

# **NATIONAL RESPONSE TO TERRORIST THREATS**

## **A CASE STUDY OF DECISIONS RELATED TO EMERGENCY PREPAREDNESS IN THE NORWEGIAN HEALTH CARE AUTHORITIES**

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### **Keywords**

Decontamination, emergency response, emergency preparedness, authority decision, risk and performance analysis

### **Abstract**

The terrorist attacks on the World Trade Centre and Pentagon, September 11<sup>th</sup> 2001, prompted nations worldwide to start rethinking their emergency preparedness status. In Norway, the threat of weapons of mass destruction became a focus of government attention. Two parallel instructions, to plan and acquire decontamination equipment, were issued, one to the Directorate of Civil Defense and the other to the Norwegian Board of Health. This work had been initiated before the terrorist attacks, but its planning and practical execution were enforced after the September 11 events.

This paper analyzes the planning and execution process, with emphasis on the process carried out within the health authorities. Several issues are considered. Firstly, why did the Norwegian government decide to purchase the decontamination equipment? Secondly, why were the time frames for acquisition and disposition so narrowly set? Thirdly, what level of improvement was expected in the performance of national emergency management? Based on a document study and interviews with involved personnel, the issues are viewed from three different perspectives: governmental communication to the public; relative power among competing governmental bodies; and performance of the emergency response arrangements.

We conclude that, even though the equipment is now in place, the operational environments (fire departments and hospitals) lack scientific evidence on the emergency performance of the equipment. Furthermore, criteria, limitations and prerequisites for the use of the equipment are not clear. Finally, future use and performance of the decontamination equipment are left to the different responders and are not related to any national plans.

### **Introduction**

The Ministry of Health and Social Affairs launched in July 2001 a new act and regulations on health-related and social emergency preparedness, which included the section (2-1) on responsibility: “The subject carrying the responsibility for a service, also carries the responsibility for the necessary emergency preparations as well as for the executive services, including financing, in the case of war and of crisis and disasters in peace time,..”. This means that the different health services are themselves responsible for maintaining their operations during crisis situations. Risk and vulnerability analyses are mandatory as support for the enterprises’ emergency management systems, addressing the emergency response measures and equipment. In the wake of the terrorist attacks on the World Trade Centre and Pentagon,

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September 11<sup>th</sup> 2001, hereafter denoted the 9/11 attacks, increased government attention was focused on the threat of weapons of mass destruction.

This paper analyzes the planning and decision process involved in providing decontamination units to the Norwegian health care services that was carried out in autumn 2001 and continued into the first part of 2002. The scope was that decontamination of victims exposed to nuclear, chemical or biological substances should be undertaken in mobile units at the accident scene or close to the hospital access. The work was initiated by the Norwegian Board of Health but was handed over to the Directorate for Health and Social Affairs on January 1<sup>st</sup> 2002. The directorate then coordinated distribution to the health services (mainly hospitals) and follow-up activities.

### **Theory, methods and data**

The 9/11 attack affected global security and as a consequence Norway was also in a crisis situation. Even though no event had occurred on Norwegian territory, the authorities were requested to reconsider their crisis management systems. Rosenthal et al. (1989; 2001) claim that crises represent “a serious threat to the basic structures or the fundamental values and norms of a system, which under time pressure and highly uncertain circumstances necessitates making critical decisions.” They postulate that crises are a threshold to one of many alternative futures, inviting intense political activity at different levels. There are politicians and administrators who realize the importance of the aftermath and invest in the improvement of management procedures, techniques and preparations. But how could the involved parties in Norway determine where these efforts should be directed? An important principle of Norwegian emergency management is performance orientation. In order to choose the best options the use of a systematic planning process is assumed (Banfield 1959; ISO 2002), employing different methods of performance assessment.

In this paper we examine the Norwegian authorities’ decisions to provide decontamination equipment from the crisis and risk management perspectives. The main research questions were:

***Why did the Norwegian government decide to purchase the decontamination equipment?***

***Why were the time frames for acquisition and disposition so narrowly set?***

***To what extent was risk and performance assessment part of the decision support?***

The study is a combined review of the documents in the case, filed by the Directorate for Health and Social Affairs (DHSA), and of interviews with involved personnel in the planning and decision process. The documents are dated from January 2001 until June 2005. We have only used open sources. We have not had access to any classified documents. However, there are no indications that classified documented assessments had played an important role. The majority of documents were issued in the period August 2001 – March 2003. There are about 150 different documents. Furthermore, 29 newspaper articles are included in the analysis, covering Norwegian emergency preparedness issues against nuclear biological and chemical substances. The articles were published in Norwegian regional and national newspapers during the first year after the 9/11 attacks. The analysis is performed from three different perspectives: governmental communications to the public; the power situation amongst competing governmental bodies; and performance of the emergency response arrangements.

