The medical response to the terrorist incidents of 22 July 2011

Learning for better emergency preparedness

22 July

15.25

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Learning for better emergency preparedness

The medical response to the terrorist incidents of 22 July 2011
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On the afternoon of 22 July 2011, Norway came under large-scale terrorist attack. Large areas of the government quarter in Oslo were destroyed and in a short space of time the youth camp on the island of Utøya turned into an inferno the like of which was unprecedented in peacetime Norway. The impact of the devastation was appalling. On this day, all of Norway’s emergency services were severely tested.

Previous disasters and critical emergencies, notably the South Asian tsunami in 2004, the 2009 flu pandemic and the volcanic ash clouds in 2010, meant that the Norwegian health sector had acquired considerable experience. The certainty that, in time, we would be struck by new disasters had urged us to drill for such events, nationally, regionally and locally, and often in cooperation with the other emergency services. Risk and vulnerability analyses had been performed and planning had been constantly improved. Terrorist incidents were also thoroughly assessed and the health service was prepared, although hardly anyone imagined that terrorism on such a scale and of such a nature was particularly likely to occur in Norway. Over many years, the sector has focused on rapid mobilisation, in terms of both emergency communication and response, at all affected levels.

An impressive number of health workers and volunteers took part in the demanding rescue effort. And the police special forces and fire & rescue agency made some highly commendable contributions to the efforts of the health service to save life and limb. In the weeks and months that have passed, tens of thousands of health workers have been involved in the consequences, both large and small, of these monstrous terrorist attacks. Many thousands of people have been directly affected: the bereaved, the injured, others present at the scenes, relatives and friends. The attacks have also had an impact on everyday life in Norway and on the nation’s public health.

The Ministry of Health and Care Services has commissioned the Directorate of Health to review the response of the health sector, including its cooperation with other emergency services and non-governmental organisations. We know that being put to the test yields many opportunities for learning outcomes and improvement, and makes it easier to see what works, and what we need to do better at.

This review has been carried out in close collaboration with involved parties in the sector, the municipalities, the specialist health service and NGOs. There have also been meetings with representatives of the 22/7 support groups and Norwegian Labour Youth – AUF. The Directorate of Health’s working party was chaired by Professor Inggard Lereim, and represented wide-ranging expertise. An International Advisory Council (IAC), comprised of chief medical officers from Sweden, Denmark and the UK, and experts in disaster medicine, disaster psychiatry and disaster psychology from these three countries as well as Finland, Iceland and Spain, provided assessments and recommendations to the group. The composition of the IAC emphasised pan-Nordic cooperation and the ability to draw on experiences of managing terrorist incidents in the UK and Spain. The IAC was chaired by Lars-Erik Holm, Director General of the Swedish National Board of Health and Welfare. National experts from all the Norwegian health regions read the draft text and provided feedback.

The present report is the Directorate of Health’s own review of the health sector’s response and learning outcomes. Much other work is also ongoing that will contribute to an overall assessment. The 22 July Commission is conducting a more investigative inquiry, including of the health sector’s response. The Police service’s own review will also be relevant for the health sector, and research is being undertaken on the consequences of the terror attacks, from various perspectives of service provision. Once the findings of these studies are available, we will be able to assess whether our description needs to be supplemented or amended.

Our assessment is that the outcome of the health service’s response is generally good, and that the health workers and volunteers who assisted deserve much gratitude. Many did far more than could have been expected of them.

Equally, the review has revealed a number of lessons to be learned and improvement areas, including in planning, communication and crisis PR, technical solutions, inter-agency cooperation routines and organisation, and follow-up over time.

In the time ahead, it is important that the substantiated expert advice is followed up by practical action at many different levels.

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Director General/Chief Medical Officer

Bjørn Guldvog
Deputy Director General
Introduction

THE REMIT ISSUED BY THE MINISTRY OF HEALTH AND CARE SERVICES
In its letter of 7 September 2011, the Ministry of Health and Care Services commissioned the Directorate of Health to conduct a review of the health sector’s response to the terrorist attacks on 22 July 2011. The main question in the remit from the Ministry was to elucidate “how well the health service and the health authorities, given the resources at their disposal, managed to safeguard public life and health”.

The review, as perceived by the Directorate of Health, has three primary objectives:

1. To document and assess how the health sector discharged its duties, including revealing any learning areas that might provide a basis for changing how similar situations are handled in the future.

2. To provide a reliable basis of information about the health service’s actions, experiences and assessments. This work is being conducted in parallel with the other assessment of the terrorist attacks being performed by the government-appointed 22 July Commission.

3. On request from the 22 July Commission, to assist the Commission in aspects of its inquiry.

DATA COLLECTION AND WORKING METHODS
The review assesses the health service’s response on the basis of applicable law, in particular the Act on health and social preparedness and the regulations on emergency medical services outside hospitals. The review is also based on the Comprehensive National Health and Social Preparedness Plan and the emergency preparedness plans of the various entities involved. In our assessments, we attempt to take into account the capacities and competences of the different elements of the health service. In this report, in line with the commissioning entity, we consistently use the term ‘review’ as distinct from ‘inquiry’. Our aim is thereby to indicate that the report is the result of an internal work process within the Directorate of Health and not of an external commission or audit.

The Directorate of Health has established a working party whose members have wide-ranging, multi-faceted, health-related and other relevant expertise. Many have years of experience of practical health service provision at different levels, as well as from the national health administration. The work comprised comprehensive information gathering from, and in dialogue with, health service entities and individuals involved in the emergency response on 22 July or in the subsequent follow-up activities, as well as representatives of the victims of the attacks. We were also in close dialogue with the police and the Norwegian Armed Forces’ medical corps. We were explicit with our informants that our information gathering did not form part of an audit or official investigative inquiry. We stressed that the object was learning and improvement in respect of individual aspects of the health service, with the aim of general applicability across Norway. We held constructive discussions with the various contributors.

We procured documentation, including reports and descriptions. In most cases, contributors would have written reports for their own purposes, irrespective of the Directorate of Health’s requests for information. We also collected emergency preparedness plans, procedures for specialist tasks and routines for cooperation on which the contributors’ actions in the situation were based. Based on the document review process and meetings, we posited a number of additional questions that we have since had answered.

We considered it necessary to obtain an overview of patient flows from the initial at-scene triage until the end of 2011, which was the end point for our data collection in respect of psychosocial follow-up.

It was clear to us early on that no single health service entity had anywhere near a complete overview of the events and the medical response to them. This report is thus to some extent an attempt to provide such an overview. At times, somewhat conflicting information had to be reconciled, and there were certain issues that we were unable to get fully to the bottom of, due to limitations concerning source availability and the project’s timeframe.

In their own reports and in meetings, the various contributors have made suggestions for improvements. We have examined these critically and elaborated on many of them in our own recommendations.

The Directorate of Health considered it important to have its own assessments quality-assured and therefore appointed two independent groups to advise us.

We have appointed an International Advisory Council (IAC), comprising representatives from the other Nordic countries, the UK and Spain. The IAC is associated with the national health authorities in the respective countries, and their respective Chief Medical Officers are participating in some cases. The IAC is chaired by Lars-Erik Holm, Director General of the Swedish National Board of Health and Welfare. Prominent experts in health service crisis management in the respective countries are also participating. Many of these have experience of dealing with terrorist incidents. The IAC comprises experts in somatic emergency medicine both within and outside of hospitals, and in psychosocial follow-up. The Council has held two meetings in Oslo, and the Directorate of Health has had extensive correspondence with the members of the IAC about the drafts of the report. We discussed
with the Council in particular the proposed recommendations and on what professional norms the Directorate’s recommendations should be based.

The second group consisted of national experts in various aspects of somatic emergency medicine appointed from university hospitals outside of South-Eastern Norway Regional Health Authority, experts in mental health appointed from relevant professional organisations, and the Director of the National Centre for Emergency Primary Health Care. None of these experts were involved in the follow-up activities in the wake of 22 July. In this group, the members independently commented in writing on a draft report, as was the case with the IAC, with a special emphasis on professional norms and recommendations.

The report was discussed and approved by the executive management of the Directorate of Health. Although we have consulted national and international advisers, the content of the report is the sole responsibility of the Directorate of Health.

The Directorate of Health is itself a key actor in major emergencies. This ensues from the role assigned to the Directorate by the Ministry of Health and Care Services in respect of the Comprehensive National Health and Social Preparedness Plan. A number of the contributors to this report also participated actively in the Directorate’s handling of the events of 22 July and in further follow-up of the parties involved. The objection might therefore be made that the Directorate is disqualified from reviewing its own crisis management, and conceivably also that of the entire national health administration. We have considered it as part of our mandate to also undertake a review of the health administration’s role. Perspectives on key decisions and actions have been obtained from both internal and external sources.

THE STRUCTURE OF THE REPORT

The report begins with a description of the Norwegian medical emergency preparedness system and its lines of decision-making, with regard to both preparedness plans and the extent to which these have been drilled. There then follows a description of the events at the two incident scenes on 22 July and the emergency somatic medical response. Factors concerning emergency communications, and the organisation, alerting and management of emergency medical health resources are described in close connection with other emergency medical aspects. An extensive chapter is devoted to the psychosocial response, in both the acute phase and the follow-up phase. The work on psychosocial follow-up is a very time-consuming process and requires a multifaceted approach. The way in which this is handled merits broad discussion, and is in part pioneering work. Communication and public relations management within the administration and between the administration and the health service, and vis-à-vis direct and indirect victims, the general public and the media has its own

chapter. The Directorate of Health’s own crisis management is commented on in several places in the report, but also as part of the account of the national health administration’s response. In conclusion, we offer some reflections on the importance of drills and learning, and a final comment. Recommendations are placed throughout the text and are based on our findings and assessments. A description of research now in progress and research needed appears as an appendix, along with a brief assessment of the health service’s capacity and response strategies if the circumstances surrounding the events had been different.

THE INFORMATION SOURCES IN DETAIL

The report is based on data from a variety of sources:

– written reports from and meetings with a number of organisations
– logs and other documentation of the organisations’ own activities
– interviews with individual Directorate of Health employees

See the list of sources in the appendix: “M” and a reference number in the text refer to meetings, and similarly, “D” to documents.

The data collection is primarily based on the account of the sequence of events by the organisations’ management, and to a lesser extent on information from other personnel involved. This is a deliberate decision based on the mandate for the review, but also on an assessment that the Directorate’s information gathering should not add to the risk of responders being retraumatised. The disadvantage of relying on second-hand accounts rather than original sources represents a possible loss of precision and opportunity to clarify events in areas that are not focused on or not discussed in the organisations’ own reports. On the other hand, we have collected and compiled information from multiple sources to improve the reliability of the presentation of the sequence of events.

The time available to work on this was limited, and some key participants had not completed their reports as our work was coming to a close. One example of this is Vestre Viken Hospital Trust which after seven months has still not, at the time of writing, completed its report on the medical response at Utøya. This has led to considerable extra work and diminished our capability to crosscheck other details about the sequence of events during the Utøya operation.
Summary

TASK AND PROCESS
In its letter of 7 September 2011, the Norwegian Ministry of Health and Care Services tasked the Norwegian Directorate of Health with conducting a review of the health sector’s response to the terrorist attacks on 22 July 2011. The main question was phrased by the Ministry as being to elucidate “how well the health service and the health authorities, given the resources at their disposal, managed to safeguard public life and health”.

The Directorate’s review was drawn up by a widely representative working party. We have undertaken comprehensive information collection from, and in consultation with, actors within the health service that were involved in the emergency response on 22 July or in the subsequent follow-up activities, the police, and representatives of the victims of the attacks. In order to ensure the greatest possible objectivity in evaluations and recommendations, the Directorate established an International Advisory Council of prominent health sector experts from the other Nordic countries, Spain and Great Britain. For the same purpose, the Directorate also sent a draft report to a widely representative group of Norwegian health experts who were not involved in follow-up of the events of 22 July. The advice of both bodies has to a great extent been incorporated in this final report.

GENERAL IMPRESSIONS
The Norwegian Health Service responded very well to the greatest challenge it has ever faced. The Directorate has no information to indicate that the somatic medical care provided was anything other than of a high standard, from first aid at the scene, through emergency hospital care in the form of surgical procedures and intensive care to rehabilitation. Psychosocial follow-up of victims and relatives was undertaken promptly and in a satisfactory manner, in spite of the complexity and scale of the situation in the acute phase and immediate aftermath. The services had satisfactory capacity, were mobilised rapidly and performed very well in this phase. Voluntary rescuers, both organised and non-organised, also made a great and valuable contribution. The municipalities have had the primary responsibility for long-term follow-up. This has generally functioned well and in line with the authorities’ recommendations. However, both the municipalities and their users have pointed to the colossal challenges in terms of both capacity and expertise posed by the scale of the catastrophe and the need for subsequent long-term follow-up.

There are several reasons why the Norwegian health service responded well:

– The incidents occurred in a part of the country where there is high capacity and extensive experience, especially in emergency services response and trauma surgery.

– The health service is trained in emergency preparedness and is highly adept at improvising under difficult conditions.

– The health service has learnt a great deal from previous incidents, including within psychosocial follow-up.

– Interventions were resolute and dedicated and the response time was short.

– The health service benefited greatly from the establishment of the crisis centre at Sundvolden Hotel and the voluntary efforts both at this centre and in the municipalities of residence.

SOMATIC EMERGENCY MEDICINE AND HOSPITAL CARE
The medical care response was substantial, life-saving and exceeded all expectations along the entire emergency medical care response chain. The health service demonstrated high mobilisation capability and improvisation ability. Voluntary efforts made a substantial contribution. The time elapsing from when the bomb exploded in the government quarter until ambulance crews from Oslo University Hospital (OUH) were on the scene was very short. Rescue efforts by fire crews and emergency medical services commenced immediately. Triage (medical assessment and treatment priority at scene) was conducted, and casualties with severe injuries were transported to the OUH trauma centre. The first patient arrived within just a few minutes. Health personnel requisitioned a scheduled bus in service to transport casualties with minor injuries. These were sent to the City of Oslo out-of-hours primary care centre, which also received self-evacuated casualties. This accomplished rapid clearing of the scene of persons who did not need to be there, and rapid treatment of the walking wounded. Triage was conducted very well and was crucial for next-stage medical care. A couple of patients were transferred from the primary care centre to OUH’s Aker campus. Neither OUH nor the primary care centre experienced any capacity shortfall, and the most hectic phase of surgical procedures and wound care was over by the time the reports of the shootings on Utøya reached the general public. In Oslo, good use was made of the fact that the explosion occurred shortly before shift changeover so that a new shift was oncoming while the offgoing shift was able to stay on duty. This made it easy to increase health service work capacity. In addition, extraneous personnel streamed in to assist, well beyond what was needed.

When it became clear that reports of the shootings on Utøya were so serious that the vast proportion of available emergency responders would have to be directed to the island, the ground and air ambulance service response was massive. Police from the northern Buskerud district and from the special Delta police unit (Beredskapstroppen) landed on Utøya and apprehended...
the perpetrator. The special Delta police unit included several officers with advanced first-aid skills. Because the police regarded it as probable that there were still multiple perpetrators on the island, the main focus was on securing the area and making further arrests. This delayed access to provide medical assistance, although the special Delta police unit performed advanced first aid on the most critical casualties they came upon. Just under an hour after the arrest, medical personnel arrived by boat at Utøya. By then, the police regarded the situation as being sufficiently secure to allow medical personnel to attend to the casualties, mainly in the Hovedhuset building, where the police had assembled the survivors.

Anaesthetists, general practitioners and ambulance crews performed primary triage at the casualty clearing stations at Utvika quay and Elstangen. The most severely injured patients were transported to OUH by ground or air ambulance, and patients with less severe injuries to Ringerike hospital. During the most chaotic phase, a number of patients with severe injuries were mistakenly sent to Ringerike hospital. These patients were stabilised at Ringerike hospital and subsequently transferred to OUH. A small number of patients were also taken to Bærum hospital and Drammen hospital. Those patients who were not triaged for hospital were brought to Sundvolden for treatment at the advance emergency medical centre.

Out of 31 casualties, some of whom were severely injured, who were admitted to OUH following the two incidents, 30 survived. This testifies to the sound decision-making in triage and the high standard of medical care delivered. The gunshot wounds were in some cases complicated, and a number of the victims had to undergo a series of operations, some of them undergoing repeat surgery less than twenty-four hours post-admission. The actual survival rate in relation to the severity of patient injuries indicates a high standard of medical care.

Communication systems for use in disasters must be improved and better coordinated. There is a patent need for more frequent cross-sectoral disaster response drills between the different levels in the operative divisions of the health service. Issues surrounding health personnel interventions in ‘hot zones’ must be discussed at the earliest and clarified. The national health authorities must establish national guidelines for crucial procedures such as at-scene triage. Annual updates must be established for disaster plans at the different levels and in respect of procedures for liaison between disaster response actors. Disaster planning must be incorporated into the cooperation agreements between municipal-level and regional-level health services.

**PSYCHOLOGICAL INTERVENTIONS AND FOLLOW-UP**

Psychosocial follow-up of victims and relatives was undertaken promptly and in a satisfactory manner, in spite of the complexity and scale of the situation on 22 July and in the aftermath. Effective management and the commendable efforts of response personnel in the municipalities in question were instrumental in accomplishing this. The use of Sundvolden Hotel and the outstanding manner in which the hotel management and staff presented for duty was crucially important. Experience indicates that a sympathetic setting must be provided for survivors and relatives in the aftermath of crises, accidents and disasters, with food and refreshment and privacy rooms, and that the use of hotels should be incorporated into the municipal emergency preparedness plans. Non-organised volunteers such as the guests at Utvika camp site, neighbours, boat owners, the camp site owner and other volunteers made a great and valuable contribution during the acute phase.

Preliminary feedback from the services as regards psychosocial care indicates that they had good capacity, were mobilised rapidly, were flexible and performed very well during the acute phase. Great and valuable efforts were made by the municipal health services, the Oslo emergency medical centre, hospital and occupational health service in the government quarter. However, there is room for improvement and the health service’s preparedness plans for dealing with providing services to relatives must be brought up to date. Training in psychological first aid and training and preparation for dealing with crises, accidents and disasters must be given priority.

Local municipal and regional health authority emergency preparedness plans must be revised and made more comprehensive for the psychosocial field; the plans must be drilled regularly and include everyone who is expected to have a role. The role of national resource centres/specialists should be clarified. The role of organised volunteers must be defined more precisely, while executive responsibility for supervising organised volunteer efforts in crisis management must likewise be clarified.

Satisfactory and consistent routines must be established for follow-up of response personnel and volunteers following major incidents. The term ‘debriefing’ must be used solely to refer to group interventions vis-à-vis response personnel, and must not be carried out until at least 24 hours after their emergency response.

On 22 July, the Ministry of Health and Care Services decided that the Directorate of Health was to be assigned responsibility for emergency preparedness liaison within the health service. In order to establish consensus concerning guidance for the health service on psychosocial follow-up measures, the Directorate of Health established and fronted a liaison forum and an expert group which provided advice on proactive follow-up within the municipalities and occupational health service. It was important for the health authorities to ensure that unified and consistent guidance was issued to the
services and the public. The Directorate of Health opted to assume an uncustomarily active role in the immediate aftermath in order to satisfy itself that all those affected received good follow-up. Owing to the extraordinary scale and nature of the incidents, this was the proper course of action. Consideration should be given to drawing up explicit criteria for when the health authorities should assume an active and operative role.

The Directorate of Health has established a project for supervising and coordinating the programme of long-term psychosocial follow-up. The municipalities have the primary responsibility for follow-up and have reported that long-term follow-up has generally been provided satisfactorily and in line with the authorities’ recommendations. A few municipalities report that they do not have satisfactory routines in place and may need additional capacity and competence to deal with a disaster on this scale and provide satisfactory and consistent follow-up over time.

Feedback from user representatives via Norwegian Labour Youth – AUF (the youth organization that was the target of the Utøya attacks) and the 22/7 National Support Group indicates dissension with regard to how satisfied users have been with the follow-up. The data sourced in connection with fact-finding for this report is too insubstantial to allow final conclusions to be drawn as to the quality of the psychosocial follow-up. AUF and the 22/7 National Support Group have expressed their satisfaction with the measures instituted by the health service, but assert that it must learn from its mistakes, should provide better information, procure more expertise as and when required and do more to protect victims and relatives from media intrusion.

The municipalities and the specialist health service should focus on coordinating follow-up and reciprocal knowledge transfer in respect of long-term follow-up of people affected by crises, accidents and disasters, and when drawing up cooperation agreements. It is seen as important to follow up the bereaved and survivors over time, and also follow up the parents and siblings of survivors. These efforts should be evaluated and research will serve to define best practices in acute-phase and long-term psychosocial follow-up.

OTHER ISSUES

The events of 22 July generated massive media coverage, and extensive activity in social media. In the main, the health service handled its public relations activities well. South-Eastern Norway Regional Health Authority and OUH held somewhat differing views on the coordinating responsibility for information. In the case of major incidents involving several hospitals, there is a need to exchange information concerning admissions in order to provide better service to relatives.

Well-coordinated Emergency Medical Communications Centres (EMCCs) are crucial to emergency medical responders and the EMCCs performed substantial tasks under difficult circumstances on 22 July. The EMCCs in Oslo and Akershus and in Buskerud were overloaded by the many telephone calls. In Oslo and Akershus, this caused the failure of the medical information systems which manage ambulance resources and dispatches. Notification routines were not fully adhered to. However, this did not have any practical consequences in summoning resources.

The logistically demanding evacuation of casualties from the clearing stations at Utøya under difficult weather conditions revealed a pressing need to establish an aviation safety solution for HEMS helicopters. Weaknesses in the system for maintaining resource availability data across EMCC areas were also identified.

The incidents revealed communication challenges relating to the transitional phase between old and new communication solutions, the use of mobile telephony and inadequate use of existing public safety radio systems. Emergency communication concerning the Utøya operation within the health service was by a combination of the old health service radio system and private mobile phones. There were also technical problems in using the health service radio system. Crucial conversations between health personnel at the scene and at hospitals had to be conducted by private mobile phone. Health personnel used the communication solutions they found most appropriate at that moment in time and stayed in control of the situation.

The number of fatalities that had to be identified and examined simultaneously by far exceeded the normal capacity at the Norwegian Institute of Public Health’s Department of Forensic Medical Services. Extensive practical improvisation ability served to ensure ethical and procedurally compliant performance of forensic medical services.
RECOMMENDATIONS
This report presents recommendations associated with findings and expert evaluations. We have found it appropriate to highlight a selection of the recommendations that we consider to be most pivotal:

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<td>The review of the terrorist incidents in Oslo and on Utøya has revealed a need for a more robust national organisation of the field of emergency medicine. Internationally, this field is developing rapidly and there is a need for consolidated data and evidence in order to achieve further quality improvements.</td>
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<td>In collaboration with the health service, the national health authorities should prepare a set of protocols for the health service’s emergency preparedness system at operational level that describe the consistent management of extraordinary events and crises. This should include the procedures for liaison with other emergency services. Research and training in emergency medicine should also be strengthened.</td>
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<tr>
<td>Health personnel were ordered not to go down to the quay, while volunteers put themselves at risk by evacuating young people from Utøya.</td>
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<tr>
<td>National guidelines need to be prepared for cooperation between the health service and police, fire and rescue services for hot-zone operations and other missions in unsecured areas. Based on its knowledge and experience of medical care provision in hostile zones, the Norwegian Armed Forces’ medical corps should be asked for assistance in this work.</td>
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<tr>
<td>The new digital Nødnett system is being phased in geographically, following the police district divisions, which do not coincide with the EMCC boundaries. This created certain difficulties during the events on Utøya.</td>
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<td>Guidelines must be prepared for communication between users of the new digital Public Safety Radio and the existing analogue health service radio system in the forthcoming expansion phases of the digital system.</td>
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<tr>
<td>Health personnel from different health authorities and municipalities use different triage systems, occasionally with different terminology or classifications. This may create uncertainty with respect to allocation of patients between hospitals and treatment levels.</td>
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<tr>
<td>The national health authorities must ensure that a consistent national system for patient triage is introduced.</td>
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<tr>
<td>The events of 22 July revealed a lack of oversight and management of ground and air ambulance resources, although without consequences for life and health.</td>
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<tr>
<td>The regional health authorities must ensure that systems are established to allow oversight of ambulance and air ambulance resources to be maintained at EMCC, individual health authority and regional levels.</td>
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<tr>
<td>On 22 July, at a number of hospitals, substantial personnel resources were mobilised that were only lightly used. The quality of treatment of the most severely injured might have been impaired if OUH had received many more patients with minor injuries.</td>
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<tr>
<td>The regional health authorities must prepare plans for allocating patients between hospitals with emergency surgical preparedness, in respect of disasters/incidents entailing the evacuation of a large number of casualties within a short space of time. The plans should be based on the hospitals’ surgical expertise and treatment capacity.</td>
</tr>
<tr>
<td>A number of the hospitals concerned report that, after the initial alerts, they received no further information about developments on 22 July other than through the media.</td>
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<tr>
<td>The regional health authorities, or the health authority they delegate disaster-management tasks to, must ensure that all hospitals concerned are kept continually informed of developments in crisis situations. This is important in order to permit the hospitals to determine their emergency preparedness levels.</td>
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A number of the parties concerned issued alerts by phoning individuals.

**Health services with important preparedness functions must establish functional and secure systems for alerting emergency medical resources and calling up personnel.**

The Directorate of Health’s review of selected emergency preparedness plans shows that psychosocial measures are generally dealt with only to a limited extent.

**The services’ emergency preparedness plans must be more comprehensive in the psychosocial field, drilled regularly and include everyone who is expected to have a role. The plans must describe contact points for alerts, specific measures and lines of command for the individual phases of crises, and guidelines for bringing in external expertise. The role of resource centres/specialists in relation to emergency preparedness must be clarified.**

The requisitioning of Sundvolden Hotel created a sound framework for the acute follow-up work aimed at the young people and their relatives who were gathered there.

**A sympathetic setting must be provided for survivors and their relatives, with food and refreshment and privacy rooms. The use of hotels should be incorporated into the municipal emergency preparedness plans.**

During the first days, situations rose where there was uncertainty in the health service and other emergency services as to what organised volunteers were capable of and willing to assist with, and what understanding they had of their role.

**The role of organised volunteers must be made clearer, in terms of both what they are to do and what they may not do. It must be clarified as to who has executive responsibility for supervising volunteer efforts in crisis management. Cooperative routines between health personnel and volunteers must be clarified, and the municipalities should sign agreements of intent with the NGOs.**

Among response personnel, in both the immediate emergency and in long-term follow-up, some uncertainty was signalled as to how to deal with traumatised victims, and when it was necessary to use specialist health personnel such as psychologists.

