training course followed by an exam.

We will not talk about information in the context of this training aiming at private individuals or non-doctors. They can learn a lot about management in times of a crisis and the different equipment needed. They work on the protection equipment in the event of a chemical incident. They have experience with the decontamination units. We also look at visits to our different nuclear centres. We are aiming at the different people in the Army. Government chemists can take part in this training and private individuals who may be interested in connection with their work.

There is other medical logistics training in the event of war or major incident. 80% of this training is not connected with war. This training lasts one month, and is followed by an exam. During this month there are 25 hours of training per week.

We work in close collaboration with the Ministry of Health, so personnel can take part in this training, both trainees and trainers.

There is more training aimed at nurses. This training does not last as long, it takes place over one month with 2 weeks' attendance, 25 hours per week.

There is surgical training in surgery in the event of war or major incident - we look closely at the different emergency surgery units. This lasts one month with 20 hours' training per week. In it we concentrate on the logistical aspects of surgery.

Of course, we talk about the deployment of these units, and we are aiming not only at surgeons, but also other doctors, military doctors or officers.

Our cadets have optional training, which is not compulsory. It is general training in major incident medicine. This training is only one phase of non-practical attendance, as these people are often at university. We are aiming at cadet vets, chemists and odontologists.

There are three modules of 20 hours each. We deal with general logistics in major incident medicine and the different possibilities for collaboration with the UN or other international bodies.

Another specific kind of training is reserved for nurses because in Spain nurses do not act as managers.

A participant.

Is the instruction given in English? I would like to know to what extent the military and civil emergency medicine services work together. Do the military doctors take part in the training? Do you take part in major incident medicine operations?

Dr FRUTOS

The teaching is in Spanish. We are hoping to set up a simultaneous translation service in English and French. The next general training programme in logistics will be held in November and we hope to have civil lecturers.

With regard to your second question, we can take part in two cases:
- when the military unit is close to the major incident, it is direct collaboration, co-operation;
- when there is a large-scale major incident.

But the difficulty exists when major incident operations have to be conducted in certain areas of the world. This can pose problems, depending on the scale of the operation and the incident.

APPENDICES