This paper is limited to analysis of decisions and follow-up activities at the strategic level, covering the national professional considerations within the health authorities. Experience at operational and tactical level from the implementation and use of the equipment since 2001 is part of this project. The work is still ongoing and will be published later.

## **The planning and decision process leading to the distribution of decontamination units**

### Background and existing work

The Norwegian Board of Health (NBH) initiated a study in 1997 on the status of Norwegian emergency preparedness in relation to equipment and pharmaceuticals in the health sector. In the aftermath of this work another study was launched with the aim of identifying the types and quantities of different equipment needed in case of extraordinary situations. The work concluded that there was weak preparedness against human exposure to chemical substances. The society's ability to respond satisfactorily was poor. The report (NBH 2001) recommended that the health services be upgraded with detection, decontamination and individual protective equipment. Later on, in August 2001, the NBH carried out a survey directed to the 19 counties<sup>2</sup>, with the aim of documenting the level of health preparedness against hazardous chemical substances and of mapping what equipment was available and ready for use. The survey revealed that there was very limited or practically no equipment available in 14 of 19 counties. The counties that had some equipment reported that this was insufficient and not dedicated to cleaning contaminated patients. Some health service units in the counties cooperated with the local fire brigade, but the equipment held by the fire brigades was also inadequate. Only 2-3 hospitals of 56 had equipment that could be called approximately sufficient and had facilities for receiving patients in dedicated areas.

Some work on contamination preparedness had also been carried out in the Directorate of Civil Defense (DCD) following a train accident at Lillestrøm station.

### The decision process

There had been a process ongoing before the 9/11 attack, which concluded that 10-15 mobile contamination units were required. The NBH had already dedicated approx. 3 mill. NOK to provide 2 or 3 units, to be distributed to the most critical hospitals. Independently from the work described here, the Ministry of Justice and the Police had appointed a specific committee with the aim of developing recommendations for changes in the Norwegian rescue and emergency management sectors. The secretary of this committee contacted the executive officer in the NBH to clarify the status of the decontamination units. At that time the NBH had already developed draft tender specifications, dated September 4, and this information was sent to the committee secretary a few days before 9/11.

Then the 9/11 attack occurred and the agenda was totally changed. The Norwegian government requested the Ministry of Social and Health Affairs to analyze the current emergency preparedness situation. The work needed to be resolved promptly. Then the earlier work on providing decontamination units matched the request very well. The NBH saw an opportunity to complete their preparations. At the same time they also invited the DCD to cooperate in equipping the combating resources on the accident scenes with detection and decontamination measures, as well as the emergency wards at the hospitals. The leader of the emergency management section in the Ministry followed up the work by ensuring that contact with the Minister was made and that preparation of the formal governmental decision support materials was finalized. All the formalities were in place October 5<sup>th</sup>, less than a month after the 9/11 attacks.

The call for tender was issued by NBH September 25<sup>th</sup>. The contract was placed October 30<sup>th</sup>. The NBH then coordinated the purchase with the DCD and agreed jointly on choice of vendor, units, detection equipment, protection suits and subsequent training activities.

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<sup>2</sup> In 2001 the specialized health services incl. hospitals were owned and governed by the regional authorities (counties). This was changed from 2002. The responsibility then was transferred to national (governmental) level. By law, the responsibility for specialized services and the ownership of hospitals etc. were further transferred to five separate regional health enterprises, owned by the government.

There had been an election to the Norwegian parliament September 10<sup>th</sup>, and the Government in office lost. Neither the outgoing Government (the social democrats) nor the election winners (an alliance of non-socialists) had any objections whatsoever to the plans. A press release was issued October 5<sup>th</sup> from the Prime Minister's Office supporting the investments.

The same day as the contract was signed with the supplier of the decontamination units, the NBH sent an inquiry to the Norwegian counties asking them to recommend locations within the areas of their respective responsibility as support for the final national distribution.

#### The response from the 19 counties

As mentioned above, the first questionnaire had already been sent from the NBH June 20<sup>th</sup> 2001, independent of the 9/11 crisis. However this work was important for the outcome and it consisted of three questions:

- 1) Which hospital in the county is particularly likely to receive contaminated patients?
- 2) Which hospitals in the county have dedicated equipment to deal with contaminated patients? What type of equipment is available?
- 3) Which hospitals in the county ensure their emergency preparedness through agreements with collaborative partners? Who are they, what equipment do they have and what are expected response time?

