Introduction

The unprecedented terrorist events in the US in the autumn 2001 caused enormous public concern and led to alarms and emergency measures world-wide. 23 cases of confirmed anthrax have occurred in the US as a result of postings through the mail system of anthrax spores to recipients in Florida, New York and Washington DC in September and October 2001: eleven inhalation cases have been confirmed and have resulted in five deaths, and there have been eight confirmed and a further four suspected cutaneous cases. Investigations pointed to a single source for the deliberate releases and the strains of anthrax detected are indistinguishable. The perpetrators remain unidentified, and the risk of recurring deliberate releases remains high until they are captured.

These bio-terrorist events took place in the United States but had a world-wide impact. In Europe, civil protection, security and armed forces were put on alert, and public health systems had to manage numerous mails containing powders suspected to be contaminated with anthrax. Neither terrorist attacks nor anthrax cases occurred in Europe; all bioterrorist threats appeared to be hoaxes. However, the pressure on European countries was high. Security, civil protection and health authorities came under enormous strain; their preparedness and response plans had been questioned and were urgently reviewed and are being adapted. Member States had to devote scarce public health resources to face a new type of threat.

Co-operation in the EU proved essential and inevitable. In a border-free space in which produce, products, services and people can circulate without hindrance, it is essential that appropriate mechanisms and arrangements are put in place to ensure prompt notification and exchange of information in case of threats and attacks, action at source to stem the spread of disease and environmental contamination, mutual assistance for diagnosis and management of cases, laboratory and epidemiological investigations, and flexible public health responses.
It was realised from the outset that tracing the source of covert deliberate releases would require combining data from human and environmental epidemiology with information from security services on a EU scale. That above all, to cope with bio-terrorism attacks required an efficient multi-sector response organised around carefully drawn up and tested plans, based on appropriate modelling which takes account of geographical characteristics and allow for a surge in demand and circumstances of disruption of vital utilities and transport. This, because of the particularities of the EU, required sharing between the Member States of knowledge and good practice, laboratory facilities, equipment and products, and experts and intervention personnel across the EU.

**EU response**

The EU heads of State and Government and the Commission had to rise to the challenge. In Ghent, on 19 October 2001, the European Council, asked the Council of Ministers and the European Commission to prepare a programme to improve the co-operation between Member States on the evaluation of risks, alerts and intervention, the storage of such means, and in the field of research. The programme has to cover the detection and identification of infectious and toxic agents as well as the prevention and treatment of chemical and biological attacks.

At the Council meeting of 15 November 2001, following agreement by the Health Ministers, the Belgian Presidency issued conclusions which requested the Commission to develop an Action Programme on co-operation on preparedness and response to biological and chemical agent threats, which would have to address the following priorities:

1. Develop a mechanism for consultation in the event of a crisis linked to the bio-terrorist risk and a capacity for the deployment of joint investigation teams;
2. Set up a mechanism for information on the capacities of European laboratories with respect to the prevention of and fight against bio-terrorism;
3. Set up a mechanism for information on the availability of serums, vaccines and antibiotics, including concerted strategies for developing and using those resources;
4. Set up a European network of experts responsible in the Member States for evaluating, managing and communicating risks;
5. Promote the development of vaccines, medicines and treatments.

The conclusions stressed that, in developing this programme, initiatives must be closely co-ordinated with those linked to the setting up of a Community co-ordination mechanism for civil protection measures and must take account of confidentiality requirements in the case of sensitive data.

On the international scene, the bioterrorist attacks were the subject of high-level contacts and meetings. Of particular importance was the meeting in Ottawa on 7 November 2001 of the Health Ministers of the G 7 group of countries health ministers meeting with the participation of the Health Minister of Mexico and Mr Byrne, Member of the Commission
responsible for Health and Consumer Protections. The meeting agreed a concerted global action to strengthen the public health response to the threat of international biological, chemical and radio-nuclear terrorism. The WHO was invited to play a key role in this initiative in addition to its own response to the bioterrorist attacks which included the organisation of expert meetings, the update of advice and the strengthening of reporting mechanisms.