**Emphasis should be given to instructing relevant health personnel in the treatment of patients with serious psychosocial trauma, and health personnel should be trained/prepared to deal with such situations.**

The Directorate of Health has received indications concerning competence requirements in various parts of the service and uncertainty as to whether the dialogue between the health authorities and the municipalities is adequate.

**The specialist health service and the municipalities must focus on coordinating follow-up and reciprocal knowledge transfer in respect of long-term follow-up of people affected by crises, accidents and disasters, and when drawing up cooperation agreements.**

The Directorate of Health does not have the role of performing health services itself, but in the aftermath of 22 July, the Directorate followed up very closely the health care providers to satisfy itself with regard to the good quality of follow-up across Norway.

**The national health authorities should assess whether more explicit criteria may be drawn up for when they should take on such an active role in any future incidents.**
The first-responding ambulance and medical resources were at the scene within 3 minutes. These units assumed the role of medical scene commander and ambulance scene commander and set up an initial casualty clearing station.
The Ministry of Justice was appointed the lead ministry in the ministerial response to the terrorist incidents of 22 July. The healthcare sector had relevant emergency preparedness plans in place prior to the incidents.

1.1 NATIONAL CRISIS MANAGEMENT

The Norwegian Government convenes an ad hoc Crisis Council composed of the secretaries general at the Office of the Prime Minister, Ministry of Justice and Public Security, Ministry of Defence, Ministry of Foreign Affairs and Ministry of Health and Care Services. Other entities may be invited to participate depending on the circumstances. The Government Crisis Council determines, in the particular circumstances, which ministry is to be the lead ministry, that is, the top-level strategic coordinating body. The Ministry of Justice was appointed the lead ministry in the ministerial response to the terrorist incidents of 22 July.

In crisis situations, where the government plays a role, the Directorate of Health will be mobilised. The Ministry of Health and Care Services delegates crisis management within the health service to the Directorate of Health and receives daily reports and discusses important matters as they arise.

The Directorate of Health establishes its crisis committee under the leadership of the Director General of Health.

In the event of peacetime crises, security policy crises/war, the sector responsibility principle applies with regard to remits and powers. The crisis committee holds ad hoc meetings during the crisis and its main remit is to maintain an overview of the situation, consider proposals following formal processing and to decide on responses. The Directorate of Health receives daily reports from the regional health authorities and from the offices of the county governors. Essential decisions are made on the basis of these reports and are reported to the Directorate of Health.

Alerting and reporting channels

In order to provide executive authorities with a sufficient basis for drawing up a comprehensive situational picture for all entities involved, coordinating crisis management and making decisions on further measures, organisations participating in management of the crisis must be prepared to implement procedures for reporting to the executive authorities.

Figure 1: National crisis management,
cf. Meld.St. no. 37 (2004-2005), a white paper on national crisis management in response to the South Asian tsunami disaster
In the event of outbreaks of communicable diseases, the Norwegian Institute of Public Health alerts municipalities and the specialist health services. This has no bearing on the regional health authorities’ delegations to the health trusts.

Well-defined channels exist for alerting and reporting within the health sector during crises and where the Ministry of Health and Care Services has empowered the Directorate of Health to coordinate the health sector’s response. Reporting within the specialist health service flows from the hospitals (health trusts) via the regional health trusts to the Directorate of Health. Within the primary health service, reporting flows from the municipalities via the county governor to the Directorate of Health. Other entities (Norwegian Institute of Public Health, Norwegian Medicines Agency and others) in the sector also report to the national level via the Directorate of Health.

The Directorate of Health consolidates the information in the reports on behalf of the whole sector for the Ministry of Health and Care Services.

In the case of nuclear incidents, reports go via the Directorate of Health to the Norwegian Radiation Protection Authority. The justice sector also has a reporting channel to/from the offices of the county governors.

1.2 EMERGENCY PREPAREDNESS PLANS

The Act of 23 June 2000 on health and social services preparedness (lov om helsemessig og sosial beredskap) frames work on emergency preparedness plans within the health sector. In addition to this Act, a number of other statutes and regulations concern emergency response efforts and emergency preparedness planning.
Municipalities, regional health authorities and health trusts are required to maintain up-to-date, drilled and coordinated emergency preparedness plans together with routines for incident detection and alerts, and for effective resource allocation and coordination in response to emergencies. Coherent emergency preparedness within the health and social services must also focus on interfaces with the domains of other sectors. Emergency preparedness plans must be based on risk and vulnerability analyses, and be up-to-date and thoroughly drilled. Reports on large-scale preparedness exercises (incident simulations) must be sent to the next level up.

In January 2007, the Ministry of Health and Care Services published its Comprehensive National Health and Social Preparedness Plan. This had been prepared in follow-up to Meld.St. no. 37 (2004-2005), a Ministry of Justice white paper on national crisis management in response to the South Asian tsunami disaster that had also claimed the lives of many Norwegians. The Plan describes actors in the health sector, their remits and responsibilities and coordination between them during crises. Where circumstances require the sector’s response to be coordinated at central government level, the Directorate of Health must be prepared to assume responsibility for operational coordination following ministerial delegation of this task. This means that the Directorate is responsible for obtaining an overview of the situation and if necessary, taking action on behalf of the Ministry. If necessary, the Directorate will be requested to coordinate reporting from the municipalities via the offices of the county governors and from the specialist health service as represented by the regional health authorities and health trusts. These reports are then taken as the basis for the Directorate of Health’s reports to the Ministry and form the basis for the Ministry’s and the government’s situation awareness. The Ministry supervises top-level liaison with other ministries and central government.
The Directorate of Health has reviewed the emergency preparedness plans of the municipalities and health trusts that were most affected by the bombing in Oslo and the shooting on Utøya. While the plans differ, they are assessed as adequate and in conformance with the requirements laid down in applicable legislation.

In dialogue with the various entities and services involved, the Directorate of Health found that the frequency and nature of large-scale preparedness exercises varies, as does the frequency of major exercises comprising both the primary and the specialist health service. The Directorate is informed that the scale and frequency of such exercises are affected by budgetary challenges, since large-scale exercises especially are disruptive to the ordinary day-to-day services.

The International Advisory Council (IAC) points to the need for national operational policies and hence support for subordinate functions within the national health service. The IAC points out that national policies of this nature would help to structure regional plans while also facilitating the creation of local plans.

**Evaluation**

The Directorate of Health finds that all the municipalities and health trusts that were directly involved in the response to the two terrorist incidents had plans based on sufficiently relevant risk and vulnerability analyses prior to 22 July.

The lack of national procedures at operational level at the incident scene or between hospitals meant that the different responders operated with different terminologies and different operational manuals. Examples of such disparities would be the different triage systems, differing interpretation and management of a non-secured scene (hot zone), differing interpretation of terms such as medical scene commander, ambulance scene commander and strategic, operative and tactical level, respectively. The question as to who should be the medical scene commander is discussed in detail under the heading The function of EMCCs and scene commanders in the event of major incidents. The lack of national policies at operational level is also commented on in reports on official inquiries into major disasters such as the Stord air disaster, the M/S Sleipner sinking and Åsta rail disaster, and the large-scale emergency exercises, Exercise Barents Rescue 2011 and Exercise Oslo 2006. We maintain that a comprehensive overview of key operational factors in disaster medicine such as a unified triage system, procedures and cooperation procedures would be conducive to facilitating better regional and local practical solutions at the same high national level.

The Directorate of Health finds that cooperation with entities in other sectors in response to the incidents of 22 July was on the whole effective. However, we do find reason to consider whether cooperation should be more extensively formalised in joint plans for use in peacetime emergencies.

We find that there is variation in terms of how well-drilled organisations are in adherence to the plans, and that earmarked resources to that end are at present lacking.

**Recommendations**

- In collaboration with the health service, the national health authorities should prepare a set of protocols for the health service’s emergency preparedness system at operational level that describe the consistent management of extraordinary events and crises. This should include the procedures for liaison with other emergency services.

- National health authorities should take the initiative for joint plans at strategic level for use between the main emergency response agencies and services.

- In budget planning, national health authorities should focus on earmarking funds specifically for large-scale preparedness exercises. This should also be addressed by the boards of governors of the regional health authorities.
Chapter 2

Emergency medical response

PAGES 24 – 65
17:24

The first call concerning the shootings at Utøya was registered at 17:24 and was received by EMCC Buskerud and the police in the South Buskerud police district.
The Norwegian emergency medical response following the terrorist acts was substantial, life-saving and exceeded normative expectations throughout the emergency medical chain. The health service demonstrated high mobilisation capability and improvisation ability. Voluntary efforts made a substantial contribution.

In the following we present a description of parts of the sequence of events and the medical care that was provided during the acute phase immediately after the bomb exploded in the government quarter and following the shootings on Utøya. The Directorate of Health regards it as important for readers to view the emergency medical response in the context of the situation awareness existing at any given time during the different emergency operations. This applies particularly to the police assessments of the security situation on Utøya. In several areas we have consequently found it appropriate to cite the police’s situation awareness.

2.1 MEDICAL RESPONSE IN THE GOVERNMENT QUARTER

2.1.1 Government quarter – the first minutes
At 15:25 the perpetrator detonated a car bomb parked on Grubbegata outside a high-rise building in the government quarter. The bomb caused massive structural damage to buildings in the immediate vicinity but also extensive damage within a large radius of ‘ground zero’. The explosion also caused a fire in one of the buildings in the government quarter (R4). In view of the extensive structural damage they encountered, it was immediately clear to the first responders on the scene that there would be many fatalities and casualties.

The explosion immediately set off a large number of automatic fire alarm systems in the government quarter and other surrounding buildings, as a result of which Oslo Fire and Rescue Centre’s emergency call centre (emergency number 110) received a total of 66 automatic fire alerts within the first minute. The main fire station, located just a few hundred metres from ground zero, also sustained substantial damage, with 5 out of 6 of the doors to the station’s fire engine garages destroyed. This was one of the reasons why it took 13 minutes before the units from the main fire station could be deployed to the scene. Meanwhile, the Oslo Fire and Rescue Centre’s emergency call centre had sent an alert out to crews from other fire stations in Oslo and had requested assistance from the fire services in the outlying districts of Nedre Romerike, Nordre Follo, Søndre Follo and Asker and Bærum.

Within minutes of the explosion, Oslo Police Operations Centre (the police emergency call centre) took a great many 112 emergency calls from the public about what was initially understood to be multiple explosions at different locations in Oslo city centre. Eventually it became clear that all the calls concerned the same incident, that is, the car bomb explosion in the government quarter. One exception to this was an industrial accident and gas explosion in a building at Stortingsgaten 14 at 15:39.

The time elapsing from when the bomb exploded in the government quarter until ambulance crews from Oslo University Hospital were on the scene was very short. Triage was conducted very well and was crucial for next-stage medical care.

At 15:26, just one minute after the explosion, the Emergency Medical Communications Centre for the Oslo and Akershus area (EMCC OA) at Oslo University Hospital’s Ullevål campus (OUH U) received the first call from the public about the explosion. Over the next few minutes, EMCC OA took a total of 80 calls on its medical emergency number 113 concerning the incident in the government quarter. For capacity reasons, only around half of these calls could be answered. EMCC OA immediately dispatched 10 emergency ambulances, a rapid response vehicle (RRV), a motorcycle ambulance and an ambulance commander for the Oslo and Akershus ambulance service to the government quarter. Additional ambulances and medical resources were subsequently dispatched to the scene from the Oslo and Akershus ambulance service to the government quarter. Additional ambulances and medical resources were subsequently dispatched to the scene from the Oslo and Akershus area. In parallel with this, the hospitals in the Oslo region were alerted and requested to provide assistance by the ambulance services in Buskerud (Vestre Viken Hospital Trust), Hedmark/Oppland (Innlandet Hospital Trust) and Østfold (Østfold Hospital Trust).

Shortly after the explosion in the government quarter, the EMCC’s Acute Medical Information System (AMIS) failed. This meant that EMS dispatches such as ambulances were not sent assignments in digital format from the EMCC, and that there were no means of registering incoming telephone calls or of mapping ambulance resource positions electronically. The same applied to situation reports from the ambulances and documentation of actions taken and their timing.
2.1.2 Main aspects of the emergency medical response in the government quarter

8 fatalities were registered following the explosion. All of these were assessed as deceased at the scene.

100 non-fatally injured casualties were registered, 10 of whom were assessed as so critically injured that they were transported directly to the trauma centre at OUH U by ambulance. Other casualties were transported to City of Oslo out-of-hours primary care centre/OUH outpatients' trauma clinic at Storgaten 40 by ambulance and by an ordinary scheduled bus in service which was requisitioned by the scene commander.

The first-responding ambulance and medical resources (ambulance scene commander and RRV with ambulance crew) were at the scene within just 3 minutes. These units assumed the role of medical scene commander (MSC) (physician) and ambulance scene commander (ambulance crew) and set up an initial casualty clearing station at Høyesteretts plass, the square in front of the Supreme Court building, jointly with the other emergency services.

The MSC function was taken over by the HEMS (Helicopter Emergency Medical Service) physician during the operation. The HEMS physician liaised directly with the head of the trauma centre at OUH U by mobile phone.

A large contingent of ambulance and medical resources was at the scene within a short space of time; from when the bomb detonated it took 26 minutes for 41 units to be available.

The first casualty arrived at the trauma centre after 26 minutes. 7 out of 10 casualties with severe injuries arrived at the trauma centre within 45 minutes of the explosion. The last three patients arrived at the trauma centre 1 hour 15 mins, 1 hour 39 mins and 1 hour 50 mins respectively after the explosion.

City of Oslo out-of-hours primary care centre/OUH outpatients' trauma clinic received and treated a total of 69 casualties from the government quarter. 2 of these patients were subsequently transferred to the Oslo University Hospital Aker campus (OUH A) for further observation/treatment.

The private hospital, Diakonhjemmet sykehus, received 2 casualties from the government quarter, both of whom were treated as outpatients.

An RRV from the OUH HEMS base just outside the Oslo City limits at Lørenskog transported 4 seated patients to the out-of-hours primary care centre at Baerum Hospital. None of these patients were hospitalised.

The rescue operation was scaled down at 17:00, that is, after 1 hour 35 minutes.

2.1.3 City of Oslo out-of-hours primary care centre and Oslo University Hospital outpatients’ trauma clinic

City of Oslo operates a 24/7 high-capacity out-of-hours primary care centre at Storgaten 40, a central location just a few hundred metres from ground zero in the government quarter. In addition, there are two smaller clinics at other locations in the city. The out-of-hours primary care centre relieves GPs of emergency cases including during ordinary GP surgery hours. The staff at the Storgaten out-of-hours primary care centre has wide-ranging clinical expertise. Here City of Oslo operates both an out-of-hours GP service and a standby crisis service (SCS), while OUH operates an out-of-hours psychiatric clinic and an outpatients’ trauma clinic attached to an orthopaedic department. The outpatients’ trauma clinic treats injuries that may not necessarily require hospital admission, but can be dealt with better by the specialist health service than by GP-staffed primary care services. The City of Oslo out-of-hours primary care centre and OUH outpatients' trauma clinic have a joint waiting room and administration and outwardly function as an integrated service.

The out-of-hours primary care centre received the first patient just five minutes after the explosion. At around 15:50, a large number of patients arrived simultaneously by the bus requisitioned by the ambulance scene commander (D118). Many others turned up at the out-of-hours primary care centre as ‘walking wounded’ or by ordinary means of transport. The centre managed to increase staffing within a short space of time, and within a few hours all casualties had been attended to, either at the OUH outpatients' trauma clinic or the out-of-hours primary care centre. Management at the primary care centre states that at-scene triage conformed to a very high standard, given that staff only found it necessary to transfer two patients to hospital (Aker). Closer medical examination than at-scene triage was required in order to determine the need for hospital treatment (M4).

The rapid up-staffing at the primary care centre was possible because the incident coincided with shift changeover, which meant that the outgoing shift could be kept on duty alongside the oncoming shift. In addition, further staff presented for duty after learning of the incident from the media. Primary care centre management does not find that capacity was stretched over and above what it would normally deal with on a busy Saturday night, even though the many casualties arrived within an unusually narrow timeframe. The outpatients’ trauma clinic alone received 64 patients in the space of two hours. This meant, among other things, that, after having attended to 25 patients, staff had to procure additional medical supplies for wound care (suture sets).

The majority of the patients had minor wounds, many requiring suturing. There were some cases of tendon and nerve injury and trauma, but no fractures. After the
initial two-hour wave, a small number of persons arrived over the course of the evening. The general public responded to the incident by not seeking out-of-hours medical care to the extent that would be usual on a Saturday (M4, D108, D116).

**Treatment at the out-of-hours primary care centre**
The City of Oslo out-of-hours primary care centre attended to an abnormally large number of patients within a short space of time. The situation was well managed through high mobilisation, effective procedure and distribution of cases between the municipal out-of-hours primary care centre and OUH outpatients’ trauma clinic.

**2.1.4 OTHER ASPECTS OF THE CITY OF OSLO EMERGENCY MEDICAL RESPONSE**
City of Oslo rapidly deployed emergency responders and acted in accordance with its emergency preparedness plans. From an early stage, there was hectic and extensive activity in alerting supervisors/personnel and planning medical follow-up in the districts, attendance at the relatives’ reception/crisis centre established by Norwegian Labour Youth – AUF in the Norwegian Confederation of Trade Unions HQ in the Folketshus building, and planning of ceremonial events and services. The public ceremonial events deserve separate mention, and should be assumed to have been significant from a public health perspective. However, the Directorate of Health does not see this as falling within its remit, as these events were not primarily health service arrangements.

Special mention should be made of the fact that the explosion obstructed domiciliary nursing services, since seven clients lived within the area cordoned off in the government quarter. However, according to the Directorate’s understanding, these persons received basic medical care notwithstanding the difficulties. Following negotiations with City of Oslo, the police moved the cordons over the course of 23 July so that normal access for the domiciliary services was soon restored.

City of Oslo played a particularly important role in following up persons who were in close proximity to the explosion, but were not central government employees, i.e. passers-by, and staff and customers in shops and other businesses in the vicinity. On behalf of City of Oslo, the St. Hanshaugen district obtained a list of 70 persons in these categories and distributed the names to the right district/municipality of residence so that these persons could be contacted by their local health service. It is unclear whether this list was complete.

A number of City of Oslo’s own agencies and institutions were affected by the explosion to varying extents. These included the Agency for Fire and Rescue Services, the Emergency Planning Agency, Office of the Public Guardian and the Health and Social Services Ombudsman. Employees of these agencies/institutions have received follow-up from the relevant occupational health services.

Both Oslo residents affected by the bombing and residents affected by the shootings at Utøya have been contacted and followed up by the City of Oslo districts. This amounts to a total of around 200 individuals. City of Oslo out-of-hours primary care centre has provided guidance to the districts on longer-term local follow-up. The City of Oslo centralised authorities have the impression that the routines for making contact and sending out “reminders” to those affected has been equitable and carried out diligently in the districts. There is however a sense that somewhat differing thresholds prevailed for when it was appropriate to refer people for further treatment at DPS (District Psychiatric Centre) or the BUP (Child and Youth Psychiatric Outpatients’ Clinic) (M21, D33). See also discussion of the psychosocial follow-up in the separate chapter.

**2.1.5 ASSESSMENT OF THE EMERGENCY MEDICAL RESPONSE IN THE GOVERNMENT QUARTER**

**Alerting and mobilisation of medical resources**
Based on the sequence of events outlined in the forego­ing, the Directorate of Health finds that EMCC Oslo and Akershus largely fulfilled its function in respect of alerts and mobilisation of emergency medical resources at the operational, tactical and strategic levels equally. However, the Directorate does note that the EMCC did not alert or mobilise the HEMS unit at OUH’s Lørenskog base or the EMCC duty doctor. The patient-transportation service, ‘Helseekspressen’, which later on that same day was an important resource in the wake of the Utøya attacks, was not included in the EMCCs emergency alert routines and was not alerted initially. The private hospital, Diakonihjemmet sykehus, and City of Oslo out-of-hours primary care centre were also not alerted to the incident by the EMCC.

**Securing of the scene**
Following the explosion in the government quarter, the police and fire & rescue services rapidly arrived at the scene. It was soon apparent that this was a terrorist action rather than an accident. There was therefore uncertainty as to whether there might be more bombs and whether the scene might be contaminated by gas or radioactive materials (‘dirty bombs’).
Police and fire & rescue crews took readings for gas and radioactive substances on arrival at the scene.

**Evacuation of casualties**

As a rule, evacuation of casualties from non-secure disaster scenes is done by the fire & rescue service and/or the police. In this incident, the special police counter-terrorist Delta unit (Beredskapstroppen) was also actively involved in evacuating casualties from the damaged buildings.

Traumatic injuries are often associated with life-threatening bleeding. With the exception of bleeding from injuries to extremities which can normally be staunched by compression bandages or tourniquets, following severe haemorrhaging, the time elapsing from when the injury was sustained until admission to a hospital with trauma surgery capability will be decisive for patient outcomes.

The majority of casualties from the government quarter were evacuated rapidly and transported to hospital by ambulance. However, as stated above, three seriously injured casualties did not arrive at the hospital until 1 hour 15 mins, 1 hour 39 mins and 1 hour 50 mins, respectively, after the explosion. Given the short transportation time (max. 5 mins) and the fact that the situation had summoned almost unlimited health personnel and transport resources (ambulances), there is reason to believe that the delay was largely attributable to the time it took to search for and evacuate the casualties from the damaged buildings.

The incident scene in the government quarter comprised several large buildings and presented a chaotic picture in which access to search for casualties was impeded by the rubble of fixtures and fittings. After some time, the fire & rescue service received police assistance to search for casualties in the damaged buildings. The search in the high-rise block, which was one of the buildings that sustained most damage, did not commence until 16:21, that is, almost an hour after the blast.

Ground and air ambulance crews who were involved have stated that first responders observed that the fire & rescue service were stretchering a small number of deceased victims out of the damaged buildings, and therefore offered to assist the fire & rescue service in prioritising the injured/fatalities. A HEMS physician and paramedic put on protective gear and assisted the fire crews in the search for casualties and survivors in R4.

In situations of this nature, it is crucially important for first responders to distribute the tasks in such a way that the rescue effort is as effective as possible, while being sufficiently secure for the responders.

In our interpretation of events at the scene, from 15:51 there were substantial emergency medical resources in place in the government quarter (41 units). Once the scene had been given the all clear in terms of further explosive devices, any gas or radioactivity, with the exception of the fire in R4, there were no other circumstances to prevent emergency medical responders with the requisite protective equipment (hard hat, dust mask, ambulance overalls, protective gloves and footwear) from moving inside the damaged buildings. In our opinion, the ambulance crews could therefore have assisted the fire & rescue services and the police in assessing, evacuating and stretchering out casualties from a somewhat earlier time.

**Life-saving first aid/stabilising pre-hospital medical care**

By life-saving first aid in this context we mean securing clear airways in people who are unconscious, staunching severe bleeding etc.
The Directorate of Health does not have detailed information on the procedures undertaken in the way of life-saving first aid or stabilising pre-hospital medical care at the scene. Our conclusions are, however, informed by the fact that well-qualified ambulance crews and physicians from OUH were available early on, and shortly thereafter also HEMS crews. We therefore regard it as highly probable that essential life-saving first aid was provided to those casualties who were evacuated from the scene and the damaged buildings.

Stabilising pre-hospital medical care denotes pain alleviation, intravenous fluid injection, oxygen therapy, establishing permanently clear airways (intubation), evacuation of pneumothorax/haemothorax etc.

The Directorate of Health has not examined individual medical records with a view to assessing the medical care provided. We do however have the following reflections on the medical interventions instituted:

The government district in Oslo is located some 3 km south of OUH U, which serves as the regional trauma centre. The journey time by ambulance from the government quarter to OUH U is probably less than 5 minutes. All transportation times from the scene to hospital were exceedingly short, thus limiting the need for stabilising pre-hospital interventions. Given the medical expertise that was present at the scene, we regard it as probable that essential stabilising interventions were instituted before and during transportation to hospital.

**Triage/decisions regarding transportation to an adequate level of medical care**

Triage denotes the process of assessing a casualty and determining the degree of urgency in terms of life-saving first aid and stabilising interventions, but also as regards transportation to an adequate level or treatment, meaning either a hospital or GP-staffed out-of-hours primary care centre. Based on the category of injury, for example, head injury and injury to the thorax, it is important that the person who performs triage of casualties at the scene also determines which hospital has the expertise to treat the various injuries – in terms both of initial stabilising interventions and ultimate medical care.

OUH U is both the local hospital for much of Oslo and the trauma centre for the South-Eastern Norway Regional Health Authority, while it also has national functions as a trauma centre. This hospital has the capability for undertaking both stabilising interventions and ultimate surgical treatment of the majority of injuries, including head injuries, arterial/venous injury and thoracic injuries.

From an early stage, there were almost unlimited transport resources available in the government quarter. Within a short space of time almost 40 ambulances were available, and the transportation time to hospital was less than 5 minutes. OUH U reception and treatment capacity for trauma patients was initially limited, but within a relatively short space of time, it had capacity to receive a large number of patients. This made it possible to rapidly transport all casualties to OUH U, without having to take into account either transportation capacity or clinical capacity.

**We have the following remarks regarding the triage performed at the scene:**

No patients from the government quarter died during transportation or following admission to OUH U. Only 2 patients were transferred to hospital after having been initially examined at the out-of-hours primary care centre. This indicates that no substantial undertriage occurred, that is, erroneous assessment of casualties who should either have been brought more rapidly to the trauma centre or taken directly to hospital rather than the out-of-hours primary care centre.

At a meeting on 31 January 2012, trauma management at OUH stated that 3 out of 10 patients could have been treated at a different and less specialised hospital. This is supported by the data received by the Directorate of Health concerning the extent of the patients’ injuries and their severity. However, we regard the decision to bring all the 10 casualties from the government quarter to OUH U as well-founded given that the hospital had the requisite treatment capacity. Nonetheless, had there been a great many more casualties, it would have been necessary to consider whether patients with less severe injuries could have been taken to another, less specialised centre than the trauma centre at OUH U. In that context, we refer to the discussion of this under the heading Triage of casualties at major incidents.

**Recommendations**

The EMCCs routines for alerting emergency medical resources for extraordinary incidents and crises must be reviewed.