Only 14 of 19 counties responded, and the tendency was clear: very little equipment was available for decontamination purposes. Some hospitals had sent medical staff to Sweden for special courses in the treatment and decontamination of patients suffering from the results of chemical accidents. Some counties documented their familiarity with the decontamination concept through the hospitals' different roles in the public emergency management plans. In the Oslo area the military forces, three major hospitals, the city council, the county council and the paramedic services in the region organized an expert committee, with the aim of elaborating issues relating to chemical accidents and the operational and technical needs in the area.

After the 9/11 attacks, the NBH sent an inquiry to all the counties in order to map the need for decontamination equipment as support for the final placement of the 16 purchased units and approx. 200 protection suits. Now the response rate increased to 100 % and all counties except one reported specific needs for the equipment. No county had conducted a separate risk and vulnerability analysis as argument for their requirements. One county established a scenario in which 100 persons were assumed to be intoxicated with an unidentified chemical substance. A discussion of available resources to deal with this concluded that there was a general lack of preparedness. Other counties and related hospitals justified their need for contamination units on the basis of population densities and a general description of transport conditions and industrial activities, or simply on the fact that the hospital served a population distant from other hospitals.

### Deliveries

The decontamination unit is simply a washing assembly placed in an area where the victims can be gathered, undressed, washed and prepared for transport to hospital or admitted to hospital, cf. figure 1.

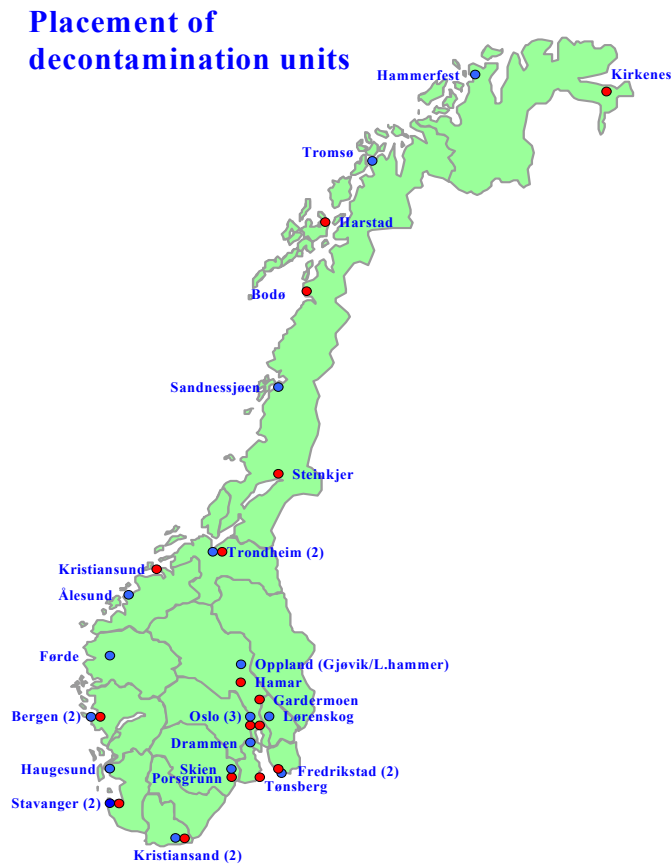
Figure 1, decontamination in a Norwegian unit



The Norwegian units are on trailers, fitted with two tents to make two parallel decontamination lines. A total of 32 units have been provided by the Norwegian authorities, of which 16 are located at selected hospitals and 16 are located at centers of civil defense brigades. The decontamination units are distributed across the country in accordance with a coordinated evaluation by the NBH and the DCD, based partly on assessment of needs and partly on geographical considerations, cf. figure 2. The DCP handed the equipment over to Civil Defense units throughout the country with the aim of supporting the accident scene teams with decontamination units. The hospitals were to protect in-house activities from contaminated patients, by providing the units for the emergency ward.

The materials supplied included mobile contamination units, detection equipment (CAM – chemical agent monitor, nuclear dose rate unit), protection suits and voice amplifiers. The specifications were mainly based on Swedish documentation (Swedish Board of Health and Welfare 1995) but extended to provide facilities for cleaning of patients contaminated by nuclear or biological substances.