On 13 November 2001, Commissioners Liikanen and Byrne held discussions with representatives of the European pharmaceutical industry about the availability, production capability, storage and distribution capacity for vaccines and other medicines used for the treatment or prevention of disease in the event of a biological attack. They decided to set up a joint Commission-pharmaceutical industry task force to address these issues. In December 2001 and January 2002 the joint Task Force held several meetings. A specific network was also created via the Pharmaceutical Committee of the EU, comprising contact points in its 15 Member States. The purpose of this network was to exchange information, work closely with the joint Task Force and to act as a liaison with the relevant authorities at national level. These moves allowed an assessment of the current situation to be made as regards the capability and capacities of the pharmaceutical industry. It led also to an appraisal of the national stockpiles in the Member States, as required under the Council Decision that has established the Community mechanism to facilitate reinforced co-operation in civil protection assistance interventions. Finally, it led to a careful consideration of the needs and options in a key area of response, namely the availability and use of vaccines, antibiotics, antivirals, antitoxins and sera.

At the same time, at the request of the Commission, the European Medicines Evaluation Agency (EMEA) established two expert groups: one to develop guidance on the use of medicines against potential pathogens and the other to develop specific recommendations and guidance with respect to vaccines, in particular vaccines against small pox.

These activities were reported in a communication that the Commission issued on 28 November 2001 on “civil protection: state of preventive alert against possible emergencies” which set out the co-ordinated actions it was taking or intended to undertake across its civil protection, health, enterprise (pharmaceuticals), research, nuclear and transport and energy fields.

The Committee and programme on health security

The bio-terrorist attacks ushered a new era in the way business is conducted at EU in the sense that the urgency of the situation pushed Commission and Member States to devise new forms of working together without first waiting for the completion of lengthy legal procedures. This new departure included the joint running of well defined projects using flexible deployment of resources.
A Health Security Committee (HSC) was first set up following the urgent meeting of Health Ministers and Commissioner Byrne on 26 October 2001. The HSC is comprised of high-level representatives of the Health Ministers of the Member States charged with raising the alert, exchanging information rapidly and co-ordinating health responses in case of an emergency following a deliberate release of biological or chemical agents to cause harm. Following a proposal by the Commission, the HSC agreed on 17 December 2001 a programme on preparedness and response to biological and chemical agent attacks (health security) as requested by the EU Health Ministers at the meeting of the Health Council on 15 November 2001. The programme, code-named BICHAT, has four objectives:

- Set up a mechanism for information exchange, consultation and co-ordination for the handling of health-related issues related to attacks;
- Create a EU-wide capability for the timely detection and identification of biological and chemical agents that might be used in attacks and for the rapid and reliable determination and diagnosis of relevant cases;
- Create a medicines stock and health services database and a stand-by facility for making medicines and health care specialists available in cases of suspected or unfolding attacks;
- Draw-up rules and disseminate guidance on facing-up to attacks from the health point of view and co-ordinating the EU response and links with third countries and international organisations.

To achieve these objectives, a total of 25 actions have been elaborated leading to:

- An ad hoc alert notification network which serves securely and reliably the Health Security Committee;
- Links with other rapid alert systems at EU level;
- List of agents that might be used in attacks;
- Inventory and surveillance of agents of agents: effective surveillance for unusual clinical syndromes or unexpected patterns of occurrence of more common syndromes;
- Classification of events and scenarios and modelling to predict impact and effect of countermeasures;
- Minimum requirements for medical resources and expertise;
- Protocols for field and clinical investigation;
- Directories - registers of experts to provide advice or available to be deployed;
- Procedures for setting-up investigation teams;
- Inventory of capacities and minimum standards for laboratory facilities;
- Models of memorandum of understanding/co-operation agreements between laboratories: laboratory expertise and capacity to be made available to cope with high-risk agents and complex technology and methods, as well as a surge in demand for analyses in case of threats or attacks;
- Practical arrangements for support between laboratories including proper and safe arrangements for transportation of samples, reagents and specimens;
• Evaluation of existing stocks and production capacities for medicines;
• Elaboration of concerted stockpiling, siting, availability and recycling strategies;
• Strategies and instruments to allow the development of medicines;
• Evaluation of capacities for treatment and identification of capacity that can be made available to other Member States;
• Co-ordination of movement and residence of foreign nationals;
• Possible amendments to Directives and regulations on circulation of goods, services etc. (e.g. pharmaceuticals, dual-use goods, foods, feed, produce, animals);
• Clinical guidelines for case detection and management; this is key to determining actually or potentially exposed groups of people who would require antibiotic prophylaxis, vaccination and/or monitoring depending on the agent;
• Procedures for consultation and communications with the public and the media;
• Guidelines on decontamination and restoration of functions and services;
• Guidelines on strengthening distribution (water, food, air, transport, telecommunications, post) and other health-related systems;
• Links with third countries and the WHO via networks and facilities;
• Training modules (manuals).

A major effort to last 18 months has been undertaken under the BICHAT programme to enhance co-operation in health security through the implementation of this programme with the help of a 14-member strong Task Force comprising experts nominated by the Member States of the European Union. As stressed earlier, this effort involves joint work with the competent services of the Member States, but also key contributions from Commission services in charge of particular areas of EU policy. Financing is through existing programmes and, from 1st January 2003, through the new public health programme.

Progress so far

Biological agents have already been prioritised for the various interventions required under the health system response plans being promoted by the health security programme. These comprise those adopted by the US Centres for Disease Control that are included in a Commission Decision which lays down case definitions for diseases to be covered by the European Union’s communicable disease surveillance network. The intention is to add tularemia, Q-fever and smallpox to this decision in the very near future. For other pathogens that are potential candidates for attacks, various approaches are now being studied, such as improved clinical alerting mechanisms, syndrome-based surveillance systems, or mechanisms to detect suspicious events and their feasibility is to be evaluated soon.
Several important results were obtained in the area of medicines to counter bioterrorism. The EMEA published guidance for the use of treatments and also on the development of vaccinia virus-based vaccines against smallpox. It focussed on the development of second generation smallpox vaccines.

Secondly, a preliminary report from the Commission services on the issue of stockpiling at EU level following the consultation with the industry and the pharmaceutical committee network, was first discussed with the Health Security Committee and, further, with experts designated by the Member States. The initial discussion with the Health Security Committee on 4th June indicated reservations on the part of some Member States with respect to EU level stockpiling. The government experts’ workshop held on 10-11 July allowed a further exchange of information and views on stockpiling and medical services and supplies. It was concluded that:

- There is no agreement at present as to the need for a Community-level stockpile of any medicines at the present time, with an appreciable number of Member States feeling that this is premature. In addition, there is no common understanding to have formal agreements on sharing national stockpiles. However, Member States would like the Commission to promote informal contacts to facilitate sharing, if necessary, and keep the issue of stockpiling, for selected medicines, under active review.

- With regard to an EU consortium for the procurement of vaccines or other medicines, such as antibiotics, too few Member States are interested in participating for there to be any EU added-value in such an exercise.

- Most Member States hold national stockpiles of first generation vaccines. Despite the fact that these old vaccines do not meet current quality standards for the manufacture of vaccines, few Member States appear to be planning to buy second generation vaccine when it becomes available.

- In line with WHO advice, Member States still have a smallpox vaccination strategy of “search and contain” or ring vaccination, confirmed by all Member States of the WHO at the May 2002 World Health Assembly, which advocates vaccination at targeted groups and ring vaccination for outbreaks rather that mass vaccination.