— EMCC duty doctors must be alerted as a matter of routine in the event of major incidents. If the EMCC duty doctor has other emergency or on-call functions, routines for second-call physicians/deputies must be established.
2.2 
EMERGENCY MEDICAL RESPONSE AT 
THE UTØYA SCENE

2.2.1 
Main aspects of the sequence of events 
and emergency medical response at the 
Utøya scene

The Directorate of Health’s understanding is that the 
perpetrator arrived on Utøya at approx. 17:08 and that 
the shooting started shortly thereafter, i.e. around 17:10 
and ended when he was detained by the police at 18:33. 
We therefore deduce that the gunshot wounds were 
sustained within a period of approx. 1½ hours.

A total of 69 fatalities were registered following the 
shootings at Utøya. 68 of these were declared dead on 
the island. One victim subsequently died in hospital.

The hospitals involved have reported 65 patients from 
Utøya:

- Vestre Viken, Ringerike hospital: 35
- OUH Ullevål: 21
- Vestre Viken, Bærum hospital: 7
- Vestre Viken, Drammen hospital: 1

(In addition, one person sought medical care at Drammen 
hospital, but was not admitted)

Based on information that 7 patients from Ringerike 
hospital, one from Drammen hospital and one from 
Bærum hospital were transferred to OUH, we conclude 
that the total number of casualties from Utøya treated/
assessed at hospital was 56. In addition to the casual-
ties who were taken to hospital, an unknown number of 
casualties were treated by the primary health service, 
including by the emergency medical centre established 
at Sundvolden Hotel.

The first call concerning the shootings at Utøya was 
registered at 17:24 and was received by EMCC 
Buskerud (EMCC B) and the police in the South 
Buskerud police district. From 17:26, there are reports 
of high-volume and sustained calls to the police 112 
eergency call centre. A fault with a mobile operator 
caused several calls to the police 112 emergency call 
centre from Utøya to be routed to the South Buskerud 
police district’s operations centre in Drammen rather 
than North Buskerud police district’s operations centre 
at Hønefoss. EMCC B registered 72 answered calls to 
the 113 medical emergency number within the first 34 
minutes. Owing to limited line capacity and the lack of 
any system for registering 113 calls, it is not possible to 
establish how many calls went unanswered.

When the first call concerning the shootings at Utøya was 
received at 17:24, EMCC B was staffed by 4 operators. 
Shortly thereafter, the centre was upstaffed to 5 operators, 
and after some time the number of operators increased 
to 8. In addition, technical expertise was brought in.

The first ambulance was called out at 17:26 and arrived 
in the vicinity of Utøya at 17:33. The ambulance had to 
wait to approach Utvika quay (the ferry quay on the 
mainland) because the area had not yet been given 
police clearance. EMCC B alerted Ringerike inter-
municipal out-of-hours primary care centre to the events 
at Utøya after 10 minutes. The duty doctor responded in 
the centre’s own RRV.

At 17:45, the hospi-
tals under Vestre 
Viken Hospital Trust 
were put on a state of 
emergency standby 
following the alert 
from EMCC Buskerud 
concerning the 
shootings at Utøya. 
Drammen hospital 
was at this stage 
already on standby 
following the incident in Oslo.

At 18:00, that is, after approx. 35 minutes, at least 
two ambulances, the duty doctor from Ringerike inter-
municipal primary care centre and a police unit from 
North Buskerud police district had reached Utvika quay, 
which was established as casualty clearing station 1. 
From that time on, youngsters began to turn up from 
Utøya, either swimming or ferried across in privately 
owned boats.

The police initially informed the EMCC that the marshal-
ing area for ambulances was to be Utvika quay. Shortly 
thereafter, the police decide to move the ambulance 
marshalling area to the main road on the upper side of 
Utvika quay due to the projectiles from the perpetrator’s 
firearms striking the water near the quay. After some time, 
Utvika quay was given police clearance. Access to the 
jetty was constricted in the extreme and posed challenges 
in terms of establishing an effective evacuation system 
with the aid of an ambulance control station. Multiple 
evacuation points had to be established because civilian 
boats were coming ashore with casualties at multiple 
locations, including Utvika camp site, which is located 
a few hundred metres north of Utvika quay.
From 18:22, 4 air ambulances were on standby at Solliahegda awaiting clearance to fly to Storøya/Elstangen, which was defined as the helicopter landing pad and subsequently casualty clearing station 2. The casualties were transported from Utvika quay to the helicopter landing pad at Storøya/Elstangen by ground ambulance. At approx. 18:45, 6 teams of doctors and nurses/paramedics arrived at Utvika quay. By 19:00, approx. 25 casualties had reached Utvika quay, some 10 of whom had very severe injuries.

When it became clear that reports of the shootings on Utøya were so serious that the vast proportion of available emergency responders would have to be directed to the island, the ground and air ambulance service response was massive.

The function of medical scene commander was not established at casualty clearing station 1 at Utvika quay. This was due above all to the fact that within a short space of time a great many seriously injured casualties arrived from Utøya, and the resources were not available to take up the function of medical scene commander. The function of ambulance scene commander was taken up by ambulance crews from Vestre Viken Hospital Trust. Initially the misapprehension arose that casualties were to be brought to Sundvollen Hotel for secondary triage/helicopter transport. At least one ambulance with two casualties had to drive back from Sundvollen Hotel to Elstangen, where the patients were taken on board the helicopter ambulance and transported to OUH.

The first air ambulance helicopter landed at Storøya/Elstangen at 19:03. By 19:15, there were a total of 4 air ambulance helicopters on standby at Storøya/Elstangen. At approx. 19:30, the police gave the order to evacuate casualty clearing station 1 at Utvika quay based on the assessment that the perpetrator’s vehicle might contain explosive devices. The casualty clearing station was evacuated at approx. 19:45 and from then on reception of casualties was at casualty clearing station 2 at Storøya/Elstangen.

At casualty clearing station 2 at Storøya/Elstangen, multiple teams of doctors and nurses/paramedics were established which received, triaged and treated casualties as they arrived in boats from Utøya. A medical scene commander was not officially appointed at casualty clearing station 2, but the function was taken up by the HEMS physician. The first casualty from Utøya arrived at OUH at 19:57, that is, between 1½ and 3 hours after the presumed time of injury. The last casualty was transported from Utøya at 20:39, that is, approx. 2 hours after the perpetrator was detained. The casualty arrived at OUH at 21:49, that is, 1 hour 10 minutes after evacuation from Utøya and between 3 and 4½ hours after the presumed time of injury. The first casualty arrived at Ringerike hospital at 19:21, that is, between 1 and 2½ hours after the presumed time of injury. The last casualty arrived at Ringerike hospital at 21:05, that is, between 2½ and 4 hours after the presumed time of injury. During the period from 19:20 to 21:05, the hospitals received a total of 47 casualties, 35 of whom were received at Vestre Viken, Ringerike hospital, OUH; 10 casualties at OUH U, 1 at Drammen hospital and 1 at Bærum hospital.

Within a period of 9 minutes (20:16–20:25), Ringerike hospital received a total of 7 casualties, 5 of whom were subsequently transferred to OUH for further treatment. The reason why these casualties were sent to Ringerike instead of OUH is discussed later in this chapter. One of the casualties initially brought to Bærum hospital by ground ambulance was subsequently transferred to OUH – Rikshospitalet and then to OUH U.

A total of 16 casualties from Utøya were transported to hospital by helicopter ambulance, 12 of whom were transported directly from Storøya/Elstangen. 4 were transferred from other hospitals following initial stabilisation. 10 of the casualties from Utøya were transported directly to OUH U by a physician-manned helicopter ambulance. One casualty was taken to Drammen hospital, based on the air ambulance physician’s opinion that the hospital was qualified to treat the injuries sustained. Other casualties were brought to hospital by ground ambulance. The average flight time from Storøya to the trauma centre at OUH U was between 15-20 minutes. This is slightly longer than normal, but was due to poor weather conditions and aircraft turbulence. Including boarding and deboarding of each casualty, the helicopter ambulances took an average of approx. 30 mins for each transportation to hospital. Each casualty transportation thus meant that the helicopter ambulance resource was occupied/absent for approx. 1 hour at a time.

The transportation distance by ambulance from Storøya/Elstangen to Ringerike hospital is approx. 15 km. The transportation time for a lights and sirens ambulance is estimated as being approx. 10 minutes. The transportation distance by ambulance from Elstangen at Storøya to OUH U is approx. 42 km. The transportation time by lights and siren ambulance is estimated at between 20 and 30 minutes.

With the exception of the initial phase, there are no indications of any lack of ground ambulance resources during the operation at Utøya. During the timeframe
20:14 to 20:20, there were no ordinary helicopter ambulance resources available at Storøya. Shortly afterwards however, three helicopter ambulance resources arrived (20:20, 20:24 and 20:27). From 20:27 there were at least 3 helicopter ambulances available at Storøya.

### 2.2.2 Somatic emergency medical response: Hole and Ringerike municipalities

The Ringerike intermunicipal out-of-hours primary care centre is located at Ringerike hospital. This centre’s catchment area covers six municipalities, including Ringerike and Hole. The municipal medical officer for health (MOH) in Ringerike is the director of the out-of-hours primary care centre. At 16:00, the out-of-hours primary care centre alerted Ringerike municipality’s crisis team because it was known that relatives of the victims of the bombing in the government quarter were present on Utøya. As a result, the crisis team was already on standby by the time EMCC Buskerud (EMCC B) alerted the out-of-hours primary care centre of the Utøya shootings. An out-of-hours GP car was dispatched immediately, and within around 15 minutes, the director of the out-of-hours primary care centre had been alerted, additional personnel had been called in, chief administrative officers of the municipalities of Hole and Ringerike had been alerted, the crisis team already mentioned was on stand-by and finally the MOH of Hole municipality had been alerted. The MOH in turn alerted the Hole crisis team and was personally in place at the Esso service station near Sundvolden Hotel at around 18:00. Shortly afterwards the first Utøya survivors arrived at the service station. The MOH called the police, who assigned him the role of medical scene commander.

Ringerike municipality readied Ringerike Hotel at Hønefoss as a crisis centre for victims and relatives shortly after 18:00. At approx. 18:15, the MOH of Hole requisitioned Sundvolden Hotel as a combined casualty clearing station for survivors and crisis centre for relatives. However, a number of relatives were already waiting at Sollihøgda café, which had also been requisitioned. Sollihøgda café is located several kilometres in the opposite direction to Sundvolden, seen from Utvika quay. Ringerike Hotel was decommissioned as a crisis centre at around 19:15 following a telephone conversation between the two municipal MOHs. The establishment of Ringerike Hotel at Hønefoss as a crisis centre should be seen in the context of the police alert that 6-8 youngsters were heading for that particular hotel.

At around 18:30, crisis team members from Hole municipality arrived at Sundvolden Hotel, and the team rapidly undertook registration of survivors. Meanwhile, a relatives’ helpline was set up, initially manned by the hotel. Resources from the crisis team in Ringerike municipality arrived an hour later and took over operation of the relatives’ helpline. At around the same time, a team arrived from the civil defence and assisted in the registration work, including converting handwritten slips into electronic name lists.
Out-of-hours primary care centre personnel were involved in the emergency medical response at the casualty clearing stations at Utvika quay and at Elstangen jointly with the various personnel groups from the specialist health service. At an unknown time during the events, out-of-hours primary care centre staff and health personnel who had arrived by ambulance, including HEMS physicians, proceeded down to Utvika quay without the police having given them clearance to do so. The reason for this was that health personnel found it extremely difficult to stand by and watch young people in need of treatment come ashore without being able to help them. The response at this stage was not under any real command.

Out-of-hours primary care centre staff at Elstangen were involved in secondary triage of youngsters who were not to be taken to hospital. These youngsters were sent from there to Sundvolden. Our impression is that good cooperation was established between the specialist health service and the commander of the municipal emergency medical response at Sundvolden, who was the individual assigned the role of medical scene commander by the police. Even at the time the MOH was appointed medical scene commander, it was clear that an emergency medical response would be required at Utvika quay (casualty clearing station 1). It would have been an advantage to have had a triage supervisor/medical scene commander at casualty clearing station 1 who would then have been able to liaise with the medical scene commander at Sundvolden. The HEMS physician who took command of casualty clearing station 2 and the formally appointed medical scene commander were crucial command posts, irrespective of formalities and official role designations.

Many survivors came ashore at Utvika camp site, which is located between the two casualty clearing stations at Utvika quay and Elstangen. Here they were assisted by the camp site owner, other volunteers and health personnel to proceed either directly to Sundvolden or via the two casualty clearing stations. No medical care or triage was performed at the camp site.

The MOH of the out-of-hours primary care centre was at Ringerike hospital for a long time, in a meeting with hospital management in advance of the influx of casualties. However, on arrival at the hospital, the casualties were let past the out-of-hours primary care centre. Shortly after the first casualties arrived, the hospital area was closed to the general public and security guards were put on duty under the hospital’s own authority. Under this arrangement, the hospital continued to admit patients, while the out-of-hours primary care centre was shut down. From approx. 20:00, out-of-hours primary care centre personnel were largely in service at Sundvolden instead.

For other casualties, the out-of-hours primary care centre provided a combination of domiciliary visits and an improvised emergency medical centre at a nursing home, and also received some casualties at a service station near the hospital. For the young people arriving from Utøya, the first consultations were carried out at the service station at Sundvolden and subsequently at the hospital. The out-of-hours primary care centre staff also attended to a small number of relatives and auxiliary personnel. The work of the out-of-hours primary care centre staff at Sundvolden largely consisted of dressing wounds, supplementing regular medication that had been lost and psychosocial first aid.

One disadvantage of medical operations outside ordinary premises was the problem of documenting the treatment provided. Not all treatment was registered, but an estimated 50 patients received somatic medical care at Sundvolden from early evening into the night. The number of counselling sessions in which psychosocial first aid was provided by staff attached to the out-of-hours primary care centre is unknown. Over the course of 24 July, a simplified medical records programme was provided and used for keeping a separate database of primary care centre activity at Sundvolden. This made it possible to input information from handwritten sheets without any omissions of otherwise mandatory data such as date of birth preventing registration (M15, M34, D95, D112, D113, D119).

The two municipalities mobilised a number of technical and administrative support functions which will not be described further in the light of the purpose of the present report. Voluntary efforts – organised and non-organised – are discussed in more detail under the chapter on psychosocial work. Here we would briefly mention that Norwegian Labour Youth – AUF itself was a crucial resource in the work of registering survivors and providing them with information, and that it was AUF that helped its members to get home from the time at which police requested survivors to leave (M25).

### 2.2.3 Evaluation of the emergency medical response during the operation at Utøya

#### Alerting and summoning of emergency medical and rescue resources

The Directorate of Health finds that EMCC Buskerud (EMCC B), among other things as a result of its co-location with Vesterviken fire & rescue (emergency number 110) and South Buskerud police district (emergency number 112) at the police office in Drammen, ensured that the necessary alerts went out to other emergency services (triple alerts).

EMCC B implemented call-out of available local ambulance resources and requested assistance from EMCC Oslo and Akershus (EMCC OA) for additional ambulance resources. Following liaison between EMCC OA and EMCC B, a substantial number of ambulance resources were dispatched from Innlandet Hospital Trust.
and Østfold Hospital Trust which at that stage were in Oslo following the explosion in the government quarter.

The ambulance resources available during the operation at Utøya exceeded demand for medical transport. This is to some extent attributable to the fact that a relatively large fleet had already been mobilised in response to the bombing of the government quarter.

EMCC B alerted the local out-of-hours primary care centre, Ringerike intermunicipal out-of-hours primary care centre after 10 minutes. A duty doctor was rapidly dispatched in the direction of Utøya.

At 17:45, the hospitals under Vestre Viken Hospital Trust were put on a state of emergency standby following the alert. Drammen hospital was at this stage already on standby following the incident in Oslo.

EMCC B alerted the Ål Helicopter Emergency Medical Service (HEMS) at 17:50 and was also assisted by HEMS units 1-1 and 1-2 from the Oslo University Hospital Lørenskog base together with several HEMS units from the government quarter in Oslo. Other HEMS units from Arendal, Dombås and Stavanger assisted in the operation on their own initiative. The initiative for their response would appear to have resulted in an earlier response from the relevant HEMS resources than if they had stood by waiting for EMCC requisitioning. In this context, we refer to the discussion under the heading Alerting, management and coordination of HEMS resources.

Overall, we find that EMCC B’s call-outs and alerts to emergency medical and rescue resources were adequate.

**Securing of the scene/life-saving first aid/evacuation of patients**

Given the substantial health personnel resources and transport resources that were available relatively soon, we find that the lack of access to the scene was the most limiting factor in terms of the health service’s ability to provide emergency medical care during the Utøya operation. This is due partly to the fact that the scene of the attacks was an island location, but especially that it took time for the police to secure the scene, owing to the security risk that prevailed because of the shooting, the suspicion that multiple perpetrators might be present, and the risk that explosive devices had been planted both in the perpetrator’s car parked on Utvika quay, and elsewhere on Utøya. The lack of access to the scene for health personnel meant that it was largely police offers who were able to provide life-saving first aid. Their response is discussed elsewhere in this report.

Health practitioners have commented that EMCC B continually communicated vital information about the police security assessments. The Directorate of Health finds that EMCC B fulfilled its function throughout as regards scene clearance before sending in health personnel.

Based on media criticism that health personnel were not sent down to Utvika quay while members of the public were evacuating casualties, we maintain that both EMCC and the ambulance services should review their routines jointly with the police for dealing with situations that put the life of health personnel at increased risk. For further discussion of the issues surrounding the deployment of health personnel, please refer to the chapter on Emergency medical response at non-secured incident scenes.

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**Triage of casualties, stabilising pre-hospital treatment and transportation to clinic/hospital for primary and/or ultimate treatment**

Based on the information we have received concerning the pre-hospital medical care provided during the Utøya operation, we find that competent medical assessments were made and that essential treatment interventions were started in order to stabilise casualties with serious injuries before their transportation to hospital.

The Directorate of Health finds that physicians and nurses from the air ambulance service had an important role in this work. The air ambulance service also brought vital disaster-response equipment (stretchers and other medical equipment etc.), a fact which illustrates how important it is for the service to be called in at an early stage following major incidents.

The Directorate of Health lacks specific data on the nature of medical interventions undertaken by health personnel arriving at Utøya. Regardless of this, we find that health personnel served a crucial function in relation to the police task of assessing injuries and fatalities. The health personnel got themselves across to Utøya before police had given clearance to do so, but the police scene commander at Utøya allowed them to come ashore regardless. Out of a total of 12 casualties transported directly to OUH U from Utøya, 10 were brought by helicopter ambulance and 2 by ground ambulance.

One of the casualties who was taken directly to OUH U subsequently died in hospital from extensive injuries. The other casualties survived.
CHAPTER 2

Learning for better emergency preparedness – The medical response to the terrorist incidents of 22 July 2011

Massive response

The rescue efforts contributed by volunteers were considerable.

At approx. 19:30, the police gave the order to evacuate casualty clearing station 1 at Utvika quay because of suspicions that the perpetrator’s car might contain explosive devices. The casualty clearing station was evacuated at approx. 19:45 and from then on reception of casualties was at casualty clearing station 2 at Storeøya/Elstangen.

One of the casualties who was transported to OUH by helicopter ambulance was transferred from a ground ambulance at Sollihøgda due to the patient’s critical condition. This patient transport took place in the initial phase of the emergency medical response operation, and the casualty was the first to arrive at OUH. Use of a ground ambulance to transport this patient can therefore be explained by the fact that at this early stage no “air bridge” had been established to OUH.

As ensues from the chapter on Injury severity and treatment outcomes for casualties admitted to hospital, all of the 21 patients brought to OUH had penetrating wounds. The median ISS (Injury Severity Score) for the group was 20 (max. 59 and min. 1). This is indicative of a patient category with serious injuries, but also of a category that included patients who could have been treated at other hospitals without any significant detriment to the quality of treatment.

Ringerike hospital’s capacity to treat trauma patients is regarded as being of a satisfactory standard. In that context, we refer readers to the fact that in 2010, South-Eastern Norway Regional Health Authority rated the trauma centre at Ringerike hospital as almost meeting all requirements for being defined as a hospital with trauma care capacity. Ringerike hospital received a total of 35 casualties. The injuries sustained by 7 of these were so serious that they were subsequently transferred to the trauma centre at OUH U. Several of the casualties did not however need to be hospitalised. This is indicative of a failure in pre-hospital triage. Selections were not made of casualties who could have been treated at Ringerike intermunicipal out-of-hours primary care centre, which is co-located with Ringerike hospital. This meant that all casualties were sent through the hospital’s trauma centre, a fact which is regarded as unfortunate, especially during the timeframe in which the hospital was receiving substantial numbers of seriously injured casualties.

Within a period of 9 minutes (20:16–20:25), Ringerike hospital received a total of 7 casualties, 5 of whom were subsequently transferred to OUH for further treatment. Subsequently questions have been raised as to why these casualties were triaged and taken to Ringerike hospital instead of directly to OUH. The Directorate of Health has not been able to clarify this, but would note the following:

Owing to the ongoing transportation of several patients between Storeøya/Elstangen and OUH, in the period 20:10 to 20:25, HEMS resources were limited at Storeøya/Elstangen. The timeline for HEMS resources shows that between 20:15 and 20:20 for example, no ordinary helicopter ambulances were available at Storeøya/Elstangen. A rescue helicopter from Rygge was available, but according to our information, this was on standby in the event of the need for a mass evacuation.

At approx. 19:30, the police gave the order to evacuate casualty clearing station 1 at Utvika quay because of suspicions that the perpetrator’s car might contain explosive devices. The casualty clearing station was
evacuated at approx. 19:45 and from then on reception of casualties was at casualty clearing station 2 at Storøya/Elstangen.

The transportation distance by ground ambulance from Utvika quay to Ringerike hospital is approx. 17 km. The transportation time for a lights and siren ambulance is estimated as being approx. 10 minutes. Under the circumstances, there is reason to assume that the actual transportation time was somewhat longer owing to dense traffic. We have therefore worked on the assumption of a transportation time of approx. 15 minutes. We assume that transportation of the 5 casualties from Utvika quay started around 20:00.

The Directorate of Health has not been able to have this verified by the hospital trust. Based on the information available, we regard it as more likely that there are several reasons for why 7 seriously injured casualties were taken directly to Ringerike hospital rather than OUH:

– Transportation commenced while casualty clearing station 1 at Utvika quay was being evacuated and a new casualty clearing station 2 was being set up at Storeya/Elstangen.

– It is likely that one or more casualties were brought ashore at locations other than Utvika quay, such as at the Utvika camp site, and that the decision as to where the casualties were to be taken to was therefore not made by the ambulance scene commander.

– A large number of casualties arrived while this evacuation was in progress.

– At the time the casualties were to be transported, the availability of helicopter ambulance resources was limited at casualty clearing station 2.

Regardless of the reason why Ringerike hospital received 7 casualties with serious injuries who subsequently had to be transferred to OUH, this illustrates the importance of small hospitals also having the capability to admit and provide stabilising surgical interventions for patients with serious traumatic injury. How to achieve this is outlined in the proposal for Organisation of the treatment of seriously injured patients – report from a working party appointed by the regional hospital trusts (unofficial translation) in October 2007.

Municipal emergency medical response
Ringerike intermunicipal out-of-hours primary care centre had to establish outpost services at Sundvolden and assist in medical response at the casualty clearing stations at Utvika quay and Elstangen. The municipal health service succeeded in its performance of these tasks. One of the key factors, and a learning point for future emergency preparedness situations in Norway, is how the challenge of registering patient data in electronic medical records, where mandatory input data was not available, was overcome at Sundvolden by developing a simplified electronic solution.

The MOHs of the municipalities of Hole and Ringerike demonstrated initiative and improvisation ability in their decisions to requisition resources and set up centres for relatives and survivors. Their leadership efforts were of decisive importance. The crisis teams and the administrative support functions also made a valuable contribution.

**Recommendations**

Hospitals and out-of-hours primary care centres that are co-located must review the routines they have for cooperation and triage of patients in the event of major accidents or other incidents that generate a large influx of patients.

– During the operations both in the government quarter and at Utøya, direct contact was established between the medical scene commander and the head of the trauma centre at OUH. The Directorate of Health considers liaison between scene commanders and hospitals as important and it should therefore be formalised, i.e. incorporated into the emergency preparedness plans for major incidents.

– Liaison between the medical scene commander and the head of the trauma centre should in future take place through the Nødnett system and not the ordinary mobile phone network, which is prone to overload in the event of major incidents.
2.3 INJURY SEVERITY AND TREATMENT OUTCOMES FOR CASUALTIES ADMITTED TO HOSPITAL

One important aspect in assessing the quality of diagnostics and medical care is to maintain medical registers. In emergency medicine involving trauma care, both local and national injury registers will be essential elements in this work. Norway has created a national trauma register, which is waiting to be realised in the near future. OUH U has maintained an internal register covering this clinical field for many years (see separate discussion). Describing the degree of injury severity using a scoring system provides a basis for medical training, comparing standards of care and enhanced activity planning in this field. Several different scoring/statification systems exist for objective presentation of expertise concerning injury severity. The following presents tables drawn up by clinicians.

On 22 July we had a situation with a number of very serious injuries. Patient outcomes measured in terms of survival in relation to injury severity demonstrate clearly that diagnostics and treatment were at a high level of expertise.

2.3.1 Injury scoring system

Trauma Score – Injury Severity Score (TRISS) is a set of formulae for determining the probability of injury survival. TRISS is determined from an overall anatomical Injury Severity Score (ISS), physiological status on admission (Revised Trauma Score), injury mechanism (blunt vs. penetrating injury) and age.

AIS, ISS and TRISS are recognised scoring systems for describing anatomical injuries, and for assessing severity and the probability of survival.

The Abbreviated Injury Scale (AIS) is a ranking system for describing anatomical injury. The system comprises descriptions of some 1350 anatomical injuries. Each type of injury is ranked on a scale from 1 (minor injury) to 6 (unsurvivable injury). (OUH has indicated that their injury codes are in conformance with AIS98.)

The total anatomical injury ranking for each patient is obtained using the Injury Severity Score (ISS). ISS is determined from the highest AIS score for 6 different body parts. The ISS is specified on a scale from 1 (a minor injury to 1 body part) to 75 (critical injury to 3 body parts). An ISS of ≥ 16 is regarded as a serious injury, while an ISS ≥ 25 is a critical injury.