Figure 2. Location of the units



The operational requirements for one decontamination unit are 24 persons (recommended crew), approx. 150 m<sup>2</sup> fairly level ground capable of supporting the weight of the trailer (approx. 3 tons), water supply (6-8 barg), and appropriate positioning in relation to wind direction and to other necessary accident scene/hospital operations.

#### Assessments

The NBH had to make two distinct assessments; 1) which supplier met the specifications most adequately, and 2) how were the needs for the equipment distributed across the country. For both these assessments an overall risk and vulnerability analysis would have been convenient. In the autumn 2001 no overall risk and vulnerability analysis existed, nor was there a list of recommended scenarios or situations of hazards and accidents on which to base any emergency preparedness measures.

The criteria for supplier selection were time and conditions of delivery, documented quality and user friendliness, economy, education and training provided, references and environmental aspects. The chosen vendor had been cooperating with the NBH for a long time, and was chosen mainly for time of delivery. The vendor also supplied thorough documentation, supplemental training and theoretical education, which increased the NBH's confidence in their products. However, the EFTA Surveillance Authority (ESA) questioned the NBH's public procurement, the treatment of the tender documents and the award procedure. The exchange of communication between the parties lasted more than a year before ESA closed the case.

The distribution of the equipment was not supported by any specific performance analysis, for example analyses based on risks and vulnerabilities. The distribution plan was concluded at a

meeting November 16<sup>th</sup> between the DCD, NBHS and a representative from the National Police Directorate. After one county submitted a complaint that it had not received any decontamination units, the DCD responded through a letter in March 2002 that a thorough analysis had been made based on quantities such as population density, geographical location, probabilities for and consequences of mass destruction situations, and accidents involving dangerous goods on road, rail or at sea. However, these analyses are not documented, nor is there any reference to them in the earlier documentation obtained from the open sources.

#### Follow up activities from the Directorate for Health and Social Affairs

After the Directorate for Health and Social Affairs transferred the equipment to the hospitals, the Regional Health Services became responsible for the nuclear, biological and chemical protection measures, including the maintenance, operation and training of staff in connection with the decontamination units. A minor survey was carried out in 2003 (Grønning, Kvam and Talåsen 2003), and they concluded:

- There are major differences between the hospitals, particularly in relation to the number of personnel who have responsibilities for decontamination and who have received training.
- 14 of 16 hospitals have reported that they have carried out practical drills with the units.
- The majority of hospitals have developed specific operation procedures.

From the documents gathered from the Directorate for Health and Social Affairs in 2007 there were no documents on file containing experience data from the location, maintenance, training of personnel, or operation of the decontamination unit. The interview with the leader of the emergency preparedness section in the DHSA and a search through the DHSA's web pages confirmed this finding.

Ullevål University Hospital, Oslo, is appointed by the national health authorities as a medical competence centre on intoxication by chemical warfare agents and clinical management of these cases. In the material used for this study no specific documents from this organization have been found relating to the nation-wide use of decontamination units.

## **Discussion and conclusions**

### Government communications with the public

The decision to purchase decontamination units was announced October 5<sup>th</sup> by the Minister of Health, stating that general emergency preparedness in the health sector was good but there was a need to strengthen preparedness against weapons of mass destruction. The NBH was in 2001 preparing a major reorganization, segregating surveillance from emergency planning and consulting. Measures providing for decontamination of health care workers were launched before the 9/11 attacks, though not implemented at that time, building on experience from the Tokyo terrorist attack (sarin intoxication of subway), which there led to closure of a hospital.

Just before the 9/11 attack the Office of the Auditor General of Norway released a report, which harshly criticized civil defense preparedness, material and equipment inventory control and the internal control systems in the DCD and the Norwegian Civil Defense. The answer from the Ministry of Justice and Police was given after the 9/11 attacks and it acknowledged completely the criticism and provided measures to improve the situation.

The professional emergency organizations remained rather passive; neither the police nor the fire departments took part in the public discussions. There were no complaints about the emergency preparedness measures as such, and the professional emergency organizations showed no interest in obtaining control over the decontamination equipment.

Neither the media nor the public at large involved themselves in the different issues relating to the procurement and provision of decontamination units. The media seemed satisfied with bringing the weaknesses in the civil defense area to public attention, recognizing that measures were being taken. The debate was not characterized by scrutiny of the measures' performance. The major public discussion was limited to two months after the 9/11 attacks. Within a year the decontamination units were in place and the topic has rarely since been up to public debate.