- Nevertheless, many Member States are planning to hold national stockpiles that are sufficient to cover the entire population in the event of an emergency. To this end, Member States are considering diluting their stock of smallpox vaccine so that it can provide a greater number of doses. It was noted that the US may be moving towards a more aggressive vaccination strategy (eg large group preventive vaccination and mass vaccination in case of outbreak). If it does, this may have an effect on vaccination strategies in some of the Member States.
• The Commission should monitor national stockpile policies, and the availability of licensed smallpox vaccines with a view to returning, if necessary, to the question of the need for a Community-level stockpile of smallpox vaccines.

• The Commission should play an active part in establishing a common platform to promote the development of immunoglobulins, anthrax vaccine and anti-toxins.

• The Commission should launch a study on the dilution of first generation vaccines.

• Research on 3rd generation vaccines should be undertaken in the context of the 6th RTD framework programme.

A third advance was achieved in the area of emergency planning and modelling where sharing of good practice between the Member States led to work on key aspects of medical service preparedness and the modelling of the impact of countermeasures which is proceeding apace.

In addition, as regards animal diseases, work is in hand to reinforce the banks of vaccines against foot-and-mouth, classical swine fever and bluetongue.

Finally, significant strides have been taken on international co-operation:

• Following the meeting of the G7 group of Health Ministers in Ottawa on 7 November 2001 in which the Health Minister of Mexico and Commissioner Byrne participated, a network of high-level officials designated by the Ministers and Commissioner Byrne was set up for the handling of crises at international level. A Global Health Security Action Group was also formed to implement the concerted global action plan agreed at Ottawa.

The Ministers and Commissioner met again in London on 14 March 2002. They noted that all member countries, as well as the WHO, the Pan American Health Organisation and the European Commission are taking steps to link via the Enter-net network to share data from national surveillance systems and information on possible outbreaks of certain food and water borne diseases, and agreed to hold exercises to test current response plans, develop an “incident scale” for deliberate releases of biological and chemical agents and work out strategies for patient isolation techniques. The Global Health Security Action Group is organising a number of workshops to implement these actions. The next Ministerial meeting is planned for December 4 in Mexico.

• The Commission is also co-operating with the WHO in activities concerning bioterrorism, first in the context of the Ottawa initiative and, second, in the context of on-going initiatives by the WHO to improve the operation of its Global Outbreak Alert and Response Network and its Integrated Approach for the strengthening of Epidemiology and Laboratory capacity. The Commission endorsed the World Health
Organisation resolution adopted at the World Health Assembly, May 14, 2002 on the global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radionuclear material that affect health, which "urges member states to share expertise, supplies, and resources in order to rapidly contain the event and mitigate its effects". Its services have participated at a meeting in Copenhagen on 22-23 April 2002 on chemical agent safety issues organised jointly by the WHO and the International Programme on Chemical safety, and on the 27-29 May 2002 Geneva workshop on terrorist threats to food, and are involved in the follow-up of these initiatives.

Perspectives

With a view to permit a proper stock-taking by Health Ministers one year after the initiation of focused actions on bioterrorism, the Commission will prepare a report ahead of the Health Council in December. This report will cover the status of work on all health security aspects and in particular on the rapid alert mechanism and the issue of medicines and stockpiling.

In parallel, work will have to be completed to integrate the immediate priorities of the action on bioterrorism in the new public health programme that starts in January 2003.

Current tests and exercises should allow the completion by the end of this year of arrangements for linking rapid alert systems that serve different authorities with critical responsibilities in the fight against deliberate releases, such as civil protection, radiation protection, and food and water safety, with the health security system under BICHAT.

Early next year the first raft of clinical guidelines should have cleared the consensus procedure now being instituted so that dissemination can proceed swiftly afterwards. At the same time, the collaboration of laboratories should be well advanced and the registries of experts established.

Finally, as part of the joint programme currently being developed under the auspices of the Danish Presidency which would report to the Copenhagen European Council in December, the improvements that might have to be made to existing harmonising legislation on circulation and checks, especially in the veterinary, plant and food safety fields, would be identified and work could be initiated to accomplish them.