Key aspects of the trauma system

It is challenging to have to provide rapid and accurate diagnostics and treatment for patients with traumatic injuries. OUH U is pivotal for the development of a robust trauma system in Norway. The hospital’s long-standing trauma register forms the basis for this development. At weekly trauma meetings, difficult procedures in this field are reviewed as part of the learning process. The same happens at the other major hospitals with comprehensive injury treatment. OUH U has a high intake of seriously injured casualties throughout the year. The hospital covers more than half of the Norwegian population when it comes to dealing with the most severe injuries, and this fact accounts for the high intake and hence extensive experience of the clinical procedures. OUH U is classed a trauma centre group 1 hospital. It has built up multiple teams of specially qualified personnel who undergo regular training. The team leaders receive special instruction and undergo certification in order to be able to perform their duties. A trauma manual has been compiled in which diagnostic procedures and treatment procedures are updated annually. OUH U, like St. Olavs Hospital and Haukeland University Hospital, runs courses in advanced trauma care for colleagues from other hospitals. In this way, treatment capability is becoming increasingly equalised at the hospitals that attend to people with serious injuries in Norway. This lays a solid foundation for enhancing the quality of hospital care for these patient categories.

South-Eastern Norway Regional Health Authority has delegated substantial authority to OUH in the event of disasters. This emerges clearly from both the region’s and hospital’s disaster plans, which comprise both cooperation with the other hospitals in the region and a duty to coordinate the emergency medical response to disaster situations. In this context, cooperation with hospitals in the Oslo area is particularly important.

In response to the incidents of 22 July, several of the other hospitals relieved OUH U of non-trauma patients, and this allowed intensive-care capacity at OUH U to be greatly extended. Intensive-care capacity is often a limiting factor in the event of high influx of seriously ill and injured patients. In this way, Akershus University Hospital and the private hospitals, Lovisenberg Diakonale Sykehus and Diakonhjemmet Sykehus, enabled OUH U to achieve the high capacity that was necessary for responding to these emergencies. According to the Directorate’s information, this also meant that patients in other categories received medical care within the time scheduled under normal conditions.

Akershus University Hospital, which is a group 2 trauma centre, could have relieved OUH U of an even larger number of casualties, cf. the discussion concerning the fact that the number of casualties from the government quarter could potentially have been considerably higher.

Ringerike hospital also has a round-the-clock trauma care function. This hospital receives a steady influx of casualties throughout the year owing to the heavy traffic on arterial roads with many road accidents, extensive holiday areas with alpine ski runs and the inevitable injuries that ensue from this, etc. This background factor together with a conscious prioritisation and training of the hospital’s own personnel means that this hospital has good trauma care capability. Two of the other hospitals under the Vestre Viken Hospital Trust – Bærum hospital and Drammen hospital – now also have a round-the-clock trauma care function, and treat injuries from their respective catchment areas.
2.3.2
The outcomes

OUH Ullevål
OUH Ullevål received 31 patients in all from the government quarter (10 patients) and Utøya (21 patients). The data received from the Trauma Register at OUH show the following:

<table>
<thead>
<tr>
<th>Total</th>
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<tbody>
<tr>
<td><strong>Injuries:</strong></td>
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<tr>
<td>30 of 31 patients had penetrating injuries as the dominant trauma mechanism.</td>
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<table>
<thead>
<tr>
<th>ISS:</th>
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<tbody>
<tr>
<td>Median ISS = 20.</td>
</tr>
<tr>
<td>ISS &lt; 16 = 11 patients</td>
</tr>
<tr>
<td>ISS ≥ 16 = 20 patients</td>
</tr>
<tr>
<td>ISS max = 59, ISS min = 1</td>
</tr>
<tr>
<td>Gender: 12 males and 19 females</td>
</tr>
<tr>
<td>Median age: 19 (Max = 67 years, Min = 14 years)</td>
</tr>
<tr>
<td>Actual survivors: 30</td>
</tr>
<tr>
<td>No. of ventilator-treated patients: 13</td>
</tr>
<tr>
<td>Median days on ventilator: 5</td>
</tr>
<tr>
<td>Median length of stay at OUH U: 18 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The government quarter</th>
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</thead>
<tbody>
<tr>
<td>All the 10 patients from the government quarter arrived directly at the hospital by ambulance from the incident scene and were admitted.</td>
</tr>
</tbody>
</table>

| Injuries: |
| 9 of 10 patients had penetrating injuries as the dominant trauma mechanism. |

<table>
<thead>
<tr>
<th>ISS:</th>
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<tbody>
<tr>
<td>Median ISS = 24</td>
</tr>
<tr>
<td>ISS &lt; 16 = 4 patients</td>
</tr>
<tr>
<td>ISS ≥ 16 = 6 patients</td>
</tr>
<tr>
<td>ISS max = 50, ISS min = 1</td>
</tr>
<tr>
<td>Gender: 5 males and 5 females</td>
</tr>
<tr>
<td>Median age: 29.5 (Max = 67 years, Min = 14 years)</td>
</tr>
<tr>
<td>Expected number of survivors (TRISS): 26.4</td>
</tr>
<tr>
<td>Actual survivors: 10</td>
</tr>
<tr>
<td>No. of ventilator-treated patients: 4</td>
</tr>
<tr>
<td>Median days on ventilator: 15.5</td>
</tr>
<tr>
<td>Median length of stay at OUH U: 18.5 days</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Utøya</th>
</tr>
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<tbody>
<tr>
<td>OUH U received 21 patients in all from Utøya, of whom 12 were brought directly to the hospital by helicopter or ground ambulance, while 9 were transferred from Ringerike hospital (7), Bærum hospital (1) and Drammen hospital (1).</td>
</tr>
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| Injuries: |
| 21 of 21 patients had penetrating injuries as the dominant trauma mechanism. |

<table>
<thead>
<tr>
<th>ISS:</th>
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<tbody>
<tr>
<td>Median ISS: 20</td>
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<tr>
<td>ISS &lt; 16 = 7 patients</td>
</tr>
<tr>
<td>ISS ≥ 16 = 14 patients</td>
</tr>
<tr>
<td>ISS max = 59, ISS min = 1</td>
</tr>
<tr>
<td>Gender: 7 males and 14 females</td>
</tr>
<tr>
<td>Median age: 17 years (Max = 23 years, Min = 14 years)</td>
</tr>
<tr>
<td>Expected number of survivors (TRISS): 19.0</td>
</tr>
<tr>
<td>Actual survivors: 20</td>
</tr>
<tr>
<td>No. of ventilator-treated patients: 9</td>
</tr>
<tr>
<td>Median days on ventilator: 4</td>
</tr>
<tr>
<td>Median length of stay at OUH U: 18 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ringerike hospital</th>
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</thead>
<tbody>
<tr>
<td>Ringerike hospital received 35 patients in all direct from Utøya, of whom 14 had gunshot wounds.</td>
</tr>
</tbody>
</table>

| Expected number of survivors (TRISS): Unknown |
| Actual survivors: 18 of 18 |
| Median days on ventilator: 4 |
| Median length of stay at OUH U: 18 days |

<table>
<thead>
<tr>
<th>Bærum hospital</th>
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<tbody>
<tr>
<td>Bærum hospital received 7 patients in all direct from Utøya, of whom 4 had gunshot wounds.</td>
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</table>

| 2 casualties were treated as out-patients and discharged on the same day |
| 5 patients were admitted. One of these was admitted for another medical problem. |
| The 4 injured patients admitted had ISSs from 12 to 5. |
| 1 patient was seriously injured. ISS = 12. This patient was transferred to OUH U on the same evening. |
| 3 patients had moderate injuries. ISS = 5 |
| Gender distribution: 5 females and 2 males. |
| Average age: 18.7 years (max 26, min 16) |
| Expected number of survivors (TRISS): Unknown – the hospital reports that it does not have systems for TRISS calculations. |
| Actual survivors: 5 of 5 |
In addition to casualties from Utøya, Bærum hospital received 2 other patients from OUH with gastrosurgical complications on 22 July. These patients arrived at 18:02 and 18:06, that is, before the casualties from Utøya. One of these patients underwent surgery at Bærum hospital.

Four patients were brought to Bærum hospital from the government quarter in the HEMS RRV. All four were examined by the out-of-hours primary care centre co-located at Bærum hospital.

Drammen hospital
The hospital received a patient directly from Utøya by helicopter ambulance. The ISS for identifiable individual patients is not recorded.

Another patient presented independently at the hospital, but without injuries necessitating hospitalisation.

OUH Aker
OUH A received 2 patients from the government quarter. According to our information, both patients were referred by the City of Oslo out-of-hours primary care centre.

The Directorate of Health has no information as to the injuries or ISS of these patients.

Diakonhjemmet sykehus
Two patients presented independently at this private hospital from the government quarter. Neither of them had serious injuries.

The level of detail in the information from the treating hospitals is somewhat uneven. Patients with the most severe injuries were treated at OUH U. The high quality of treatment emerges clearly from the figures available. Records of this kind combined with the factors described above also provide a solid basis for research.

2.4 FORENSIC MEDICAL RESPONSE
Based on a meeting with the Norwegian Institute of Public Health’s Department of Forensic Medical Services, and a report from the departmental director on forensics in the wake of the disasters in Oslo and on Utøya on 22 July 2011, the Directorate of Health has the following remarks.

Within the last 25 years, Norway has had to deal with major incidents involving many fatalities at intervals of every five years or so. It is crucial that examination and identification of the deceased is effected both with due respect and as a matter of urgency. Key elements are that all technical prerequisites are properly in place and that a sufficient body of skilled professionals are available for the different branches of forensics. The deceased from the 22 July tragedy were examined and identified within six days. This was achieved thanks to an extensive voluntary effort and high professionalism, and a willingness and ability to improvise.

General preconditions
Responsibility for identification in the wake of incidents involving many fatalities is lodged with the National Identification Group under the National Criminal Investigation Service (Kripos). The ID Group was established by a royal decree of 25 April 1975 and is led by a police officer and is otherwise composed of forensic identification officers, forensic dentists, forensic pathologists/medical examiners and forensic geneticists.

Local preconditions
Large-scale identification operations are ideally located in forensic pathology facilities. This requires sufficient personnel in each branch of identification, sufficient space and technical equipment including high-capacity mortuary refrigeration. In the past, Oslo had sufficient space and otherwise high capacity at the former OUH Rikshospitalet premises. The new OUH Rikshospitalet does not have premises large enough to cope with a major accident/terrorist attack. Several alternative solutions have been under discussion to overcome this major challenge.

22 July 2011
The large number of fatalities made it impossible to examine all the deceased at the Department of Forensic Medical Services’ facility at OUH Rikshospitalet. Among other aspects, it was necessary to improvise supplementary mortuary refrigeration capacity. This was achieved with the highly capable assistance of external companies on the evening and night of 22 July. OUH U and the Department of Anatomy were considered as the most appropriate locations for the onward procedures. The latter facility was selected, since as a teaching department it was closed for the
summer holidays, and it was also the best alternative logistically. Procedures directly involving the deceased were sited at the forensics department at OUH, at OUH Rikshospitalet and the Department of Anatomy with adjoining premises of the Faculty of Dentistry as a logistics room. The forensics genetics procedures were carried out at the Norwegian Institute of Public Health’s Department of Family Genetics with a joint secretariat function with the other branches of the team in buildings nearby.

**Other technical factors**

Mortuary refrigeration units were installed at Utvika and at OUH Rikshospitalet at suitable sites with proper screening. The Department of Diagnostics and Intervention at OUH volunteered its services, facilitating CT scans with transfer to the autopsy rooms. Other necessary IT installations were put in place promptly on the night of 23 July.

**National Identification Group, National Criminal Investigation Service (Kripos)**

In addition to the commander (police), the group consists of an appointed deputy commander, forensic identification officer, finger-printing expert, forensic pathologist/medical examiner, forensic dentist, and forensic geneticist. This group was mobilised on the afternoon of 22 July and held daily meetings until all the deceased had been identified.

**Identification methods**

The so-called primary identification methods were used: forensic dentistry, forensic genetics and fingerprinting.

Secondary methods are: forensic pathology findings, forensic laboratory findings and tactical findings Establishing an identity requires an identity match using two independent methods.

By the evening of 28 July all the victims had been identified and the last group of relatives was notified. By the evening of 28 July all the victims had been identified and the last group of relatives was notified. One week after the disaster, all the deceased had been released for collection.

**The Institute’s evaluation of the situation**

In view of the need for extensive improvisation since it was summer and many staff had to cancel their holidays to travel to Oslo, it is to be regarded as satisfactory that the entire operation was completed in the space of a week. Information for the relatives posed a major challenge. A relatives’ centre was established at OUH’s Gaustad patient hospital. The Department suggests that the heavy demand for information could have been met more efficiently. The National Institute of Public Health was under intense pressure from OUH to provide information. In situations of this kind, the police is the agency that releases information to relatives. This area holds improvement potential. Information should go through a single channel, and arrangements must be made to facilitate this kind of solution.

**Personnel situation**

More than 100 individuals were involved in the forensic pathology procedures and support functions. Given that this was the summer holiday period, just two forensic pathologists/medical examiners were on the roster. However, all members of staff presented for duty voluntarily during their holidays. Forensic pathologists also came from other centres in Norway, resulting in a total of 13 forensic pathologists. The Department of Family Genetics was also mobilised so that there were enough experts to carry out DNA analysis from day one. A new computer application developed in-house aided rapid identification. Eleven forensic dentists were mobilised and took part in the work. The Division for Intervention and Diagnostics, OUH organised forensic technicians, radiologists, radiographers, porters, chaplaincy services, textile supply services, cleaning staff and security services. In addition, four forensic technicians arrived from other centres in the country. The Department of Anatomy provided a forensic anthropologist, forensic technician and cleaning staff.

**The identification procedure**

On the night of 22 July, a medical examiner assisted in securing the deceased in the government quarter. The procedures were then carried out by two teams assisted by the relevant specialists. The Utøya victims were examined from Sunday 24 July. Up to five teams worked simultaneously. The nature of the injuries meant that CT scans were performed before further procedures. There were three-dimensional CT images available onscreen in the autopsy rooms at all times, which greatly aided the procedures. A full examination was made of all victims using the methods of examination and the relevant specialists for each procedure.

**Recommendations**

When planning activities in forensic medicine/forensic pathology, allowance must be made for disaster situations. This means that space must be made for all relevant functions, as well as for improvised, extended technical sub-solutions. There must be adequate technical equipment, including diagnostic imaging equipment such as 3D CT in the autopsy rooms.

Experiences post-22 July 2011 show that there is a need to assess cooperation on routines for providing information to relatives.
2.5 EMERGENCY HEALTH COMMUNICATION

2.5.1 Responsibilities and criteria within the emergency health communication system

In Section 6 of the emergency regulations, the emergency health communication system is defined as:

Nationwide, organisational and communication system for notifying and handling communications concerning the need for emergency medical assistance and communication within the health service.

The following sections describe the division of responsibility between Local Medical Emergency Communication Centres (LEMCCs) and Emergency Medical Communications Centres (EMCCs). The object is for on-call health personnel to be available within a common, closed, standardised and nationwide communications network. In addition, the regional health authorities are under instructions to facilitate the necessary coordination with the fire & rescue services, the police, rescue coordination centres and other partners in the emergency services. The EMCCs and LEMCCs are to be staffed by health personnel.

Section 9 of the emergency regulations specifies EMCC responsibilities as follows:

EMCCs:

- **a)** shall handle calls for emergency medical assistance
- **b)** shall prioritise, implement and provide clinical medical advice and guidance and follow up emergency medical assignments, including notifying and forwarding alerts to other emergency services and any rescue coordination centres, and shall notify other EMCCs affected
- **c)** shall manage and coordinate ambulance dispatches
- **d)** shall have equipment for logging important traffic, including all telephone lines
- **e)** shall operate a Caller ID system*

The EMCCs as entities sort under their respective health trusts, but are closely linked with the individual hospital trauma centres/functions. In emergency medical situations, the EMCCs have important functions. They receive calls on the 113 medical emergency number, assess, prioritise and follow-up calls by mobilising resources. In time-critical situations, the EMCC operator must be able to talk the caller through emergency medical procedures such as cardio-pulmonary resuscitation.

At the EMCCs, nurses are responsible for the operator functions. In addition to the nurses, resource coordinators are responsible for notifying and managing emergency response resources such as ground ambulances and water ambulances, air ambulances and RRVs together with municipal health resources such as on-call GPs or domiciliary nurses. The regulations do not stipulate other specific competence requirements, but the majority of health trusts prescribe their own requirements for EMCC nurses and resource coordinators. KoKom, the National Centre on Emergency Communication in Health, which acts as advisor to central and local government on the running of emergency medical dispatch centres, has drawn up proposals for modular competence plans for staff at EMCCs and LEMCCs.

The complexity and time pressure surrounding emergencies make great professional and communication demands of staff at EMCCs. In order to ensure sound professional decision-making, a decision-support tool has been developed to assist in adequate response and satisfactory advice to callers. The Norwegian index for the emergency health communication system, currently in use at all EMCCs and some LEMCCs, is a national consensus document which promotes equitable emergency medical response throughout Norway. The index is a unique tool, and combined with the health personnel’s own professional expertise, contributes to the high standard that prevails throughout the Norwegian emergency medical services.

2.5.2 Technical solutions for EMCCs and LEMCCs

In order to meet national requirements for communications system solutions, by as early as 1991 regulations had been issued on technical functionality requirements for communications equipment serving the health service’s emergency health communication system. Similar requirements have been made regarding the new digital Nødnett public safety radio network currently under development.

There are at present no national requirements or recommendations regarding ICT solutions within the emergency medical services. In connection with the development of the new Nødnett system, requirements are being made for the technical solutions installed at hospital trauma centres, EMCCs and LEMCCs.

Within the emergency medical services, many different ICT solutions are in use, which are variably interoperable, but all the EMCCs nationwide have now procured two systems that are used for handling calls and dispatches, and resource management.

AMIS (Acute Medical Information System) is a Norwegian ICT-support system used to handle calls and dispatches at all the EMCCs and at larger LEMCCs. AMIS is designed to assist EMCC operators’ follow-up of each individual incident and facilitate documentation of EMCC activities. The system was originally developed in a joint project between the then Ullevål University
Hospital (UUH) and other hospitals with EMCCs/LEMCCs and until as late as 2003 was proprietary to UUH. The product has now been transferred to Nirvaco AS, a private-sector solutions provider which manages and further develops the product.

AMIS systems include a subsystem for transferring or forwarding dispatch screens (AMIS-to-AMIS communication). This function is currently in use between the hospital in Bodø and the University Hospital in Tromsø and between OUH U and City of Oslo out-of-hours primary care centre. At present the overview screen in AMIS-to-AMIS communication does not include an operations log.

TransMed is a fleet management system used by all EMCCs in Norway. TransMed is a key decision-support tool for prioritising and coordinating ground and air ambulance resources. The system gives EMCC operators a detailed map showing where emergency resources are currently located and whether or not they are available. Through TransMed, callers dialling the 113 medical emergency number will be positioned on a map screen and the necessary emergency assignment information and map position can then be forwarded to the ambulance.

The majority of Norway’s 19 EMCCs do not have the option of relieving each other in response to major incidents or of making use of each other’s expertise and capacity because their EMCCs cannot ‘see’ each other’s dispatch screens. The EMCCs are at present independent entities with limited options for interoperability in situations where an EMCC is faced with an extraordinary volume of 113 calls. There also few satisfactory solutions to deal with EMCC downtime or redundancy.

2.5.3 Clinical medical adviser – EMCC doctor
Within the EMCC system, medical responsibility is often undertaken by a doctor, defined as the “EMCC doctor”. On the whole, these doctors have specialised in anaesthesiology. Out of the 19 EMCC nationally, 11 also have a responsibility for HEMS (EMCC HEMS). In many cases, the EMCC doctor also tends to be the HEMS duty physician. This dual role has meant on the one hand that the availability of the EMCC doctor has been limited, and on the other hand that the EMCC doctor has not been sufficiently involved in the day-to-day running of the EMCC.

The dual role is also a potential problem in terms of HEMS mobilisation policy. Policy requires that a HEMS request be notified to the local EMCC. The EMCC assesses the need in accordance with specific criteria and alerts the relevant air ambulance base through its EMCC HEMS. If the assignment is urgent, EMCC HEMS must as a rule use the most suitable/nearest available HEMS resource, even if this is not the primary resource within the relevant EMCC HEMS area. The duty doctor at the air ambulance base has final decision-making authority regarding HEMS dispatch. This decision is based on a clinical assessment, also taking into account resource status and anticipated benefit for the patient. In the event of disagreement between EMCC HEMS and the HEMS physician as regards priorities in a concurrency conflict or out of regard for overall preparedness, the EMCC duty doctor has the ‘veto’ unless the health trust in question has issued special policy rules for this.

Lack of access to joint dispatch screens hindered coordination between EMCC areas.

However, as policy stands, any discussion concerning use of the helicopter air ambulance in relation to concurrency conflicts or out of regard for overall preparedness will be a moot point since the EMCC HEMS doctor and the HEMS physician are in fact one and the same person.

2.5.4 Emergency health communication system and the terrorist incidents of 22 July
EMCC Oslo and Akershus
EMCC Oslo and Akershus (EMCC OA) is located at OUH U and is the country’s largest EMCC with approx. 1,124,000 inhabitants in its catchment area. The EMCC handles 113 medical emergency calls and manages and coordinates ambulance resources in Oslo and Akershus, including two HEMS units at the Lørenskog base on the outskirts of Oslo. The EMCC sorts under the pre-hospital centre at Oslo University Hospital.

The EMCC structure is based on EMCCs as units under the pre-hospital division or trauma department (together with the trauma centre) within each individual health trust. The options for viewing each other’s resource availability are variable. EMCC Buskerud, for example, is unable to access the resource availability of EMCC OA, EMCC Østfold or EMCC Telemark and Vestfold.

EMCC OA also operates the Regional EMCC function (R-EMCC) under the South-Eastern Norway Regional Health Authority. R-EMCC is intended to act as a support function for local EMCCs, rather than take over operational command from them. Procedures have been devised for coordination between the regional and local EMCCs. EMCC OA established itself as the
R-EMCC approx. 70 minutes after the first alert concerning shootings at Utøya were received in Buskerud. EMCC Buskerud has stated that EMCC OA fulfilled its R-EMCC function satisfactorily.

EMCC Oslo and Akershus experienced downtime in the operating system, which must not occur.

According to a report from OUH on the medical emergency response to the terrorist incidents in Oslo and at Utøya on 22 July 2011, EMCC OA received the first of approx. 80 emergency calls at 15:25:59. Owing to capacity problems, only approx. 50% of the emergency calls were answered. EMCC OA has 12 operator posts and 4 emergency preparedness posts. At the time in question, EMCC OA was manned by 4 medical operators, 4 resource coordinators and 1 operations commander. After approx. 35 minutes, additional staffing arrived, consisting largely of people due to take the next shift.

The evaluation report from Luftambulansetjenesten ANS (air ambulance service) indicates that, for long intervals during the Utøya operation, the helicopter air ambulances failed to make contact with EMCC OA over the health service radio network/air ambulance network. This was also confirmed at a meeting with the pre-hospital centre at OUH. However, good contact was maintained with EMCC Buskerud, and many patients were assigned to the hospitals through this contact.

ICT systems at EMCC Oslo and Akershus

During the emergency medical operations in the wake of the terrorist attacks in Oslo and at Utøya on Friday 22 July 2011, EMCC OA experienced delays in the electronic communication between the EMCC and ambulances via the TransMed fleet management system. The delays increased through the evening and eventually the system was found to be non-functioning. This meant that the ambulances were not issued with assignments digitally from EMCC and that electronic registration of incoming telephone calls (Caller ID) and ambulance resource position mapping were no longer possible. The same applied to situation reports from the ambulances and documentation of when emergency response operations took place.

According to what the Directorate has been able to ascertain, this was a consequence of logging of all alerts from AMIS to TransMed having been activated, as a result of ongoing fault-finding in another case. These were alerts concerning new or updated assignments to be sent out to the ambulances. The logging was resource-intensive, but had been in progress for a period without causing any problems, because activity at EMCC was normal before it had to respond to the terrorist incidents.

The incidents resulted in extremely intensive work within AMIS which by then was transmitting an extraordinarily high number of update messages to TransMed for distribution to the ambulances. The logging which was activated in TransMed, combined with the large number of updates, meant that the TransMed server did not have the capacity to handle the data traffic to and from the ambulances. The end result was that assignments were not transmitted and situation reports were not coming back.

IT services provider Sykehuspartner has prepared a report summarising the sequence of events, the measures that have been instituted and plans going forward. The report shows that intensive efforts were made to localise and resolve the problems.

Sykehuspartner activated its emergency preparedness plan at 16:30 and subsequently established a crisis team at Ullevål. Around 15 minutes later, the organisation was notified by EMCC of problems concerning communication with the ambulances via TransMed. The delays were initially believed to stem from data communication over the mobile network, and Telenor, the mobile telecoms provider, was notified immediately. Telenor considered setting up a mobile base station to remedy the situation, but this did not go ahead.

In connection with a review of the operator posts, an error in TransMed was discovered, and it was consequently believed that the cause of the operational problems could be traced to TransMed. The TransMed system supplier, Locus, was contacted at 18:30 and fault-finding extended. Operational needs made fault-finding and remediation difficult, as further disruption could not be risked. By midnight, Locus had located the fault as being in the integration between AMIS and TransMed. The AMIS system supplier Nirvaco was alerted, and Nirvaco and Locus continued the fault-finding jointly through the night. Eventually they determined that the large number of assignments registered against two individual incidents had overloaded TransMed. Efforts were then concentrated on changing the way in which AMIS sent updates to TransMed. At approx. 4:30, a software patch was provided by Nirvaco. Sykehuspartner and Nirvaco assessed the risk of implementing this in the live system, and decided to proceed. Initially this appeared to improve the situation, but the delays gradually resumed. More changes were made, resulting in minor improvements. At 10:00 on Saturday morning it was decided to reconfigure AMIS so that the problematic incidents could
Large capacity

The mobilisation of health personnel and transport resources was extensive at both incidents.

be filtered out of the integration. This was supplied by Nirvaco at approx. 12:30 and implemented in the system at approx. 13:00. After this, no problems were observed that could be linked to this.

Based on the experiences gained, it was concluded that the TransMed installation at OUH did not have sufficient capacity to deal with the system loads that it could potentially be expected to cope with. The reason for this was that the system suppliers had altered components of the architecture and the way in which the AMIS and TransMed systems interacted, but without scaling system capacity up correspondingly.