#### Competing situations among different actors

Norway had a change of government following the national election, resulting in a new Minister of Justice and Police. Allocating resources to the area of emergency management as a response to the terrorist threat was fully supported by the Norwegian Parliament. Ensuring its reputation could have been important for the retired government and avoiding political controversy important for the winners. The political struggle was more visible in the bureaucracies:

The DCD was in a process where public administration and supervision of safety and emergency preparedness were under scrutiny and major organizational reforms were expected, and uncertainty about the future was therefore large. The traditional tasks involved in providing and maintaining the Norwegian Civil Defense were down-prioritized and had changed over the last 20 years. The decontamination equipment would imply a new area of expertise and entail new operational and maintenance tasks. The situation could be seen as a dynamic force in the process of the legitimization and re-legitimization of the emergency management administrative authority ('t Hart and Boin 2001). The first responders, especially the fire services and their related authorities (the Directorate for Fire and Electric Safety), were kept out of the discussion, and finally contacted when all the decisions about task responsibilities had been made.

In 2001, the health sector was involved in many major change processes as discussed above. A new law on social and health preparedness, segregating supervision from public administration, separating the Ministry of Health and Social Affairs into two ministries, and finally the 9/11 attack all called for clarification reports on the state of preparedness. However, the documents we have perused provide no evidence of internal disputes, nor did the interviews reveal any controversies among the different parties. One respondent commented that the 9/11 attack made the newly enforced law on health preparedness visible, and it has ever since held a central position in the regulations. He emphasized that both the specialized health services and the local public services now show particular interest in emergency preparedness work.

#### Analyses and assessments of the emergency response performance

There is no documentation showing which scenarios have been determined as dimensioning for the equipment, and supporting the subsequent decisions on location. In Norway a public report was released in 2000, discussing vulnerabilities in society (NoU 2000). The report addressed threats from chemical and biological agents, and the different categories of toxins. The use of decontamination units is only practical for a limited number of chemical gases. Biological substances will not be prevented or dealt with.

If we were to follow standard planning processes, as required by the law on health preparedness, we would expect different types of analyses (Banfield 1959; ISO 2002). For example issues such as: will a decontamination unit be available when it is needed? If yes, what is its performance (effectiveness) in terms of contamination removal capacity and execution time? Will the decontamination unit survive external loads – what are the vulnerabilities?

Decisions have been made without a systematic planning process that includes analyses of risk and performance. These evaluations should have been carried out as part of the implementation process within the operational emergency organizations, or structured



experience gathering from practice, tests or real operations should be conducted. Otherwise the authorities run the risk of the rescuers losing confidence in the decontamination units as effective emergency response measures.

### Conclusions

Why purchase the decontamination equipment? The 9/11 attacks came in the middle of an ongoing decision process. For the administrative staff working on chemical protection questions in spring and summer 2001, the 9/11 attack was thus a “lucky coincidence”. They had a “nose” for developing their case. Not much documentation was needed at that time to convince the decision makers of the importance of the issue.

Why were the time frames so narrowly set? The September 11<sup>th</sup> events triggered rethinking of emergency management in Norway. The attack came less than three months after the new act on health-related and social emergency preparedness came into force. The Minister of Justice and Police also needed to show their ability to respond effectively. The directorates were embroiled with internal problems, in the context of which the investment projects were regarded as positive opportunities. Close timing was therefore important for all actors involved on the higher levels. The haste with which the measures were implemented must also be seen in the light of the organizational changes in the health sector and the need for the involved parties to become operational as quickly as possible. There is also a possible explanation related to the ESA complaint, where the only argument for the chosen vendor was delivery time.

What characterized the planning and decision process? The process can be said to be “top-down” in the sense that the users on regional and local level (hospitals, local civil defense units) were not involved in the planning. Neither were risk and performance assessed on the basis of operational judgments. Nobody questioned the performance of the equipment. Neither the media nor the public at large were able to make critical analyses of these processes. They recognized and acknowledged that preparatory actions were made, but the adequacy of these actions was rarely questioned. They seemed to applaud the rapidity of action without questioning the relevance or effectiveness of the equipment. Occasional criticisms from medical staff, experts on infectious substances and first responders have been forwarded to the DHSA, without being followed up. As far as can be judged from the available documentation there have been no instructions, requirements or guidelines given from national health authorities to the operational level in relation to the use of the equipment, maintenance, continuous training of personnel or exercises. The relationship between local organizations, especially the hospitals, and the national intoxication competence centre at Ullevål University Hospital, Oslo, remains unclear.

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