A comprehensive review of the system and implementation of essential changes was vitally necessary. Both Nirvaco and Locus have dealt with this on their own initiative, and OUH and Sykehuspartner find that they have received dedicated attention to this and follow-up after the incident. Other EMCCs running TransMed fleet management, in other words, every one of the Norwegian EMCCs, were informed by system supplier Locus of the necessary measures to prevent critical states such as those at OUH from arising, and rapidly supplied software patches.

**EMCC Buskerud**

EMCC Buskerud (EMCC B) is the only EMCC in Norway that is co-located with the emergency call centres, in its police district and fire & rescue service; South Buskerud police district and Vestviken IKS 110, which is the emergency call centre for the fire services in Vestfold and Buskerud. These three emergency call centres share the same premises. This co-location has no bearing on their respective responsibilities, as the three emergency call centres operate in separate rooms and receive emergency calls on their respective emergency numbers. EMCC B serves approx. 298,700 inhabitants in the hospital catchment area.

The co-located emergency call centres for fire & rescue, police and emergency medical services have different geographical catchment areas, and it is important to bear in mind that Utøya is in North Buskerud police district’s jurisdiction. North Buskerud police district’s emergency call centre is located at Hønefoss. During the shootings at Utøya, however, a large number of 112 emergency calls were placed with South Buskerud police district. This was caused by faulty routing on the part of a mobile services provider (Netcom).

EMCC B has a total of 8 operator posts. The normal staffing level is 4 operators covering day-time hours, 3 covering evenings and 2 through the night. At weekends, EMCC B is staffed by 3 operators on all shifts. Each shift team should ideally have an operations supervisor in addition to the shift teams, but this has proved difficult to achieve.

On 22 July 2011, EMCC B was staffed by one operations supervisor and three operators, but following the bombing incident in Oslo, EMCC B had already been upstaffed, even before the first alerts of the shootings.
at Utøya came in. Since EMCC B at this stage had not yet implemented the new control room solutions accompanying the new Nødnett system, it has not been possible to extract data on how many 113 calls were made to the EMCC.

EMCC B has established a system of emergency preparedness webs that permit communication with EMCC staff from locations outside EMCC.

During the Utøya emergency medical response, contact was established between the doctor at the casualty clearing station and the trauma centre manager at OUH. The decision as to where to take the casualties, and by which resources, was largely made between these lead coordinators. This meant that EMCC B was only involved to a limited extent in distribution of the casualties from Utøya.

**Evaluation**

As a matter of principle, no EMCC must be affected by downtime at any time. The public should be able to get through to the medical emergency number 113, and the EMCC must be sufficiently operationally robust that it can fulfil its functions at all times. The Directorate of Health sees the substantial operational problems experienced by EMCC Oslo and Akershus in connection with the incidents in Oslo and at Utøya on 22 July 2011 as a matter for serious concern.

Integrated and realistic end-to-end testing of systems subject to high loads is not carried out due to a lack of investment in test environments. Testing in the operational environment must, where necessary, be done with the utmost caution. Technical and operational security audits must be carried out at EMCCs on a routine basis. Under such audits, the ICT systems must undergo stress testing. This is crucial before new or revised software is implemented.

Establishing national ICT requirements for EMCC and LEMCC systems is a matter of urgency. The object must be to put in place robust solutions to ensure that all EMCCs are linked in a single system that maintains continuity and capacity so that the individual EMCCs can relieve or take over from each other. Regional EMCCs must be provided with facilities for gaining a sufficient overview and proper capacity for performing a coordinatory function. Requirements must be laid down for a common technological platform supporting requirements regarding call and dispatch handling, documentation and efficient operation and patient flows.

**Recommendations**

Technical and operational security audits must be carried out at EMCCs on a routine basis. Under such audits, the ICT systems must undergo stress testing. This is crucial before new or revised software is implemented.

- All changes in the configuration of AMIS/TransMed or other applications should be registered in a change management system, so that recent amendments to the system can be seen at a glance.
- Better logic needs to be implemented with regard to major loads on the EMCC systems by having the systems automatically de-prioritise less important tasks and information.

**2.5.5 The function of EMCCs and scene commanders in the event of major incidents**

One important observation concerning the events both in the government quarter and at Utøya is that the command and coordination of the health resources was largely moved out from the EMCCs to the scene command centre under the medical scene commander. In both the government quarter and at Utøya (casually clearing station 2 at Elstangen/Storøya), the medical scene commander liaised directly with the head of the trauma centre at OUH U to arrange admission of patients. Liaison was by mobile phone and based on personal acquaintance. During the Utøya operation, there was, however, no liaison between the medical scene commander and the head of the trauma centre or others at the Ringerike hospital trauma centre.

Through a meeting with health personnel involved, the Directorate of Health’s working party has been made aware that doctors from the specialist health service who participated in the emergency response operations in the government quarter and at Utøya have questioned whether out-of-hours primary care physicians have the requisite competence to act as medical scene commanders at major incidents (M17).

Within the remit of the working party’s report, it will not be possible to perform a detailed review of the health service scene command and allocation of tasks between EMCCs and the scene commanders. The above observations nonetheless give cause for reflection on the future organisation and allocation of tasks amongst different responders to major incidents.
In normal situations, EMCCs supervise local emergency medical resources, such as ground ambulances, helicopter ambulances, out-of-hours primary care centres and so forth. Using digital mapping, positioning services and situation reports for the individual units, the EMCCs then maintain an up-to-date overview of available ambulance resources. The EMCCs also have an overview of local and regional competence and resources in respect of hospitals, and normally liaise with the hospital trauma centres on the admission of casualties.

It is assumed that the EMCCs will have an EMCC duty doctor who will be able to assist the EMCC operators as required. Such assistance will be especially important in complex situations, such as major incidents and disasters. From experience however, the EMCC duty doctor is often on-call elsewhere, either in the hospital’s anaesthesiology department or as a HEMS physician, as is the case at EMCC OA and EMCC B. This means that in practice the EMCC duty doctor will not be able to assist the EMCCs in the event of major incidents. For the operation in the government quarter, no EMCC duty doctor was alerted.

The search and rescue (SAR) service in Norway is based on the cooperative principle, which means that all national, local authority and private resources and organisations that are suitable for emergency response in order to save lives must be able to be mobilised for SAR response. The Ministry of Justice has administrative responsibility and issues guidelines for the organisation of the SAR service.

The manual for the SAR service describes the organisation of at-scene activities. It specifies that the function of medical scene commander (MSC) is to be filled by an out-of-hours primary care physician. The manual dates from 1970 and is currently being revised. The Directorate of Health has the following understanding of the MSC’s function and responsibility.

The MSC shall organise, command and coordinate the medical response at the incident scene and cooperate with other health services. This involves responsibility for managing the task of examining, assessing, prioritising and treating casualties involved in the incident, with the aim of onward transport and treatment. Furthermore, the MSC shall:

- Lead and coordinate the medical response and first aid response at the scene.
- Cooperate with relevant commanders at the scene; Be the scene commander’s advisor on medical matters.
- Ensure that prioritisation and evacuation take place in a medically appropriate manner.
- Contact the EMCC duty doctor and local SAR physician to brief them on the medical situation at the scene.

The MSC will often need assistance to organise and coordinate the ambulance resources at the scene. For this reason, an ambulance scene commander (ASC) is routinely appointed. The ASC function is usually covered by ambulance crews, as a rule the most experienced ambulance operative in the first ambulance to arrive on scene.

We did not register professional disagreement about which member of staff should cover the role of ASC. On the other hand, it appears clear that there is a certain confusion with regard to differentiating between the MSC and the ASC. There also appears to be a need for a more precise description of the ASC’s function.

As noted by way of introduction, we registered some professional disagreement concerning who should cover the function of MSC. The SAR service manual states that the MSC function should be covered by an out-of-hours primary care physician. However, Section 4 of the Norwegian Health Personnel Act makes the decision on who should perform this task discretionary. “Health personnel shall conduct their work in accordance with the requirements of professional responsibility and diligent care that can be expected based on their qualifications, the nature of their work and the situation in general”. This means that the out-of-hours primary care physician must continually assess how the task of MSC is to be performed and whether it is appropriate, at any given time, to cede this responsibility to a personnel member with more experience and other qualifications in specific situations.

Which health personnel arrive on scene and who arrives first are both variable. Sometimes ambulance crews will be the only health personnel on scene. At other times, the out-of-hours primary care physician will be on scene before the ambulances arrive. In other cases, ambulance crews will only receive assistance from the HEMS physician. In the event of a lack of health personnel resources, it will not always be possible to establish the MSC function at all. For example, this was the case at casualty clearing station 1 at Utvika quay during the Utøya operation.
Experience indicates that there should be a more flexible definition of who is to fill the MSC role. Available professional expertise and local conditions should be given emphasis.

The Directorate of Health believes that the allocation of tasks between the EMCC, the scene commander and the manager/coordinator at the hospitals’ trauma centres should be more precisely defined and seen in context of the expertise present at the EMCC and the scene. For example, account should be taken of whether the EMCC duty doctor is present at the EMCC during operations.

### Recommendations

The health service’s scene command needs to be reviewed. The health authorities must ensure that common national qualification requirements and function descriptions are prepared for medical scene commanders and ambulance scene commanders. The function descriptions must be incorporated into the health service’s planning.

- The division of roles and responsibilities between EMCCs, scene commanders and the head/coordinator of hospital trauma centres must be reviewed and clarified.
- Liaison between medical scene commanders and the hospital trauma centres should take place on a logged line in the digital Nødnett system and not by mobile phone.

#### 2.5.6 Alerting, control and coordination of air ambulance resources

Norway has 12 anaesthetist-manned helicopter ambulances stationed at 11 bases, 6 anaesthetist-manned SAR helicopters and 9 fixed-wing air ambulances crewed by specialist nurses stationed at 7 bases.

In contrast to the fixed-wing air ambulance service, the rotary-wing helicopter ambulance service is not controlled or coordinated at either regional or national level. From the applicable requisitioning guidelines for the air ambulance service, it ensues that a need for helicopter ambulances must be notified to a local EMCC. The local EMCC must assess the need and alert the relevant air ambulance base through its EMCC HEMS. The duty physician at the air ambulance base has the ultimate medical decision-making authority on the use of a helicopter ambulance. The flight commander has decision-making authority in respect of operational assessments.

Medical decisions on the use of a helicopter ambulance must be made based on a clinical assessment, also taking into account resource status and anticipated benefit for the patient. In the event of disagreement between EMCC HEMS and the HEMS physician as regards priorities in a concurrency conflict or out of regard for overall preparedness, the EMCC duty doctor has the ‘veto’ unless the health trust in question has issued special policy rules for this.

For the Utøya operation, a total of 6 helicopter ambulances from the national air ambulance service (Lørenskog 1-1 and 1-2, Dombås, Ål, Arendal and Stavanger) participated. The SAR helicopters from Ørlandet and Rygge also took part. Three Bell helicopters from 720 squadron at Rygge were also involved in the operation but under police command.

The helicopter ambulances made 10 of the 12 casualty transfers from Utøya to OUH, and one casualty transfer to Drammen hospital. They also transferred a total of 3 patients from Ringerike hospital. In addition to casualty transport, Luftambulansetjenesten ANS (air ambulance service) was also an important resource for the transport of emergency medical personnel and equipment out to the Utøya casualty clearing stations.

Based on a review of the report from Luftambulanse­tjenesten ANS and other information the Directorate of Health has obtained, it is apparent that 3 of the 6 helicopter ambulances themselves took the initiative vis-à-vis EMCC OA or EMCC B, to fly to Utøya to assist in the operation. In other words, their participation was not primarily the result of a request for assistance from a local or regional EMCC.

The fact that all the helicopter resources mentioned were in place when the evacuation of casualties from Utøya began was also coincidental. The helicopter from Arendal had delivered another patient to OUH at 18:12, and the helicopter from Dombås had delivered
As for the participation in the Utøya operation of the helicopter ambulance in Stavanger, this was the result of a HEMS duty physician contacting EMCC OA, who requested assistance for the response in the government quarter. The helicopter took off from Stavanger at 16:31, but due to bad weather had to follow the coast from Stavanger to Oslo and therefore only landed at OUH U at 18:41. The operation in the government quarter had however been concluded by around 17:00.

**Evaluation**

As stated, the HEMS duty physician also acts as EMCC duty doctor at a number of EMCCs, including EMCC OA and EMCC B. This means that the plan for EMCC doctors to participate in the decision on the use of helicopter ambulances does not work as intended. This in turn may mean that decisions are made on the use of helicopter ambulances without the necessary strategic assessments being made.

EMCC OA did not alert the air ambulance service about the explosion in Oslo on 22 July. The air ambulance service has an important function in the event of major incidents, both in relation to the transportation of emergency medical expertise and emergency equipment to the scene, but also for the transfer of the seriously injured to hospital in the case of long transfer distances. The air ambulance service must therefore be alerted of such incidents, as defined in the routines.

Significant redeployments of air ambulance resources in South Norway were made on 22 July. The nearest available ordinary helicopter ambulance was in Bergen. This indicates that there is a need for better supervision of emergency response control and the deployment of helicopter ambulances in situations such as this. It should also be emphasised that the distance from Utøya to Oslo is relatively short.

In line with the report from Luftambulansetjenesten ANS, we note that due to a lack of fleet command coordination, it was not possible for the local EMCC, in this case EMCC B, to see the air ambulance resources from the Lørenskog base (2 helicopter ambulances), the Stavanger base and the SAR helicopter from Rygge. In our assessment, the lack of such resource overview impairs the EMCC’s capability for coordinated fleet command of air ambulance resources involved.

Luftambulansetjenesten ANS has acquired flight following data from EMCCs involved on 22 July. They have concluded that the flight following function for helicopter ambulance resources involved was highly deficient during the emergency operation on 22 July. Documentation from involved EMCCs with flight following responsibility is also highly deficient. There was also doubt about which EMCCs actually had responsibility for flight following during the different phases of the operation. Luftambulansetjenesten ANS concludes that deficient flight following entails an increased flight operations risk.
The Directorate of Health's assessment is that neither the necessary resources nor competence have been allocated to local EMCCs to control, coordinate and document the use of helicopter ambulance resources.

We believe that it is important to remedy this at either a regional or national level. In our opinion, responsibility could for example be allocated to one or a few EMCCs with dedicated and qualified personnel.

**Recommendations**

The regional health authorities must ensure that systems are established to allow oversight of ambulance and air ambulance resources to be maintained at EMCC, individual health authority and regional levels. The EMCCs should be able to relieve each other's load and utilise each other's competence and capacity.

The flight following function must be reviewed and strengthened both at the EMCC HEMS and in respect of the R-EMCC function. This work should be headed up by the hospital trusts' national air ambulance service organisation in partnership with selected EMCC HEMS.

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**2.6 Communication between health resources and other emergency services**

Quick and secure communication and information exchange between the health service's resources and the other emergency services is crucial for being able to limit injuries, save lives and protect responders in the event of major incidents and disasters. Access to necessary resources, sufficient capacity and signal coverage in the communication solution is necessary to allow the health service to perform its tasks satisfactorily.

**2.6.1 Transition to use of Nødnett public safety radio network**

The emergency services in Norway generally use separate analogue communications solutions with separate service-specific infrastructures and radio channels. These solutions have limitations in terms of radio coverage, capacity, interoperability and functionality. The health service has its own nationwide radio network, while the police have one network for each police district and the fire services have more than 200 local networks. For intercommunication between the services, a number of common channels have been established.

On 18 December 2006, the Norwegian Parliament decided that the Ministry of Justice could begin the work of supplying a new digital communications network – Norwegian Public Safety Radio, usually referred to simply as Nødnett – to 54 municipalities in Eastern Norway. The radio network was fully implemented in this area in advance of 22 July 2011. Oslo was included in this implementation, while Utøya in the municipality of Hole was outside the implementation area. Based on the experiences of implementation of the network in Eastern Norway, on 9 June 2011 Parliament resolved to extend Nødnett to the rest of the country.

Nødnett is a new joint digital network with good radio coverage and high capacity based on the European TETRA standard. Communication is encrypted to prevent eavesdropping. The technology provides better options for control, coordination and interaction than the traditional analogue networks used by the services. The new digital network has full redundancy, i.e. duplicated lines to base stations and EMCCs to safeguard operation and functionality if individual lines fail. Nødnett is considered to be a more robust means of communication than the commercial mobile network. It will withstand failures in, for example, power supply, mobile networks and landline telephony.

By 22 July 2011, the health service was well advanced in its use of the new Nødnett. The EMCCs and ground ambulance services within the first implementation area used the system as their ordinary radio network. The municipal and air ambulance services had not deployed the network. In its plans for transition from the old to the new network, the health service had envisaged emergency operations in which users of both old and new solutions would act in concert.

The EMCCs and ground ambulance services therefore had equipment which allowed them to communicate over both the new and the old networks throughout the area in question.

The Norwegian Directorate for Emergency Communication (DNK), on the basis of documented data following the terrorist attacks of 22 July 2011, prepared a report showing communications traffic, patterns of use and capacity, and which indicates areas for
improvement in the network. During the incidents, DNK alerted operations managers to ensure monitoring of base stations and network elements in the affected area, and was rapidly able to establish that the emergency network was not affected. It was mapped that users had access to all services and base stations in the affected areas. DNK contacted the emergency services’ operations centres to notify them that Nednett was not affected and to get feedback from the services concerning any performance or quality problems they had. The emergency services’ operations centres implemented measures to allow access for technical personnel (D22). DNK’s management contacted the Directorate of Health and reported regularly on the status of Nednett on 22 July and throughout the weekend.

2.6.2 Simultaneous use of new Nednett public safety radio network and old health service radio network
During the events in Oslo and at Utøya, there were health personnel who used Nednett for communication as normal, while others were only accessible via the analogue health service radio network. This presented some difficulties, but these were mainly resolved since there were pre-existing procedures and routines for such situations.

Oslo:
For the Oslo response, a total of 70 different units from the health service were involved. Most of the units were connected to the new digital network. DNK registered activity on 268 radio terminals from the health service in Oslo during the incident (D22, D100). In its report, DNK showed that communication essentially took place within predefined talk groups. One-to-one communications and SDS messages (text messages in the digital network) were not much used.

An ordinary Nednett talk group was used by the ambulance service in Oslo for the operation. General operations were moved to another talk group. EMCC OA enabled in parallel a channel on the health service radio network for communication with resources that did not have Nednett access. The EMCC describes the traffic on this channel as minimal. A technical interconnection between the new and old networks was not employed.

For the response in Oslo, an extra health team was deployed. The pre-hospital division at OUH has reported that it did not have sufficient communications equipment for all the extra health teams, which accordingly only communicated over the mobile phone network.

The ‘redning1’ joint interservices talk group was not in use in the initial phase. The ambulance scene commander states that he was not in contact with the scene commanders from the other two emergency services until they were in visual contact on scene. The incident manager’s command post, with fire scene commander, police scene commander and ambulance

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Figure 6: Transition to digital Nednett system

**Analogue radio network**
- Own infrastructure
- Own channels
- Limited coverage

**Digital Nednett system**
- Resource sharing
- Common talk groups
- Good coverage
scene commander, was established after approx. 27 mins. Communication between these scene commanders then took place face-to-face. There is no evidence that any lack of opportunity to communicate between the three services’ incident commanders adversely affected planning, performance and responder safety.

The emergency services’ operations centres in Oslo communicated by control room telephone. The three centres have a dedicated talk group named ‘11X’. This is aimed at allowing rapid simultaneous exchange of information between the three centres. This talk group was not used. It is apparent that no practice has been established for using this talk group in the event of a triple alert.

The health service has reported that users found Nødnett to work well. We have received no information about how the resources who used the analogue health service radio network experienced communication and information flow. They had sufficient capacity and coverage for performing their work (D82, M17, M23).

All functionality was available throughout the entire incident. EMCC OA has reported that Nødnett operated without problems even when a number of the other control systems at the centre were unable to manage the load from the operation (D82, M17, M23).

Utøya:
At the incident at Utøya, a total of 57 registered health units took part in the operation (D100).

Due to the partial implementation of Nødnett, EMCC Buskerud (EMCC B) had divided the operational area into two:

- South Buskerud, where Nødnett had been implemented.
- North Buskerud, where it had not.

This is because the implementation areas for the initial Nødnett deployment correspond to the police districts and not the EMCC areas. Utøya is in North Buskerud, where Nød nett has not yet been implemented. In this area, local resources from the health service and the other emergency services use their own service-specific analogue communications networks. The ambulance service, which operates on the boundary between the two areas, has the equipment and expertise to communicate on both radio networks. Many of the resources that came to assist in the response used Nødnett as their main communication tool, while others were on the analogue radio network. Nødnett had only partial coverage. EMCC B decided that communication should take place over the health service radio network, since the incident scene was in North Buskerud.

The EMCC implemented an operational connection in the area, and the connection was opened so that users did not have to send a call signal to be able to communicate over the network. According to our understanding, no common interservice rescue channel was used on the analogue networks (M24). The municipal health services communicated essentially by mobile phone (D91, D95).

The ambulance resources, both those local to the EMCC B area and those sent in from surrounding areas, had equipment for communicating via the health service radio network.

The police in North Buskerud and the fire service in Hole and Ringerike municipalities operated via their own analogue networks. Among the responders from the different emergency services and assisting organisations, many had digital Negnett equipment, some had analogue health service radio network sets, some had both and some only had mobile phones.

It has not been possible to verify if the local SAR plan for North Buskerud police district and the health service’s emergency preparedness plans include a plan for how interconnection between the new and old networks is intended to be used where so required by an incident.

The head of the trauma centre at Ringerike hospital was not able to contact the ambulance scene commander/medical scene commander in order to obtain an overview of the expected flow of casualties and from this an overview of the scale of the incident. He was therefore not well-placed for planning his resources. Contact between the ambulances on scene and the hospital trauma centre was not possible because of the high volume of calls to the trauma centre (M10).

As far as possible, the mobile phone network was used for communication between the medical scene commander and the head of the trauma centre at OUH to manage the casualty flow. Responding teams from the hospitals did not have adequate communications equipment with them (D82, M10, M17, M24).

Direct Mode Operation (DMO), a walkie-talkie-type communication function between users of Nødnett radios, was not extensively used. The health service’s and other emergency services’ users could not communicate in shared DMO groups as anticipated, because the services’ radios were differently programmed.

Limited coverage and quality of communication created uncertainty at the transportation control station and evacuation centre at Storøya. This may have been a contributory factor in severely injured casualties, who had been triaged for direct transportation to OUH, being taken by road ambulance to Ringerike hospital instead (D1). A number of people have reported that, during the incident, the health service radio network was
unstable, variable, and at times poor. In one instance, a scene commander contacted the EMCC by mobile phone to get the EMCC to reset the radio control unit for the local health service radio network, to improve its functionality and accessibility (D1, M17, M23, M24). Different responders struggled to contact each other due to different communications solutions. The mobile phone network in the area was found to be unstable, and at times responders were unable to access it (M17, M23).

**Evaluation**

From the data collected, there is no indication that, for the incidents in Oslo and Utøya, any established plan was deployed for the health service’s communication and radio procedures for major incidents. There is the impression that there were no plans for how the available channels, health service radio network and Nødnett were to facilitate necessary communication and information exchange. It seems that assessments and decisions on communication paths and solutions were made on the fly by the health personnel themselves.

Details concerning the incidents of 22 July, in which the responders had different communications solutions, provide no basis for stating that the health service’s response was obstructed or delayed. The review of the events shows that communication between the new digital Nødnett system and the analogue health service radio network created problems and requires established guidelines and intercommunication plans.

**Recommendations**

Guidelines must be prepared for communication between users of the new digital Nødnett system and the existing analogue health service radio system in the forthcoming expansion phases of the digital system.

– Plans for the organisation and use of radio communications must be established in the organisation to provide oversight for incidents and safeguard information flow. The plans must be agreed within the health service and harmonised with the other emergency services. All health personnel must be trained in their use.

– In common with the health service’s own assessments, the Directorate of Health recommends that extra radio communications equipment should be procured and made permanently available for when extra personnel are called in and for responding teams. This is important for safeguarding interaction, information flow and coordination.

– Established routines for interconnection of, and communication over, the new and old networks should be used when there are visiting resources from beyond the Nødnett implementation area.

**2.6.3 Vulnerability in the use of the public mobile network for major incidents**

During both incidents on 22 July, the public mobile network was subject to huge traffic loads.

This was due to its use by victims and relatives, the general public, incident responders without radio links, and because of streaming and other activity by media representatives. Extra responders who were not originally on call, but who were called up, did not have access to radio equipment and communicated by mobile phone. The municipal health services in Hole only used public telecommunications networks for communication during the incident, and Ringerike municipality was scarcely accessible over the health service radio network and primarily used mobile telephony.

Contact between key health resources, such as trauma teams, responding teams, emergency preparedness in municipalities, health trusts and public administration, was via the mobile network.

From both the areas, the mobile network was described by the key participants in the incident as unstable and at times unavailable. This created risk and vulnerability with regard to the availability of key resources, the communication of time-critical information, oversight, control and coordination of the incident and response.

Information exchanged by mobile phone is between two parties and requires important information to be forwarded onwards to the incident’s central resources. Communication via the Nødnett system means that information can be communicated to a large number of participants simultaneously, with clear benefits in efficiency and coordination.
CHAPTER 2

Learning for better emergency preparedness – The medical response to the terrorist incidents of 22 July 2011

Evaluation
The use of mobile telephony as a means of communication for major incidents and disasters is vulnerable. The risk of public networks being overloaded is substantial. In the event of reduced capacity, key contributors to the response do not have priority. The mobile network depends on commercial entities and does not have redundancy in the event of damage to parts of the network. The solution is therefore not robust enough to guarantee the communication of time-critical information and the necessary availability of key resources during major incidents.

Instability and limited coverage may result in reduced voice quality and constitute a risk of misunderstandings and loss of information.

Recommendations
Health personnel who are participating resources in disaster situations, and participants who are providing crisis management and other core functions, should be defined as users and available in the Nødnett network.

2.6.4 Use of options and functionality in the Nødnett system
The terrorist attack in the government quarter was a major and extraordinary incident with many people injured and otherwise affected. This provoked a lot of communication traffic and many tasks to be performed.

The implementation of Nødnett has given the health service a more robust communications tool. The radio equipment is more technologically advanced and has functionality to streamline and guarantee communication between the responders to an incident.

A number of the units involved in the Oslo response have reported problems making contact with the EMCC. They had access in the talk group, but got no response from the EMCC. This problem cannot therefore be ascribed to the technology. The lack of contact must be due to a lack of capacity in the EMCC or faulty use of the technology.

Interconnection of the new and old networks was not undertaken, which presented major difficulties for the EMCC personnel since they had to monitor the activities in multiple talk groups and communicate necessary information between them.

Text messages (SDS messages) in the Nødnett system were not widely used. By sending important information using SDS messages, one can be sure that participants in an incident/operation receive the information at the same time. The information is received by everyone; regardless of whether they are in very noisy areas, are engaged in treating patients or in other discussions. This can then reduce the communication need and increase availability in the EMCC.

DNK’s report on the incident in Oslo shows that only a few of the available talk groups in the health service were used. The survey shows a lot of activity in active talk groups. Many participants and a lot of activity in a talk group can mean that resources have to wait for their turn to talk. Continuous activity and information flow in a talk group make it difficult for personnel to take in everything that is said. It can be difficult to separate out information that is important for the individual’s contribution. Segmenting the responders into several talk groups reduces the amount of activity in each group, and improves information flow and availability for the user.

A number of resources have reported that they got no response when they called the EMCC to report important information or to request essential clarification. An ambulance scene commander (ASC) has reported that it is important for organisation and control of the incident that the EMCC is available for conferring with. The ASC would like network priority to ensure access within talk groups and contact with EMCCs. The EMCC operators have the option of choosing which talk groups to monitor. Monitoring of fewer talk groups means that the operator is better placed to distinguish and respond to calls without being disturbed by traffic in multiple talk groups. Allocation and planning of which talk groups operators are to monitor helps share the workload in the centre, ensures availability and hence improves quality.

The segmenting of responders, use of multiple talk groups and allocation of the monitoring of talk groups in EMCCs demands a good emergency preparedness plan with an associated communications plan. Users must familiarise themselves with it through daily use of the principles of the plan, including in minor incidents. For selecting and switching talk groups, users need to have been properly trained and to feel confident in the use of the equipment. Such confidence can only be instilled by daily use of the equipment and its functionality.

A common SAR group across all emergency services was not used, as provided for in the main
communications regulations for the emergency services. This may have meant that time-critical information at the beginning of the incident did not reach all the emergency services and that the establishment of a command post by the individual services’ scene commanders was delayed through them failing to find each other at the chaotic incident scene. A shared talk group to ensure information flow and availability between the emergency service communications centres was not used either.

**Evaluation**
The Nødnett system worked well during the incident in Oslo. The users found that the expected functionality was available and that voice quality and coverage was satisfactory.

The range of Nødnett’s available functionality was not widely used. The health service needs to deploy the Nødnett system so as to exploit the options it has available for streamlining and safeguarding the response effort. Users in the health service should familiarise themselves with optimal use of the network, and have established guidelines for how and when the different functions should be employed. It is important for the functionality to be employed in users’ daily activities, so they are prepared and can maintain the necessary competence.

**Recommendations**
The services connected to Nødnett should have effective plans and systems for how to use the available functionality to support incident response.

- The health service must have agreed procedures and regular drills for communicating in and using the Nødnett system within its own organisation and with other emergency services at local level. All on-call health personnel should be included in this.

**2.7 SELECTED EMERGENCY MEDICINE LEARNING AREAS**

**2.7.1 Summoning personnel**
There was a considerable supply of health personnel on 22 July. This appears to be due to some extent to alerts made by employers, but also because many employees became aware of the incidents through the media. Had the incidents happened at night or at a time when far fewer people would have been watching the media, the number of health personnel reporting for duty without having been summoned would have been much smaller. Some of the health services involved explained that the systems they have for alerting and summoning personnel are largely based on managers manually phoning or sending text messages (SMS) to staff.

These arrangements appear to be resource-intensive and subjective, and to carry a significant risk of failure. It appears that some managers found that employees who were on holiday did not answer the phone and they had to leave voice messages on answering machines or send SMSs, which was very time-consuming. A report from the pre-hospital division at OUH notes that alerting was somewhat arbitrary, and there was little overview of who was able to attend and who actually did attend.

Some organisations have however established systems for automatically alerting staff. These include systems that send out alerts as recorded voice messages or SMSs to the recipients. The call system can be tiered, by sending, for instance, alerts concerning mandatory summoning, stand-by at home or duty cover for working staff.

The call system can also be tailored so that recipients respond by key press, for example: 1 = message received – cannot attend, 2 = message received – can attend within 3 hours, 3 = message received – can attend immediately. Based on this response, the system creates an up-to-date report of the number of people who can attend at different times. By dividing recipients into different personnel groups, more specific resource overviews are obtainable, e.g. of doctors, nurses and other personnel.

**Recommendations**
Health enterprises with important preparedness functions must establish functional and secure systems for alerting emergency medical resources and calling up personnel.
### 2.7.2 Triage of casualties at major incidents

Triage is the systematic categorisation of the medical condition of casualties and their treatment requirement based on predetermined fixed criteria. The objective is to distinguish between casualties who are critically injured, seriously injured, slightly injured or are dead. Some triage systems also specify how the casualties are to be distributed between treatment levels in the local health service. Triage at an incident scene must ensure that those casualties who have seriously deteriorated vital functions receive rapid medical care and are taken to hospitals with the right expertise. At the same time, the systems must ensure that casualties with a less critical treatment requirement are systematically evaluated and prioritised, so that they receive help without overloading the treatment capacity from the outset.

There is currently in Norway no national system for the triage of casualties. However, a number of different systems are being established by different services and health trusts. One example of this is the Vestfold and Telemark hospital region, which is in the process of implementing METTS (Medical Emergency Triage and Treatment System).

OUH received a total of 31 casualties from the incidents in the government quarter and at Utøya. Of these, 20 had an ISS ≥ 16, i.e. serious injuries. 11 had an ISS < 16, i.e. moderate to light injuries. 1 of the 31 casualties died after arrival at the hospital. In a meeting with the Directorate of Health on 31 January 2012, trauma centre management at OUH stated that 3 out of 10 patients from the government quarter could have been treated at a different and less specialised hospital than OUH Ullevål (OUH U) without significant loss of treatment quality. The ISS for the casualties that were brought to OUH from Utøya also indicate that one or more of these patients could have been treated at another and less specialised hospital than OUH U without significant loss of treatment quality.

Overall, this indicates good pre-hospital triage of the casualties that were sent to OUH U. There was however a certain tendency for overtriage. The overtriage had no adverse consequences, since OUH had significant unused treatment capacity.

Ringerike hospital received a total of 35 casualties. 17 of these were treated as outpatients while 18 were admitted to the hospital. The injuries sustained by 7 of these were so serious that they were subsequently transferred to the trauma centre at OUH U. That such a large number of casualties who did not need hospitalisation were transported to Ringerike hospital may in part be explained by the fact that Ringerike intermunicipal out-of-hours primary care centre is co-located with the hospital, making it natural to transport casualties there. All the casualties were admitted to the hospital's trauma centre. The out-of-hours primary care centre received none of them. The out-of-hours primary care centre, prepared as it was with personnel and equipment, could have relieved the trauma centre substantially. Whether it may be considered a misassessment to have transported the 7 casualties to Ringerike hospital instead of directly to OUH depends on the reason for this choice. The Directorate of Health has not been able to clarify this issue.
The effective pre-hospital triage that was performed was due at least in part to the presence of experienced emergency medical staff who understood the procedures. In situations where this type of expertise is not available, effective triage will largely depend on coherent triage systems having been established.

The fact that different health trusts are developing different casualty triage systems is considered as highly unfortunate, especially in situations where services from different health trusts need to act in unison. The incidents in the government quarter and at Utøya on 22 July are examples of such situations.

Until the regional health authorities and the health trusts were established in 2002, there was an emergency preparedness cooperative arrangement between the hospitals in the Oslo area. Under this arrangement, the plans for crisis and disaster management incorporated a scheme for allocating casualties between the Oslo hospitals in the event of major incidents.

After the regional health authorities took over responsibility of the organisation of the specialist health service, this arrangement was wound down. As far as the Directorate of Health is aware, no new scheme or other criteria for the allocation of trauma patients under the South-Eastern Norway Regional Health Authority have been adopted other than as set out in the authority’s board item 086/2010 of 16 December 2010. This states that trauma patients must be taken directly to a trauma centre if the transport time is less than 30 minutes. If the transport time to the trauma centre is more than 30 minutes, the casualty is to be transported to a local hospital with trauma facilities for stabilising treatment. A hospital with trauma facilities is classed as an ‘akuttsykehus’, that is, a hospital with emergency medical capabilities with defined and tested minimum competence and infrastructure to admit and treat casualties and clear criteria for the transfer of seriously injured patients to a full-scale trauma centre.

The Directorate of Health has been informed that the decisions on which patients should be transported to which hospital from both the government quarter and Utøya were largely taken through a dialogue between health personnel at the scene and the head of the trauma team at OUH U. EMCC B and EMCC OA were not, or only slightly, involved in these decisions.

Both for the explosion in the government quarter and the shootings on Utøya, it was decided to take effectively all casualties to OUH U until full capacity had been reached.

OUH, in its evaluation report, states that there were few personnel in the trauma centre in the initial phase, which led to a lack of equipment and medicines. Subsequently, in practice, there were sufficient resources to admit a much greater number of patients.

Our assessments on a common triage system are supported by the experiences from the terrorist attacks in Madrid on 11 March 2004, which resulted in 1,800 minor casualties, 344 critical injuries and 192 deaths. One main finding from the review of the health service response to these terrorist attacks was a weakness in the allocation of casualties to different hospitals.
OUH U has the highest competence to admit and treat trauma patients under the South-Eastern Norway Regional Health Authority, and as a rule it will therefore be correct to take such patients to OUH. We nonetheless consider that it would be appropriate to have an alternative plan for incidents that involve the evacuation of a large number of casualties in a short time.

It is also important that prioritisation of casualty dispatch to trauma centres is performed with regard to securing treatment at an adequate level. Transporting a large number of casualties to a trauma centre will only be appropriate while there is available treatment capacity. If this obstructs the admission and treatment of patients who need the specialist competence of the trauma centre, for example in neurosurgery and thoracic surgery, such prioritisation will however not be appropriate.

Our assessments on this issue are supported by the experiences from the terrorist attacks in Madrid on 11 March 2004, which resulted in 1,800 minor casualties, 344 critical injuries and 192 deaths. One main finding from the review of the health service response to this terrorist attack was failings in the allocation of casualties to different hospitals.

2.7.3 Police medical interventions during the Utøya incident

Officers from the police Delta (counter-terrorist) unit and North Buskerud police district were the first to land on Utøya, and they had an important function with regard to providing life-saving first aid to casualties.

Situation awareness

According to the police log of the events in Oslo and at Utøya, the police were already aware at 18:19 that the car bomb in Oslo has been leased to the perpetrator. At 18:50, it was clear that the owner of the escape vehicle was the same person. The escape vehicle was identified at Utvika quay. On this basis, the police decided to evacuate casualty clearing station 1 at Utvika quay.

At 18:33, the perpetrator was arrested by members of the police Delta unit. Based on the scale of casualties and fatalities on Utøya, the officers and scene commander assessed that it was highly probable that there could be more than one perpetrator. Further action was planned on the basis of this situation awareness.

According to the police log of the response, there were real suspicions until 19:15 that there were a further two perpetrators on Utøya.

Search, evacuation and treatment of casualties

Live-saving first aid involves securing vital functions such as respiration and clear airways and staunching major bleeding. Traumatic injuries and especially gunshot wounds are often associated with life-threatening haemorrhaging. For internal haemorrhaging, in for example the thoracic and abdominal region, which
is not accessible except through surgery, the delay from the time of injury until admission to a hospital department with competence in trauma surgery will be determinative for the outcome.

Haemostasis can normally be established for haemorrhaging from injuries to the extremities using compression bandages. Where this does not provide the required effect, or compression bandages cannot be applied for reasons such as time, the use of tourniquets may be life-saving. Injuries to the chest cavity may cause the collapse of the lungs with the risk of affecting the heart’s ability to pump, a so-called high-pressure pneumothorax. Draining of air or blood from the chest cavity may then be life-saving. Drainage of this kind in a field situation like this can be performed by inserting large venous cannulas.

The police Delta unit is organised into teams with specialist expertise in different tasks. Each team has a medic with special expertise in providing life-saving first aid. In addition to basic training in first aid, these officers have also undergone various courses including a war surgery course, pre-hospital trauma life support and so forth. The medic will also have been delegated responsibility by a doctor to administer morphine, opiate antidotes and antiemetics and to give intravenous infusions where indicated. They also have equipment for securing clear airways.

After the arrest, a number of teams from the police Delta unit were sent out with orders to search for more perpetrators and also prioritise the identification and evacuation of casualties. The officers have explained that during the search, they found many fatalities but also some survivors with gunshot injuries to the head, chest, stomach and extremities. As concerns treatment interventions, the officers have described that for several casualties they applied tourniquets to haemorrhaging extremity wounds. One casualty had a pharyngeal tube inserted to secure clear airways. Another casualty has a thoracic drain inserted due to pronounced shortness of breath, using two large cannulas. From Ringerike hospital, it was also reported that one patient arrived at the hospital with a compression bandage that had been applied using an ammunition clip. The Directorate of Health assumes that this was done by the police officers at Utøya.

The information received from the police officers tallies well with the information we have received from health personnel involved at casualty clearing station 1 at Utvika quay, who reported that from approx. 18:50 they received several patients with tourniquets, that one patient with a thoracic injury had had a thoracic drain placed and that two patients had been intubated.

The Directorate of Health does not have patient data that allows us to assess the treatment effort in terms of the individual patient. Based on the information we have received, we assess that the police officers’ treatment efforts helped stabilise casualties with serious haemorrhaging and to secure clear airways. Similarly, we consider that the insertion of a thoracic drain stabilised a casualty with probable pneumothorax. The treatment provided is considered to be in line with the officers’ instructions and training in trauma care. The Directorate of Health’s assessment is that the police Delta unit carried out important treatment interventions at an advanced level on seriously injured casualties.

From other information acquired from health personnel involved, it appears that survivors arriving at Utvika quay provided information that on Utøya there were a number of casualties needing medical assistance from health personnel. Despite the fact that Utøya at this time had not been cleared for access, i.e. assessed as safe by the police, a doctor and three members of the ambulance service went over to Utøya by boat. It is estimated that they arrived at Utøya at approximately 19:40. After having sailed round the island, they arrived at the quay on Utøya, where the scene commander gave them the all-clear to come ashore. Approximately 10 minutes later, the next boat with personnel arrived, containing three doctors, a nurse and three members of the ambulance service. The health personnel established themselves in the main house on Utøya under police protection. They gradually also participated in searching for and evacuating casualties under police protection. In a meeting with the police Delta unit, the scene commander was asked if it would have been possible to allow health personnel to land on Utøya sooner. The scene commander thought that this would not have been appropriate due to the unclear security situation.

Subsequently, a question was raised as to whether health personnel with special training should be authorised to operate in non-secured areas. This problem is discussed in the chapter on Emergency medical response at non-secured incident scenes.

2.7.4 Disaster preparedness and information flow
The decision to initiate disaster preparedness (green, yellow or red preparedness) is taken in principle by the individual hospital’s – or health trust’s – management, but in practice it is delegated to the coordinator or
manager of the hospital’s trauma centre. The decision to wind down preparedness is taken in accordance with the same principles.

Disaster preparedness and summoning of personnel is very costly and should only be implemented when necessary. Experiences from the events of 22 July have shown that there is considerable treatment capacity for serious injuries in the Oslo area. These experiences should provide the basis for a review of existing preparedness plans.

A number of the hospitals involved who were on emergency standby on the 22 July have informed the Directorate of Health that they were not kept up-to-date on developments in the incidents and what patient intake they might expect. This was a source of considerable frustration for both management and staff.

Ensuring good information flow between different levels is a considerable challenge in the event of major incidents, and involves different parts of the health service and health administration.

### Recommendations

The regional health authorities, or the health authority they delegate disaster-management tasks to, must ensure that all hospitals concerned are kept continually informed of developments in crisis situations. This is important in order to permit the hospitals to determine their emergency preparedness levels.

### 2.7.5 Emergency medical response at non-secured incident scenes

The majority of casualties from the government quarter were evacuated rapidly and transported to hospital by ambulance. However, 3 seriously injured casualties only arrived at the hospital 1 hour 15 mins, 1 hour 39 mins and 1 hour 50 mins respectively after the explosion. Given the short transport time (max. 5 minutes) and the effectively unlimited health personnel and transport resources (ambulances) on the scene, there is reason to believe that these admission times are largely due to the time it took to search for casualties and evacuate them from the damaged buildings.

The incident scene in the government quarter was large and presented a chaotic picture in which access to search for casualties was impeded by the rubble of fixtures and fittings. During the response, a doctor and a paramedic from the air ambulance service took the initiative to assist the fire crews during the search for casualties and survivors in the damaged buildings.

During the Utøya incident, the scene and casualty clearing area were considered non-secure for a long time. At casualty clearing station 1 on Utvika quay, this risk assessment was justified by the observation of falling projectiles close to the casualty clearing station. In addition, it was believed that there was a significant risk that the perpetrator’s car, parked at the quay, might contain explosives. This meant that the police initially did not allow ambulances to drive down to Utvika quay. The decision was subsequently made to evacuate casualty clearing station 1.

For a long time, the police had indications that there were several perpetrators on Utøya. There were also suspicions that the perpetrator had planted explosive devices there. This meant that the police initially considered Utøya as a non-secure area and they therefore did not allow health personnel ashore.

In parallel with this, a number of volunteers (tourists and others) assisted in evacuating casualties from Utøya in boats, and in the reception and carrying of casualties from Utvika quay to waiting ambulances.
Other emergency medical assignments with increased risk

Even under normal circumstances, ambulance personnel have to cope with high-risk assignments. Examples of these might involve:

- Violence and fighting
- Domestic violence
- Shootings/knifings
- Aggressive/violent patients
- Attempted suicide using a weapon

Responding to a scene/address where there is assumed to be an armed perpetrator present is defined as a “hot zone” mission and is routinely performed in cooperation with the police. The main rule for a hot zone is that health personnel do not go in until the police have cleared/secured the scene, i.e. arrested the perpetrator or assured themselves that the perpetrator is not present. The fact that, in such situations, ambulance personnel wait for the police’s all-clear of the scene has been the object of discussion in both the media and professional circles, since there is a belief that lives could have been saved through earlier health service intervention. In further inquiry into this issue, degrees of risk zones will need to be assessed and defined. The knowledge and experience of the Norwegian Armed Forces should be brought into this work.

More about the operation at Utøya

The Directorate of Health has noted that the shooting on Utøya began at approximately 17:10 and that the perpetrator was arrested at 18:33. The last casualty was evacuated from Utøya at 20:39 and arrived at OUH U at 21:49, meaning that more than 2 hours passed between the arrest and cessation of the shooting and evacuation of the last patient from Utøya.

Rapid evacuation of casualties with serious injuries to hospitals with trauma centres is, as previously mentioned, significant for the outcome, especially in the event of injuries to major arteries, internal organs and the head.

At the same time, we find that experiences from the operation merit closer examination of whether health personnel should be able to contribute to more rapid evacuation of the injured from similar incident scenes.

The Directorate of Health finds that health personnel with adequate protective equipment, i.e. hard hat, suitable clothing, gloves and, where relevant, respiratory protection (mask/filter), would be able to assist the fire and police services in searching for and evacuating the injured from collapsed buildings. In the case of terrorist actions, such response will presuppose that the fire or police service have cleared the scene in respect of other risk factors, such as more bombs, radioactive contamination or hazardous gases. A second and important precondition is that health personnel assisting in such situations have the necessary training, that they have drilled with the fire and police services and that the response is controlled and coordinated by a scene commander.
Subsequently, it has been speculated as to whether it would have been possible to save more lives if the police had arrested the perpetrator sooner. Whether more lives could have been saved through earlier arrest of the perpetrator will depend, among other things, on whether one could thereby have limited the number of young people who were shot and whether more of those who already had been shot, or were subsequently shot, could have been saved through earlier medical intervention.

Life-saving first aid treatment can be provided by both the police and health personnel. The police’s treatment intervention in Utøya is discussed in a separate section, Police medical interventions during the Utøya operation. The police considered it likely that there were more perpetrators and, based on the perpetrator's previous actions in the government quarter, considered it likely that he might have planted explosive devices on Utøya or at Utvika quay.

With the expertise and equipment medical responders currently have for providing medical assistance or evacuation in high-risk areas, the Directorate of Health does not consider it realistic that health personnel could have provided medical assistance on Utøya during the shooting.

In a meeting with the Norwegian Institute of Public Health’s Department of Forensic Medical Services, the Directorate of Health has discussed whether forensic medical investigations could have determined whether, through earlier medical intervention, the lives of more of those who died on Utøya could have been saved. The Department thinks it difficult to establish whether this would have been possible.

We know that no casualty died on the way to hospital and that one patient died in hospital from extensive injuries.

**Evaluation**

In order to ensure that victims of violence with injuries that are not immediately fatal should be able to be saved through early medical intervention, the health service response in non-secured incident scenes must be discussed further. The Norwegian Armed Forces, with their ongoing experience of medical intervention in hot zones (including Afghanistan), have both knowledge and practical experience that will be important to include in this work.

The Directorate of Health believes that, based on the operation in the government quarter and at Utøya, but also in other hot zones, closer examination must be made of the potential for health personnel to assist the police, and possibly also the fire & rescue service, in assessing, treating and evacuating casualties from non-secured areas.

**Experiences from other countries**

In Denmark, the police SWAT force (AKS) has specially trained physicians attached to it who respond in conjunction with the AKS on high-risk missions. The physicians’ function is partly to be able to assist with any injuries to the police officers, but also to be able to treat the wounded in hot zones.

In the UK, 15 bases of Hazardous Area Response Teams have been established. The HART teams are to have the expertise to provide medical assistance and perform evacuation work in hot zones, in difficult terrain, for hazardous chemical accidents and CBRN incidents, etc. The HART teams consist of ambulance personnel (six paramedics) and a team leader. The 15 HART bases are completely identical in terms of equipment, manning and training and should, if the need arises, therefore, function as a national unit.

The UK has also developed a concept for managing terrorist attacks/live shootings. It is the police who define and initiate such a response. The background for the establishment of this concept was the British authorities’ desire to establish contingency arrangements for dealing with terrorist actions such as the attack in Mumbai in India in November 2008. This continued over 3 days and involved attacks on the train station, several hotels, a cinema and the police headquarters. The terrorist act resulted in 172 deaths and 350 wounded.

Experience from countries which have established extended cooperation between the health service, police and other bodies will be useful in further work on this issue in Norway.

**Recommendations**

National guidelines need to be prepared for cooperation between the health service and police, fire and rescue services for hot-zone operations and other missions in non-secured areas. Based on its knowledge and experience of medical care provision in hostile areas, the Norwegian Armed Forces’ medical corps should be requested to assist in this work.

In partnership with the fire and police services, the health service should initiate training and joint drilling of personnel from these services for handling missions in non-secured areas.
2.7.6
Use of response teams for major incidents
Personnel from the air ambulance department at OUH assisted with the operations both in the government quarter and at Utøya. At least two teams of health personnel were dispatched from each of the Vestre Viken Hospital Trust hospitals, Bærum and Ringerike, to Utøya.

The groups of HEMS doctors, HEMS nurses and ambulance personnel from the air ambulance department at OUH brought appropriate medical equipment, including treatment equipment, blankets and, particularly, lightweight stretchers. Many people have emphasised the latter as a key success factor in respect of safe positioning of patients, raising patients up from cold surfaces and, not least, reducing the number of transfers in connection with ground and air ambulance transportation. The personnel also had hand terminals and extra batteries for using Nødnett. Through their day-to-day activities in the air ambulance service, the personnel are trained in pre-hospital interventions.

From Bærum hospital, two teams comprising doctors and nurses were dispatched, and brought some mobile medical equipment. Neither of the teams had radio communications equipment. Following the incident, the hospital has looked into procuring mobile medical equipment and clothing for personnel participating in response teams.

Ringerike hospital dispatched a surgical team consisting of surgeons, anaesthetists, nurse anaesthetists and surgical nurses. From a meeting with Vestre Viken Hospital Trust and Ringerike hospital, we understand that the team did not have radio communications equipment. This meant that the home hospital, i.e. Ringerike, was not able to contact the team during the operation.

We recognise that a surgeon may be important in terms of casualty triage at an incident scene. However, we are somewhat uncertain of the medical benefits of dispatching a response team with a surgeon and surgical nurses instead of these personnel participating in the reception and treatment of patients at the hospital. We do however consider it may be useful in one area, and that is situations where acute amputations are required because casualties are trapped, e.g. in road accidents.

Recommendations
Health personnel response teams from hospitals must bring their own mobile medical equipment and communications equipment to enable them to communicate with EMCCs, scene commanders and their home hospital. Where response teams have been established, this should be indicated in the organisation’s emergency preparedness plans and be known to the local EMCC.

2.7.7
Identification of casualties and hospitalised patients
In Norway, health personnel and health enterprises that provide medical assistance are under a legal obligation to document the patient’s identity where this is possible.

Records state that a total of 586 young people and adults were on Utøya when the shooting started. As the operation got underway to bring the survivors to Sundvolden Hotel and the different hospitals in the Eastern Norway region (OUH Ullevål, and the hospitals under Vestre Viken Hospital Trust (Ringerike, Bærum and Drammen hospitals)), the police as well as health personnel and volunteers set about the task of identifying and registering each individual.

Owing to the condition of the casualties, no attempts were made to establish their identity at scene or at the casualty clearing stations at Utvika quay and Elstangen/Storeøya. This meant that the police and health authorities had to obtain name lists from each individual hospital subsequently.

North Buskerud police district state that they soon had an effective arrangement with Ringerike hospital to be issued with name lists of persons admitted to the hospital. However, it proved difficult and time-consuming to obtain name lists from other hospitals since they cited patient confidentiality. As a result, not until well into the night were the police able to procure complete name lists of casualties admitted to hospitals other than Ringerike hospital.

The Norwegian Ministry of Health and Care Services has delegated interpretation of national health legislation to the Directorate of Health. Pursuant to Section 22 of the Health Personnel Act, health personnel are normally required to obtain the patient’s informed consent to disclosure of personal information to the police. With that informed consent, such information may be issued as a matter of course.
There are, however, exceptions to the confidentiality requirement which under special circumstances make the disclosure of information by health personnel a right or a duty. Section 31 of the Health Personnel Act prescribes the duty of health personnel to alert the police or fire services if such an alert is essential in the interests of preventing serious harm to persons or property. These legal provisions also include the requirement for health personnel to prevent any harm that has already occurred from escalating to serious harm in the absence of an alert. Health personnel are also granted the right to disclose information under Section 23(4) of the Health Personnel Act “if exceptional private or public grounds make it legitimate to pass on the information”.

Factors in favour of a breach of patient confidentiality must, in these instances, outweigh the factor that favours observance of confidentiality. Under such circumstances, the duty of confidentiality must be dispensed with in order to counteract the risk of serious harm to other people. This risk must be regarded as outweighing the duty of confidentiality.

In a disaster situation involving many missing persons, it is crucial for the police to establish if anyone is still missing or otherwise in order to be able to search for those who are actually missing, and so as to not commit resources to searching for persons who are no longer missing. Under such circumstances the condition in Section 31 on the duty to disclose information may be met.

2.7.8 Review of Norwegian emergency medical services

The Norwegian emergency medical services are provided by both the primary and specialist health services and comprise the emergency health communication system, emergency medical communications centres, ambulance services, local emergency medical communication centres, out-of-hours primary care centres, GPs (emergency service, daytime hours), nursing and care services together with trauma centres at hospitals within both somatic and mental health care.

The terrorist attacks in Norway on 22 July 2011 were violent and mobilised the largest emergency medical rescue response in modern times. Established and planned systems in the country, the ability to improvise and the concerted spirit of volunteerism among highly skilled healthcare professionals were just some of the factors that made the emergency medical response so effective. Many of the structures and the systems that laid the foundation for the effective response to the incidents of 22 July 2011 were established on the basis of Official Norwegian Report 1998:9 Hvis det haster, on professional requirements for emergency medical treatment, and the Storting’s review of that report through its white paper on emergency medical services (Meld. St. no. 43 (1999-2000)) and the appurtenant regulations on emergency medical services outside hospitals from 1995.

In the twelve years that have elapsed since the Storting reviewed the white paper on emergency medical services, the health service has undergone comprehensive structural changes, and gained much new knowledge in the process.

The new national health and care plan, the coordination reform (on proper and prompt treatment) and new legislation on public health efforts and municipal health and care services all embrace the aim of achieving sustainable, integrated and coherent service provision of a high standard, embodying high patient safety and adapted to the individual user. In emergency medical situations, the time factor and capability are crucial. This is what makes it essential to have a system that guarantees an emergency response at short notice. The division of tasks and responsibilities must be clearly defined and municipalities and hospital trusts must have plans and systems in place for how to handle such situations.

The Norwegian emergency medical services face a number of challenges in the coming years. The growing population, the increasing number of elderly persons and structural changes in the health service will pose capacity challenges. The emergency medical chain is dependent on all the different services that make up the chain being closely aligned with each other. When changes are made, it is important that the services in the emergency medical chain are involved and included in the planning.

The introduction of the Nednett communications system will allow the health service to develop and to extend its collaboration with the other emergency services. To achieve this, health personnel must be accessible and competent users.

Recommendations

On the basis of many documented experiences from the disasters on 22 July, available new technology and rapid advances within all branches of disaster medicine, the national health authorities should assess whether the national policies for this field are sufficiently robust.
**The need for a more influential national centre of expertise in pre-hospital emergency medicine**

The review of the terrorist incidents in Oslo and on Utøya has revealed a need for a more robust national organisation of the field of emergency medicine. This need was first identified in Official Norwegian Report from 1998 and the Storting adopted the recommendation to establish a national centre of expertise in emergency medicine in 1999. In November 2000, the Norwegian Centre for Pre-hospital Emergency Medicine (NAKOS) was established with funding from the Norwegian Air Ambulance foundation. The Centre was subsequently nationalised and brought under Ullevål University Hospital in November 2003, and eventually came to sort under the Department of Research and Development (R&D), under the clinic for emergency medicine.

Emergency medicine is a complex field, in terms of both its clinical components and its organisation under the health service. Norway has many first-rate, dynamic emergency medicine centres run under the health trusts and a range of research environments, but their fragmentation and limited formal links do not amount to an influential national centre of expertise in emergency medicine.

The emergency medical services are vital for public health and confidence and must cater to the right of patients to receive immediate medical assistance. This imposes an obligation on the part of both the municipal health services and specialist health service to provide assistance when urgently necessary. Emergency medical services are resource-intensive and demand for these services is set to increase.

The review of the emergency medical services in the wake of 22 July 2011 has, among other things, revealed a need for stronger national policy in a number of areas. The Directorate of Health holds that without a dynamic and proactive national centre of expertise, the emergency medical services will not receive the necessary professional and organisational impetus to develop effective national policies based on concerted capabilities and practice.

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**Recommendations**

The work on research and development in emergency medicine should be strengthened. This might include the development of educational programmes, procedures and collaboration routines. Norway’s centres of expertise in emergency medicine will naturally need to play a key role in this work.
Chapter 3

Psychosocial interventions and follow-up

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From the early evening of 22 July, emergency healthcare was fully in place at Sundvolden. There was access to specialists in their fields such as doctors, psychiatrists, psychologists, nurses, and also a chaplain and imam. The psycho social emergency response was organised from 02:00 on 23 July.
Psychosocial follow-up of victims and relatives was undertaken promptly and in a satisfactory manner, in spite of the complexity and scale of the situation on 22 July and in the aftermath. Effective management and the commendable efforts of response personnel in the municipalities in question were instrumental in accomplishing this.

The psychosocial domain linked to the incidents of 22 July is vast and complex, and comprises follow-up in the most acute phase, in the intermediate or semi-acute phase during the first few weeks, and long-term follow-up. In this chapter, we will be focusing on four main areas:

- Health service psychosocial interventions in the acute phase and post-acute phase.
- Psychosocial support for involved health personnel and volunteers.
- Policies pursued by the national authorities and their rationale.
- Long-term follow-up (within the primary health service and specialist health service, Utøya revisits, official gatherings).

The general public perspective, media management and the public’s exposure through the media have not been addressed in this report, although they embody key psychosocial implications. The general public perspective will be addressed in components of the research that has been planned, and greater knowledge of this aspect will therefore be gained over the longer term.

### 3.1 HEALTH SERVICE PSYCHOSOCIAL INTERVENTIONS IN THE ACUTE PHASE AND POST-ACUTE PHASE

#### 3.1.1 Psychosocial interventions in Oslo and the government quarter in the acute phase and post-acute phase

**Emergency preparedness plans**

Relevant health trusts, municipalities and non-governmental organisations (NGOs) report that psychosocial work is referred to in their respective emergency preparedness plans. Non-governmental organisations (e.g. Norwegian Red Cross) report that the psychosocial aspect is described in overarching plans. The services and the NGOs have routines for watchful waiting, and several of them state that they have expertise in, and formal or informal models for, debriefing their own staff.

The Oslo comprehensive health and social preparedness plan describes City of Oslo’s operational plan for responding to crises and disasters. The emergency preparedness plan has a separate chapter devoted to psychosocial support. The plan covers acute-phase response vis-à-vis people who are directly affected and evacuees. This includes relatives, other loved ones, witnesses and bystanders and emergency responders coping with psychological reactions to shock and grief.

The emergency preparedness plan states (in translation) that "in the event of city-wide incidents or incidents in which a single district’s own resources are inadequate, the emergency social service under the out-of-hours primary care centre will implement the city-wide disaster-response plan (Emergency-response plan for city-wide support centres in the event of disasters and major incidents in City of Oslo). The plan is applicable to mass-casualty disasters and where the police decide to set up psychosocial support centres for casualties, rescue workers/emergency responders and relatives".

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**EMERGENCY PREPAREDNESS IN THE MUNICIPALITIES**

Emergency preparedness in Norway is based on the principles of responsibility, subsidiarity and similarity. This applies to the management of crises, accidents and disasters. According to the subsidiarity principle, such situations must be managed at the lowest effective level of care (known in Norway as the LEON principle).

The municipal authorities are under a statutory obligation to have organised a system of emergency preparedness for their health and social services in compliance with prevailing legislation: the act on the municipal obligation for emergency preparedness (lov om kommunal beredskapsplikt), the act on civil protection measures and civil defence (sivilbeskyttelsesloven), and the act on health and social preparedness (lov om helsemessig og sosialberedskap). Health care and social services emergency preparedness must be coordinated with other municipal emergency preparedness plans, cf. Section 14-15 of the act on civil protection measures and civil defence (sivilbeskyttelsesloven), Section 1-5 of the act regarding municipal health services (lov om helsetjenesten i kommunene) and Section 2-2 of the act on health and social preparedness (lov om helsemessig og sosial beredskap).

Act no. 66 of 19 November 1982 relating to municipal health services was taken as the basis for psychosocial follow-up of crisis-stricken citizens in 2011 (superseded by new legislation in 2012).

Municipal duties in crisis situations comprise:

- preservation of municipal functions and services
- continual assessment of whether the municipality requires the support of other municipalities or advice and guidance from national bodies
- provision of information to the public and media
- procurement of material resources and expertise
- providing assistance to the police in the evacuation and housing of casualties
- offering psychosocial support interventions
- alerting and reporting

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The emergency preparedness plan for the out-of-hours primary care centre describes the role of the Standby Crisis Service (SCS) (D6). This includes a psychosocial support centre, at-scene crisis response and support functions, including transportation. The SCS is responsible for social and psychosocial services at the City of Oslo out-of-hours primary care centre. SCS is also responsible for psychosocial support centres set up by the police, and for alerting other personnel as and when needed, such as the out-of-hours psychiatric clinic, BUP (Child and Youth Psychiatric Outpatient's Clinic) and the DPS (District Psychiatric Centre).

**Actual events**

In the acute phase immediately after the explosion, the main focus was on providing practical and somatic first aid, while psychological first aid was provided as well as the circumstances permitted, by ambulance crews and other health personnel at the scene, as well as colleagues and passers-by. The casualties were transported to the City of Oslo out-of-hours primary care centre and hospital where they were cared for by health care professionals. The Directorate of Health does not have a complete overview of how psychological first aid was provided in this phase, but assumes that it was done in accordance with routines by competent personnel. The psychosocial support provided by the City of Oslo out-of-hours primary care centre is regarded as having been of a high standard during the disaster, and victims who required immediate support for psychological shock reactions were attended to at that centre.

**How come we don’t learn about psychological first aid when we take a first aid course?**

The support group in the government quarter have pointed out the need for more general knowledge of psychological first aid. “How come we don’t learn about psychological first aid when we take a first aid course?” (M16).

'Direct victims' were defined as fatalities, those who were injured and other survivors from the government quarter bombing, together with employees and passers-by. 'Indirect victims' were defined as the bereaved, relatives of survivors, family, friends and loved ones, employees in ministries and companies within a defined area who were not at work, managers, people who arrived at the government quarter in the immediate aftermath, and emergency responders.

**Figure 8: Categorisation of direct/indirect victims, government quarter**

Sources: NKVTS/National Criminal Investigation Service (KRIPOS) (number of fatalities and non-fatal casualties)
The Norwegian Resource Centre for Violence and Stress Studies (NKVTS) has produced a figure for classification of direct and indirect victims in the government quarter.

**The corporate model**

When the bomb went off in the government quarter, ministerial employees were subjected to a terrorist attack aimed at their place of work. The bomb affected employees in the government quarter, but also random passers-by. 8 people were killed, 30 were injured. From the early phase, ministerial employees were followed up by the occupational health service. This service is organised under the ministerial service centre, and had closed for the summer a week before the bombing, but was rapidly at the scene and operational from that same evening. The occupational health service organised a meeting place at a nearby hotel as a drop-in crisis centre for survivors and relatives. Defusings were carried out, and victims were offered support in various sizes of group.

On the next day, all personnel managers were summoned to attend a meeting on 24 July, and each ministry was assigned a dedicated contact person. Psychologists with crisis management expertise were called in, and follow-up was established for employees and their relatives. Passers-by and their relatives were referred to the City of Oslo out-of-hours primary care centre, or to the local psychosocial support services in their municipality of residence. Within the ministries, meetings were arranged for human resources services, occupational health and safety services and employee representatives. In this initial phase, there was generally extensive need for information.

This corporate model was also adopted for further follow-up of victims from the government quarter in the post-acute phase. In selecting this particular model, the emphasis was on two factors, which experience indicates have helped most when large organisations have been severely affected by an explosion: 1) to get back to normal early on; 2) to spend time with those who were present when the bomb went off (M26).

According to the corporate model, the organisation’s aggregate human, professional and organisational resources are mobilised to support any member of staff who is a direct or indirect victim of the terrorist attack against the workplace. The model represents immediacy and authority for the employees, emphasises the value of the work community and covers work-related health (M8). The corporate model entails cooperation between management, employee representatives, the division for occupational health, safety and environment (HSE) and employees.

The ministerial occupational health service faced certain capacity and capability challenges in the initial phase of this extensive remit, and received specialist support from national health authorities. Although the corporate model entailed a special follow-up task for the occupational health service, under national statutes, responsibility for follow-up was lodged with municipal authorities.

After the initial acute phase, it was seen as important for follow-up to be undertaken via the occupational health service, since the incident affected virtually every aspect of the workplace environment. The fact that the bomb was aimed at their workplace was a challenge for many employees, giving rise to very negative associations with the work setting. Many of the direct victims suffered reactions such as grief, hypervulnerability, anger, tension, irritability, sleeping problems, concentration difficulties, fatigue, work-related stress and guilt. Many calls were also taken from other employees who were not at work on the day of the incident, or had left the premises just before the bomb went off, who described many of the same symptoms. Feelings of guilt were widespread, both situational and hypothetical, and this affected the work setting, especially in the early days. Ministerial employees felt they had been under attack, regardless of whether they had been present, since there was a common perception that what had happened was an assault on their identity (M26).

Everyone who was working at the ministerial premises when the bomb went off was offered health counselling after a few weeks. The Ministry of Government
PSYCHOLOGICAL FIRST AID

In dealing with people afflicted by disaster, their immediate need is for psychological first aid, where the emphasis is on making them feel safe and secure and providing information and practical support. Psychological first aid relies on evidence-informed, field-tested strategies that can be provided in a variety of disaster settings. The method embodies basic information-gathering techniques to help rescue or relief workers to rapidly assess the immediate needs and concerns of survivors. Psychological first aid is intended to be used for people exposed to crises (single emergency event), disasters or terrorism, but can also be provided to first responders and other rescue or relief workers.

As part of a drive to disseminate up-to-date information on crisis management, NKVTS translated and published a Psychological First Aid Field Manual in August 2011, originally published by the National Child Traumatic Stress Network and National Center for PTSD in the USA. In this manual, psychological first aid is defined as an “evidence-informed modular approach to help children, adolescents, adults, and families in the immediate aftermath of disasters and terrorism. Psychological First Aid is designed to reduce the initial distress caused by traumatic events and to foster short- and long-term adaptive functioning and coping.” The approach is “based on an understanding that disaster survivors and others affected by such events will experience a broad range of early reactions.”

The objective of psychological first aid is to establish a human connection in a non-intrusive, compassionate manner, and to connect survivors with social support networks and be clear about availability, or linking the survivor to another disaster response team. One key aim is to mobilise the survivor’s family and social network. It is also important to provide information about the various psychological reactions the survivor may experience, explaining that these are normal reactions to an abnormal situation. The focus should be on the survivor's personal coping strategies and resilience.

It is important to determine the survivors’ Norwegian language skills, and whether an interpreter and cultural sensitivity will be needed.

Administration, Reform and Church Affairs reported that 592 persons had signed in at the ministries on 22 July, and that of these, 310 were still at work at 15:20. The occupational health service states that everyone who was working in the ministries at any time on the day was offered health counselling and that some 80% took up this offer. The occupational health service conducted occupational medicals among staff, with the assistance of the National Institute of Occupational Health and the occupational health service of the Norwegian transport sector’s largest employer, NSB. The question of employer liability, and whether damages could be claimed for occupational injury, were key issues. A small number of employees were referred to specialist health care providers for assessment and treatment, including with a view to determining the extent of any occupational injury.

Those who needed psychological counselling were identified. The occupational health service has several psychologists with crisis counselling expertise on its staff, and was also assisted by a psychologist from the Ministry of Foreign Affairs. In addition, a crisis psychiatrist was brought in at the initiative of the head of the occupational health service, as was an NKVTS psychiatrist.

It was recommended that the casualties be invited to come in for a 20-minute consultation, which would include a screening form and assessment of their functioning, fitness for work and personal network. Further follow-up was recommended to follow the municipal model in the sense of multiple follow-up points (after 3-4 weeks, 3-4 months and 12 months), but that this was to be organised under the occupational health system as opposed to within the municipal system.

Since the ministerial occupational health service was the main source of contact with the health service for direct and indirect victims from the government quarter, it was found appropriate for the occupational health service to go somewhat beyond its usual jurisdiction, and for example prescribe treatment for sleeping problems. If there was a need for further medical treatment, the service was recommended to refer people to their own regular GP, who could then refer them on to the specialist health service if needed.

The occupational health service was also recommended to follow-up on the families of the most severe casualties. The recommendation was for this to be arranged under the occupational health service/ministerial occupational health & safety section where feasible. It was also recommended that the bereaved relatives of those who were killed in the bombing be offered inclusion in the measures implemented by the occupational health service/occupational health & safety section. In the aftermath of disasters of this kind, the bereaved will often need to meet colleagues who knew their loved one. For other direct victims in the government quarter, who were not ministerial employees, their respective municipality/district was the contact point for further follow-up.

The need for follow-up was found to be fluctuating rather than static. Many people needed supportive follow-up in the form of individual or group counselling over an extended period. A few individuals were referred to the specialist health service. Collaboration with first and second-line services worked efficiently. Regular GPs were used for certification of sickness absences, although the sickness absence rate did not increase significantly. A number of people reported a strong requirement to move on, some were afraid of being regarded as underperforming as employees, or afraid that they would never recover (M 26).
Evaluation
City of Oslo has described psychosocial interventions in its emergency preparedness plans, and these are seen as up-to-date and effective. However, certain challenges were reported in connection with emergency alerts and lines of command. The psychosocial domain is described in the plans in less systematic and comprehensive terms than somatic emergency preparedness, and an incisive measure would consequently be to make the plans more explicit and comprehensive in the psychosocial domain. Feedback also indicates that a template and a routine should be established for documenting psychosocial work. There is also a need to produce telephone lists for crisis response teams, and for retaining permanent deputies to cover holidays and other spells of leave. Corporate emergency preparedness plans should be more consistent and better coordinated. The composition and capabilities of psychosocial teams should be clarified and evaluated. Psychosocial emergency response teams have reported a need for skills building in psychosocial follow-up beyond initial emergency response.

The emergency preparedness planning system for centralised crisis management and own corporate planning systems were adhered to. All the Oslo districts activated their crisis management systems, since the majority of districts had either direct or indirect victims to attend to. The organisation established proactive normalisation plans at an early stage and adhered to them. City of Oslo collaborated closely with external executive bodies such as the police, the office of the county governor of Oslo and Akershus, the Directorate of Health and others (D33). Psychosocial interventions in the acute phase in Oslo were generally very effective, given the circumstances and prevailing norms. The City of Oslo out-of-hours primary care centre liaised closely with the out-of-hours psychiatric clinic.

Ministerial employees received satisfactory psychosocial support.

The corporate model is assessed as being an effective model and the best for managing occupational health and safety in response to an attack on a major workplace. The workplace community is regarded as being a positive factor, such that it would have been a great disadvantage had indirect victims in the ministries been referred for psychosocial follow-up at disparate centres.

There was a great need for information, which proved difficult to coordinate. Because of the complex scope of the damage, relatives and other involved persons had to deal with multiple organisations, districts etc. For any future organisation, consideration should be given to facilitating better coordination of follow-up of the various groups of involved persons.

Recommendations
The services’ emergency preparedness plans must be more comprehensive in the psychosocial field, drilled regularly and include everyone who is expected to have a role. The plans must describe contact points for alerts, specific measures and lines of command for the individual phases of crises, and guidelines for bringing in external expertise. The role of resource centres/specialists in relation to emergency preparedness must be clarified.

Plans must be drawn up for coordinating information between municipalities and districts.

3.1.2 Psychosocial interventions at Utøya/Sundvolden in the acute phase and post-acute phase

Emergency preparedness plans
The municipalities of Hole and Ringerike have emergency preparedness plans describing psychosocial preparedness (D8). Hole, the municipality in which the Utøya attacks occurred, has a special plan for municipal crisis management, which was adopted by Hole municipal council on 14 June 1999 and subsequently revised in 2004, 2006 and 2009. Psychiatric interventions in response to major crises are described under the plan for psychiatric services in Hole municipality (D51).

The municipality has a crisis team composed of a chaplain, municipal medical officer for health (MOH) and staff from the department of social services and provides psychosocial support to people in emergencies and their relatives. The crisis team is summoned at the request of the medical scene commander, MOH, crisis team leader or other member of the team.

Once the operation has been concluded, auxiliary staff are required to undergo informal debriefing by operations command and a more formal debriefing as soon as possible. The senior MOH is responsible for this debriefing. If required, external capacities will be brought in to supervise the formal debriefing.

Actual events
On receiving reports of shootings on Utøya, EMCC Ringerike alerted the intermunicipal out-of-hours primary care centre. Ringerike’s municipal crisis team was already on standby because of the bombing in the government quarter. The chief administrative officers of Ringerike and Hole had been alerted, and the Hole crisis team was activated. The MOH of Hole had been alerted and was
appointed medical scene commander, and coordinated and led the health service response jointly with the second-in-command/deputy, the MOH of Ringerike. The MOH of Hole requisitioned Sundvolden Hotel as a trauma/crisis centre for victims and relatives. A relatives’ crisis centre had initially been established at Ringerike Hotel, but this was shut down after about an hour and relocated to Sundvolden Hotel. The MOH of Ringerike was in command of operations outside Sundvolden and the senior duty doctor at Ringerike intermunicipal out-of-hours primary care centre.

The camp site owner and campers at Utvika camp site, neighbours, boat owners and other volunteers made a great and valuable contribution during the acute phase, receiving the first youngsters who made it to the camp site at approx. 18:00 on 22 July. The boat owners played a key role in fetching those who escaped by swimming across from Utøya. The camp site was an initial clearing station, where a few of the young people were taken into the home of the camp site owner, while others were taken by car to Sundvolden. The owner and the campers together with permanent residents in the area were faced with an extreme incident in which the place they were staying or their home became a casualty field station, but was also classed as a non-secure zone at risk from explosive devices. In spite of the intense pressure of these external circumstances and lack of time to prepare, many volunteers responded by providing vital practical assistance, giving the youngsters blankets and escorting them to safety.

The roads in the area were full of ambulance resources and buses rigged for transportation of patients. A large number of those who escaped unharmed passed through the casualty clearing station and were evacuated to the awaiting buses with the assistance of the fire services. Local duty doctors from the out-of-hours primary care centres re-examined and attended to the casualties on board the buses before they were transported to the casualty clearing station established by the municipal health service at Sundvolden. Paramedics on the buses assisted en route from E16 to Sundvolden Hotel, and helped to provide psychological first aid (D82, D112).

Health personnel from the Modum Bad psychiatric institution were among those who turned up to assist at their own initiative, without having been called to the scene. In addition, the clinical director of the Modum Bad institution contacted the staff at Sundvolden Hotel on 23 July and offered to mobilise health personnel with specialist expertise in psychological trauma care. A total of 15 professionals from the Modum Bad psychiatric institution were involved in providing psychological support during the acute phase. The MOH of Hole arranged for calls to be made to neighbouring municipalities and summoned assistance from Vestre Viken and Ringerike district psychiatric centres and the Lier psychiatric department at Drammen hospital. A large contingent of health personnel (approx. 65 individuals) from several locations within the Vestre Viken Hospital Trust catchment area turned up to assist. Via the Asker and Bærum districts, supervised by the MOH of Bærum, psychosocial emergency responders were called out from other locations, including members of the Asker and Bærum crisis team, Ringerike BUP (child and adolescent psychiatric care) and Oslo University Hospital – Ullevål campus (OUH – U).

Ultimately the turnout of health personnel was huge, the numbers running to more than had been formally requested. The Norwegian Civil Defence turned up, forming a team of 4-5 individuals who assisted in computerising the hand-written lists of survivors in alphabetical order.

From the early evening of 22 July, emergency healthcare was fully in place. There was access to specialists in their fields such as doctors, psychiatrists, psychologists, nurses, and also a chaplain and imam. The psychosocial emergency response was organised from 02:00 on 23 July. Up until this point, the MOH of Hole municipality had considerable coordinatory responsibility. In conjunction with the MOH of Ringerike municipality, a staff of IT technicians, personnel coordinators and the leader of the Hole crisis team was established. This served to coordinate the psychosocial support, and ensured that the right staff was put in place, and that a provisional system was established for updating medical records. Local personnel familiar with line functions were assigned supervisory functions and assisted in an advisory capacity to ensure effective utilisation of resources. Supervising the emergency health response at Sundvolden was a comprehensive and prolonged undertaking, and by 26 July a member of staff from the Directorate of Health was seconded as management support at the request of Hole municipality and the office of the county governor of Buskerud (D112).

Psychosocial interventions were organised under 4 units with a health team at each site. At Utvika camp site, and at the town hall (for all volunteers), the health teams were enlarged by a psychiatrist, psychologist and nurse, at the town hall led by health personnel from the Modum Bad psychiatric institution. At Sollihøgda café, a relatives’ crisis centre was led by the emergency manager of Ringerike hospital. At Sundvolden Hotel, the out-of-hours primary care centre staffed by a doctor and nurse was extended by a psychiatrist, psychologist, chaplain, imam and secular counsellor.

The drop-in crisis centre at Sundvolden Hotel was open around the clock until 13:00 on 26 July. Group counselling
sessions, individual counselling sessions and health checks were established. A psychologist and psychiatrist also attended to victims and relatives. Health personnel were present at all information meetings. A total of approx. 250 assistants worked to a shift system of three shifts per day, with a briefing between each shift. Aside from the teams composed of management and staff, the Norwegian Red Cross was in operation at the hotel, with a staff of between 40 and 60 people. The Red Cross volunteers served as informal counsellors and “listening stations”, and assisted with information and facilitation, practical tasks at the hotel and practical assistance with homeward journeys. The Red Cross mission lasted from 22 July until the centre at Sundvolden Hotel was decommissioned (D109).

There were differing needs in different phases, but a constant great need for information. For the majority, the sense of being looked after and having their basic needs met, such as food, a bed and warm bedding, were the most important aspects of the acute phase. A few individuals and some families needed more specialised psychosocial support in this phase.

69 people were killed during the attacks, 66 were injured and 585 survived without physical harm.

The Troms county chapter of Norwegian Labour Youth – AUF contacted the crisis team at the University Hospital of North Norway (UNN). Four members of this crisis team arrived at Sundvolden on the evening of 22 July to establish contact and accompanied many of the young people from the northern counties of Troms and Finnmark back north to Tromsø by charter flight on the following day.

A number of relatives from Northern Norway had also arrived at Sundvolden to meet their loved ones there and also returned by the charter flight. All the victims had undergone a brief screening at Sundvolden, and many had made a brief written record of their story. A great deal of information was provided about common reactions to disasters (M25, D26).

The huge scale of the efforts of non-organised volunteers from the camp site, boat owners, neighbours and others was soon all in evidence. The MOH was in contact with the camp site on the morning of 23 July and subsequently dispatched a psychosocial team to the site. That evening, a meeting was held for the volunteers. On 24 July, the National Criminal Investigation Service (KRIPOS) interviewed the volunteers. The name list from these interviews was used as an aid in convening volunteers for the first gathering at the town hall that evening. The Modum Bad psychiatric institution organised groups to attend to the non-organised volunteers and helpers on 24, 25, and 26 July, followed by a drop-in session at the town hall.

Hole municipality, Ringerike Municipality and Vestre Viken Hospital Trust set up a relatives’ crisis centre and relatives’ telephone helpline at Sundvolden Hotel. The helpline, initially manned by hotel staff, and subsequently by a public health nurse and psychiatric nurse in shifts for the entire period, was inundated with calls.

The MOH of Hole contacted the Center for Crisis Psychology (SfK) in Bergen, which dispatched additional staff to Sundvolden Hotel. From an early stage, a range of different emergency responders began to put in requests for debriefing. These requests were met, although it was pointed out that debriefing should be carried out at a later stage. SfK assisted in organising the debriefing of health personnel and other personnel who had been actively involved in the operation (D112). External supervisory support was also procured from the Directorate of Health.

After 1½ weeks, an information meeting was held for immigrants and refugees resident in Hole municipality. The mayor, executive director of municipal affairs and health personnel attended together with emergency medical staff from Hole municipality and with the assistance of psychologists from the Modum Bad psychiatric institution. Information was provided about the incident together with general information about psychological aspects and the potential for retraumatisation (D31).

**Evaluation**

In spite of it being an extremely difficult and overwhelming situation, psychosocial interventions were of a high standard. Basic needs were met, and psychological first aid was provided together with practical assistance and offers of supportive counselling and further follow-up for those who needed it. Key factors accounting for the effectiveness of the psychosocial interventions included the incisive supervision on the part of the two MOHs, extensive local knowledge, flexibility and adaptability. The establishment of a staff for and organisation of health care provision by means of a rapid identification and registration of available health personnel was essential in maintaining continuous health services for several days in succession. The aim was for psycho-

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**Figure 9: Phases in relief work**

Source: Municipal medical officers for health, Hole and Ringerike
A widely representative working party had drafted the guide. The clinical advice presented in the guide is based on systematic reviews of research, empirical findings and guidelines and guides from other countries. Yet this body of knowledge offers no unequivocal conclusions as to the benefit of various interventions in the wake of accidents, crises and disasters. The clinical recommendations in the guide are presented solely on the basis of empirical findings, but it is also important to take into account evidence-based findings, where such exist. The guide emphasises that the ordinary principles observed by the health service concerning the lowest effective level of care also apply to any crisis, accident or disaster. The principles of intervention entail the delivery of psychological first aid in the acute phase through restoring a sense of safety, and providing calm and practical assistance. This is followed by watchful waiting, comprising observation, and, for those requiring more follow-up, by supportive counselling and screening.

Hobfoll et al. 2007 assembled a panel of experts in the field to gain consensus on intervention principles. The following 5 principles form the basis for the Directorate of Health’s guide and the recommendations for the acute phase of crises, accidents and disasters with regard to different levels, individual interventions and group and setting-based interventions:

- sense of safety
- calming
- sense of self- and community efficacy
- connectedness
- hope

In its guide, the Directorate of Health lays down a sixth principle:

- facilitating controlled re-exposure

The Directorate of Health guide to psychosocial interventions stresses that, in addition to the outlined interventions, watchful waiting may be a useful strategy, as recommended by the British National Institute for Health and Clinical Excellence (NICE guidelines).

Screening for psychological complications should be performed after the acute phase and over the long term. The guide points out that best practice for targeted interventions for further follow-up consists of supportive counselling in which the need for help is assessed on the basis of quality of sleep and rest, social functioning and functional level in familial and occupational settings. Subsequent follow-up should observe the principles of watchful waiting. Next stages might include trauma-focused cognitive behavioural therapy (TF-CBT) for those with specific clinical needs. For patients presenting clinical symptoms, the best-documented effect is achieved from TF-CBT and Eye Movement Desensitization and Reprocessing (EMDR).

In the midst of any crisis, the municipal authority must be in a position to implement well-established and drilled plans to ensure that survivors and relatives are attended to in a systematic and professional manner. It is seen as significant that there was a hotel nearby where basic human needs for safety, quiet, warmth, dry clothing, food and drink, sleep and privacy could be met. These factors were strongly emphasised by the MOHs of Hole and Ringerike in their experience of the incidents. If possible, the choice of hotel should be one with more extensive facilities than the average form of overnight accommodation. Sundvolden Hotel assumed responsibility and performed the tasks it had been assigned in an exemplary manner. The efforts of the hotel should be taken as a model in terms of planning and systematic support for mass-casualty disasters.

The International Advisory Council emphasises that professional social workers may have an important role to play as regards practical assistance in this phase (M28). It is therefore not seen as essential for psychological first aid to be provided by psychiatrists and psychologists, in that it may be provided satisfactorily by, for example, chaplains, the police, firemen, nurses, social workers or untrained volunteers. However, emergency responders should be familiar with, trained in and experienced in psychological first aid, and be individually suited to coping with pressing circumstances. At Sundvolden it was seen as an important task for psychologists and psychiatrists to also provide expert advice and assure others who were assisting that what they were doing was appropriate. It was important to be proactive in making contact and offering casualties the chance to talk to someone, since
many of the casualties were children and teens who did not ask for the help they needed.

The fact that a dedicated team was set up to coordinate and ensure adequate staffing for psychosocial support was a positive factor. The role of psychosocial support personnel following an emergency on this scale remains unclear however, and personnel have reported a need for early clarification of what matters most when initial contact is made (M8).

Norwegian Labour Youth – AUF has pointed out that in some cases, the threshold for being given psychosocial support was too high. Both the 22/7 National Support Group and Norwegian Labour Youth – AUF have stated that the information provided and provision of psychological support could have been better (M25, M27).

Norwegian Labour Youth – AUF has in particular called for more proactive support for the youngest survivors and more specific help in dealing with the media. This applies specifically to the youngest survivors who needed to talk and were not sufficiently well shielded from reporters seeking to interview them. Experts in the International Advisory Council have also stressed the importance of this aspect, citing research in the wake of the school shooting in Jokela, Finland (Haravuori H, Suomalainen L, Berg N, Kiviruusu O, Marttunen M. (2011). Effects of media exposure on adolescents traumatized in a school shooting. Journal of Traumatic Stress, Vol. 24, No. 1, 70-77) (M6).

Norwegian Labour Youth – AUF has described that not enough account was taken of the specific county-based divisions of the AUF organisation, and that this could have been put to better use in the initial phase. The same organisation also describes inadequate catering to practical needs, such as in connection with the youngsters’ homeward journey (M25).

There were reports that the initial time at Sundvolden Hotel was perceived as chaotic, with lack of structure and inadequate information, and that operation of the relatives’ helpline was ineffectual initially (M25). The start-up and operation of the relatives’ helpline was difficult in the first few days because valid name lists were not yet available from the police. The police were not involved in setting up, manning or monitoring the helpline. It was problematical that relatives had to look up the telephone numbers of the different hospitals themselves and phone each one of them to track down their missing loved one. The 22/7 National Support Group has called for flexibility with regard to sensitive information in such emergencies (M27).

A liaison arena was established between the director of the out-of-hours primary care centre and the emergency manager at Ringerike hospital, which was highly effective. It was an advantage to have police present at the out-of-hours primary care centre, since the officers were in a position to deal with specific tasks rapidly and efficiently (M15). It was valuable to have different religious leaders in attendance, and important that account was taken of multicultural challenges in the psychosocial support, since a number of the victims had multicultural backgrounds.

A number of services and municipalities reported that they have no established routines for dealing with an emergency on this scale. There were statements that the events of 22 July were on such a scale and of such a nature that they exceeded capacity and capability in terms of effective and consistent follow-up over time. The International Advisory Council recommends the creation of intermunicipal networks in order to provide sufficient human resources (D117).

A need has been identified to clarify the jurisdiction of the directors of out-of-hours primary care centres in

### Recommendations

- A sympathetic setting must be provided for survivors and their relatives, with food and refreshment and privacy rooms. The use of hotels should be incorporated into the municipal emergency preparedness plans.

- Psychological first aid skills must be acquired through mandatory training courses for health personnel and other rescue workers who provide emergency relief to direct and indirect victims, and for all organised volunteers.

- Emergency preparedness plans should set out that direct victims who belong to an organisation should be followed-up within the setting of that organisation, making the most of this organisation’s special characteristics, possibly with the assistance of health personnel.

- In crisis situations, the local medical officer for health is required to organise the registration of numbers and categories of health personnel available for duty. A shift rota must be established as soon as the level of demand for health services has been ascertained. Health personnel should bear clearly visible identifiers of their function and be proactive in approaching the victims. This is regarded as particularly important if the victims are children and adolescents. Relatives of missing persons must be kept segregated from survivors.

- Health personnel should be proactive in advising victims on dealing with the media.
different municipalities in an emergency. A need has also been identified for clarification regarding intermunicipal liaison between municipal crisis teams responding to major and supra-municipal emergencies.

3.1.3 Psychosocial interventions at hospitals and care of relatives

Care of relatives

The regional emergency preparedness plan for South-Eastern Norway Regional Health Authority covers the division of responsibilities in psychosocial care (D37). This applies to casualties and their relatives, attending to own personnel and relatives’ crisis centres outside hospitals. It also covers the information service insofar as it interfaces with psychosocial services. The regional emergency preparedness plan was approved by the board of South-Eastern Norway Regional Health Authority on 6 May 2010.

Relatives’ crisis centres outside hospitals

It is the responsibility of the police and municipal authorities to set up a relatives’ crisis centre. The health trusts provide expert assistance on request. Responsibility for coordinating services at such centres rests with the police.

It is important for the services to be planned end-to-end so that relatives and casualties are shielded from the press to the greatest possible extent and have access to updated, accurate information.

According to Oslo Police District’s emergency preparedness plan, the police are required to establish a relatives’ crisis centre at the Plaza Hotel in Oslo city centre for relatives of missing persons and presumed casualties. The hospital is required to cooperate with the police so that relatives are sent to the designated centre.

Casualties and their relatives

Each health trust is responsible for establishing routines for taking care of the relatives of persons admitted to hospital. Each hospital is responsible solely for the relatives of its own patients. Other relatives must be referred to the municipal/police relatives’ crisis centre.

OUH is responsible for looking after the relatives of its own patients. At OUH, the Clinic for Mental Health and Addiction at Ullevål campus has clinical responsibility for attending to relatives and for psychosocial support. The Psychosocial Crisis Team at OUH – U looks after the relatives of patients admitted to the hospital. This is a multidisciplinary team of 14: adult psychiatrists, child and adolescent psychiatrists, nurses, psychologists, social workers, clerical staff and a chaplain. If needed, the crisis team is reinforced by staff from the acute psychiatric care unit and from the child and adolescent psychiatric care department.

In the initial phase, casualties were sent to several hospitals, but mainly to those under the Vestre Viken Hospital Trust (35 casualties to Ringerike hospital, 7 to Bærum hospital and 2 to Drammen hospital). Severely injured casualties were sent to OUH (31 to OUH U, 1 to OUH A) and 2 to the private hospital Diakonhjemmet sykehus. The deceased were transported to OUH Rikshospitalet and the Department of Forensic Medical Services at the National Institute of Public Health. The relatives’ crisis centre was set up at OUH U for severely injured casualties and for OUH Rikshospitalet for missing persons and the deceased.

At OUH U, the emergency manager at the Clinic for Mental Health and Addiction met with the deputy leader of the psychosocial crisis team at the acute psychiatric care unit 60 minutes after the bombing of the government quarter. Both of them met up on their own initiative without being summoned to do so. The deputy leader of the Psychosocial Crisis Team opened the relatives’ crisis centre at 16:45, according to the applicable plan, at the patient education centre located at the patients’ hotel at Ullevål (D81).

The first relatives of victims from the government quarter arrived at OUH U before the relatives’ crisis centre for admitted casualties had opened, and at a point when the acute psychiatric care unit had no resources available to look after them. The relatives were assembled in the

![Figure 10: Overview of the different phases in OUH’s work](Source: OUH (Oslo University Hospital))
The Psychosocial Crisis Team had not been alerted in accordance with the plan in force, the team leader and key members first being alerted by telephone at 17:15.

During the later hours of 22 July, around 200 presumed relatives visited the relatives’ crisis centre at OUH U.

In the afternoon and evening of 22 July, nationwide media broadcast the telephone number of the relatives’ crisis centre at OUH U as the national helpline, instead of number 815 02 800 which is the police’s dedicated helpline for relatives following major incidents. This was not rectified until many hours later (M5). As a result, the relatives’ crisis centre for casualties admitted to OUH U took around 600 calls. It is not known how many calls were not taken because of capacity overload on just a single inbound telephone line. Calls were answered by key members of the Psychosocial Crisis Team together with staff who volunteered from the OUH acute psychiatric care unit: psychiatrists, psychiatric nurses, a psychologist and social worker. Registration of callers was prioritised on the basis of their presumed relationship with hospitalised casualties. However, many calls were from news-seekers, and these were not registered.

When a good hour had passed after midnight with no further telephone calls, the relatives’ crisis centre shut down for the rest of the night at approx. 01:30. The police issued a statement on the number of deaths in the middle of the night, and this put intense pressure on staff at the trauma centre who were manning the phones. The relatives’ crisis centre at OUH U reassumed responsibility for taking calls from relatives from the early hours of 23 July and from then on the helpline was open to callers around the clock. Over the course of 23 July, around 200 calls were registered.

Staff at the relatives’ crisis centre made contact with the majority of relatives of casualties admitted to the hospital. In the first few days, information for relatives was passed on and processed on an individual basis, where the Psychosocial Crisis Team worked with groups consisting of the individual patient and his or her next of kin.

On 22 July, the Psychosocial Crisis Team was informed that a relatives’ crisis centre, for relatives of missing persons and those presumed dead, would not be established at the Plaza Hotel in the city centre in accordance with the emergency plan in force, and that this would instead be relocated to Stovner police station. On the morning of 23 July, information was released that the police-run relatives’ crisis centre would be relocated to the city centre’s Anker Hotel, immediately next door to the out-of-hours primary care centre. A few hours later, the Psychosocial Crisis Team was informed that the police had relocated the relatives’ crisis centre for the relatives of missing persons and persons presumed dead to Sundvolden Hotel in Hole municipality, in the immediate vicinity of Uteya. Meanwhile, Oslo City Council had established a meeting place for the bereaved in Oslo Cathedral. Norwegian Labour Youth – AUF had set up its meeting place for indirect victims at Folkets Hus, the trade union headquarters.

The out-of-hours primary care centre/out-of-hours psychiatric clinic in Oslo assisted at the Cathedral and Folkets Hus. The acting head of the out-of-hours psychiatric clinic liaised continually with the psychosocial emergency manager in Oslo, providing information about cases received by the psychiatric clinic, both through direct contact and via the City of Oslo out-of-hours primary care centre. The relatives’ crisis centre at Ullevål achieved no direct contact with the police. As a result, valuable information exchange was much delayed.

**Identification of seriously injured casualties**

The emergency psychiatric clinic at OUH U played a key role in identifying casualties. The Psychosocial Crisis Team assisted in identification with the help of relatives. Members of the chaplaincy service, emergency psychiatric clinic and the acute psychiatric care unit were involved in this operation at the relatives’ crisis centres. On the whole, the relatives’ crisis centre at Ullevål shielded the emergency psychiatric clinic from external calls. At those units that did take calls from relatives, there was a lack of clarity concerning the planning system and communication with the relatives’ crisis centre.

**Identification of the dead**

The police set up an interim centre for survivors and
relatives of missing persons at Sundvolden Hotel from 23 July. Over the course of 23 July, it became clear that identification of the dead would have to be carried out at the department of medical forensics at OUH Rikshospitalet, located near the Gaustad patient hotel. It was seen as appropriate to transfer the relatives of missing persons and persons presumed dead from Sundvolden Hotel to Gaustad patient hotel at OUH Rikshospitalet. The relatives’ centre for missing persons and persons presumed dead was consequently established there. The chaplaincy service at OUH Rikshospitalet was appointed to manage the centre for the bereaved. In addition, staff from BUP (child and adolescent psychiatric outpatients’ clinic) at OUH and staff from the acute psychiatric care unit were assigned to receive the bereaved at Gaustad patient hotel. Oslo hospital services assisted in setting up the relatives’ centre at OUH for taking care of the relatives of the dead. The reception at Gaustad patient hotel was assisted in rebookings and coordinated arrangements with the hotel. This was an ad hoc solution: the original emergency preparedness plan for OUH Rikshospitalet was implemented and adapted to meet requirements.

Care of seriously injured casualties and their relatives

The psychosocial crisis team was staffed by a total of 43, as required by the plan in force, partly by staff who had been called in and partly by staff who presented for duty at their own initiative from BUP at OUH U and OUH Rikshospitalet. The chaplaincy service at OUH Rikshospitalet, staff at the acute psychiatric care unit at OUH, employees from other units under the Clinic for Mental Health and Addiction, staff of the Psychiatric Division at Akershus University Hospital and others. The psychosocial crisis team was split into three shifts per day. The main weight of the work was given priority in the hours between 08:00 and 18:00. The relatives were recommended to try to maintain a normal rhythm of sleeping and waking, to seek peace and calm and avoid emotional overload during the last hours of the waking day. The relatives’ centre had isolated episodes of disagreement with representatives of a non-governmental organisation which sought to be present at the relatives centre overnight as well (M5).

Every effort was made to maintain continuity of treatment. The patient and the patient’s next of kin were attended to by the same team. In certain cases, more teams were introduced as needed. Some patients had other care-givers in addition to their biological parents. The staff in each patient team were appointed on the basis of the patient’s age. BUP (child and adolescent psychiatric outpatients’ clinic) attended to patients up to 18 years of age The professional composition of psychiatrist/psychologist and nurse/social worker in each team was based on the family’s overall distress. Calls to the helpline went down to about 50 a day. Relatives of 31 patients attended the relatives’ centre at Ullevål. More than 20 attended the relatives’ centre at OUH Rikshospitalet.

A joint information meeting for patients and relatives was held on 26, 27 and 28 July. On 26 July, information was provided by three high-ranking police officers. More than 45 relatives attended the meeting at Ullevål. On 27 July, hospital management issued the same information at OUH Rikshospitalet that the police had issued at Ullevål. More than 40 people attended. On 28 July, the Prime Minister visited the relatives’ centre at Ullevål in a closed meeting. Approximately 70 patients and relatives attended.

Decommissioning of the relatives’ centre, transition to normal hospital operations

OUH Rikshospitalet’s relatives’ centre for the relatives of missing persons and the presumed dead closed down on 30 July.

By then the last of the deceased had been identified, and the bereaved had had the opportunity to pay their last respects. Ullevål closed its relatives’ centre for relatives of seriously injured casualties on 3 August. The consultation and liaison unit at Ullevål/Aker took over further follow-up of those who were still hospitalised. The last patient was discharged on 11 October and transferred to Sunnaas hospital.

Sunnaas hospital

Sunnaas hospital had 8 long-stay patients as a result of injuries sustained under the terrorist attacks. All eight patients were transferred to Sunnaas following emergency treatment at OUH. Quite aside from the extensive injuries sustained by several of the patients, psychological factors associated with the extreme duress of being under attack were very prominent among most of the patients. This was also to a great extent the case for the reactions of relatives/family and friends.

Every one of the patients needed the extended care provided by a diversified multidisciplinary team including a doctor, psychologist, nurse, physiotherapist, occupational therapist, social worker, special needs educator and other professionals. The duration of their stay depended on their need for rehabilitation and varied from 6 weeks to several months.

The crisis team at the hospital was on standby from day one and attended to patients and relatives according to their individual needs, but also acted as supervisors/advisors to the clinical teams providing treatment. Staff at the clinic at Sunnaas hospital had extensive experience of dealing with people subjected to severe trauma. However, the prospect of having to receive the casualties on 22 July gave rise to strong reactions among staff, resulting in a need for additional follow-up through counselling and coaching.

Media interest concerning hospitalised casualties from 22 July was intense from the start.

From an early stage it was established how the patients wanted to handle the media.
Representatives of the crisis team at Sunnaas hospital assisted Nesodden municipality through exchanges with the director of health, the head of the crisis team, specialists and other representatives who assisted in the psychosocial follow-up. The crisis team also offered its services to Askim municipality (D46).

**Evaluation**

The Directorate of Health finds that the psychosocial support provided to casualties and relatives was very well organised and coordinated in the acute phase. In such demanding circumstances, there are bound to be weaknesses and failings, but the general impression is positive. South-Eastern Norway Regional Health Authority delegated responsibility for coordination to OUH in accordance with the plan in force. A relatives’ centre was set up at all hospitals in cooperation with the police.

Inspite of it being the holiday season, there were sufficient staff, partly because they had been called in and partly because staff who were on holiday presented for duty at their own initiative. Several of the permanent members of the Psychosocial Crisis Team were on holiday on 22 July, but broke off their holiday to respond to the emergency. Together with the acute psychiatric unit, they supervised flexible mobilisation of personnel. The Psychosocial Crisis Team started counselling people for trauma, while also shielding staff in the somatic division of the health service from a heavy influx of relatives. The relatives of the dead were given individualised psychosocial care. From an early stage, staff had an opportunity to come to terms with their experiences.

Norwegian Labour Youth – AUF reported that they were satisfied with the health service’s response, but that the hospitals’ duty to preserve patient confidentiality was obstructive, and that there was a lack of information both about and for casualties who were hospitalised in the acute phase. Some of the youngsters were alone and believed that they were the sole survivors of the attacks (M25).

The 22/7 National Support Group also commented that, while health service performances were satisfactory, the duty of patient confidentiality had been obstructive to provision of information. They also commented that a website with information bulletins should have been set up in the acute phase. They were concerned by the overly technical language employed by the National Criminal Investigation Service (KRIPOS), the directness of which was seen by some as offensive (M27). Both Norwegian Labour Youth – AUF and the 22/7 National Support Group stressed the importance of being shielded from media interest.

**Recommendations**

The role of organised volunteers must be made clearer; what they are to do and what they may not do. It must be clarified as to who has executive responsibility for supervising volunteer efforts in crisis management. Cooperative routines between health personnel and volunteers must be clarified, and the municipalities should sign agreements of intent with the NGOs.

The emergency preparedness plan for care of relatives within the health services must be brought up to date. The instruction that inquiries from relatives are to be placed with the relatives’ centre must be made known and integrated within the services. Cooperation between the health services and the police must be reviewed, including the routines for information exchange and contact points.

The relatives’ helpline must have the necessary capacity and staffing. The hospital-based relatives’ helpline must be coordinated.

### 3.2 PSYCHOSOCIAL SUPPORT FOR INVOLVED HEALTH PERSONNEL AND VOLUNTEERS

**Debriefing**

Debriefing in the health service context is a formalised method of post-traumatic intervention, and one that has evolved over the years such that the term is used inconsistently and arbitrarily by both practitioners and researchers to denote diverse activities ranging from informal conversations to highly structured interventions. Debriefing is employed in many settings, in spite of the great variation in training and supervision (Regel, 2007).

A brief, early-stage interview about emotions has at times been referred to inaccurately as debriefing. Consensus however is that this form of intervention is ill-advised. The correct sense of debriefing is of a group intervention vis-à-vis emergency responders at least 24 hours after the event.

The intervention should not be attempted within the first 24 hours, and responders should not be urged to talk about their feelings in the immediate aftermath, as this is believed to have the reverse of the intended effect by cementing harmful emotions.

The whole concept of debriefing is currently the object of critical debate in the context of civilian interventions. Experts in Norway and internationally question whether debriefing is of any value in crisis intervention or whether it should be replaced by other approaches where the focus is more on a technical appraisal of actual events and peer support.
One statement from the International Advisory Council reads: “The common understanding of debriefing varies substantially. There is little evidence supporting the effectiveness of debriefing in the framework of one or a few sessions after the crisis”. “There is today no clear consensus internationally regarding support to emergency services personnel. There are however probably components of group sessions that can be useful, such as providing support within the group, being able to evaluate the performance of the group (what went well, what could we do better) and thereby obtain an overall description of the incident”.

But criticism of the critics has also emerged. (Hawker, D. M., Durkin, J., & Hawker, D. S. J. 2011. To debrief or not to debrief our heroes: That is the question. Clinical Psychology and Psychotherapy, 18, 543-463).

In the Directorate of Health guide to psychosocial interventions, debriefing is defined (in translation) as: “a term denoting interviews to be conducted at least 24 hours after the crisis incident.”

The concept of defusing is defined by the same source as: “interviews conducted on the day of the incident.”

**Recommendation from the Center for Crisis Psychology (SfK):**
- Emergency responders exposed to significantly distressing events should be given the opportunity to reflect on and absorb their experiences.
- The techniques employed must however be well-founded and evidence-based.
- The organisation of facts and structuring of experiences is more important than emotional outlet.

### 3.2.1 Psychosocial support for health personnel

Each hospital is required to have routines in place both for debriefing emergency responders and for following up its own personnel following in-hospital accidents or tragedies among staff.

Psychosocial support for staff generally is a supervisory responsibility lodged with the individual hospital departments, and is provided differently depending on the department’s field of work and operation. Those units that are most exposed to critical situations such as the ambulance service and casualty department/trauma centre have routines for supporting and following up personnel who are exposed to significantly distressing events, of which there were many during these incidents. Oslo University Hospital drew up a programme early on for following-up its own employees, in which the OUH U Clinic for Mental Health and Addiction was in charge of the clinical and practical implementation in support of units within the health trust. EFOK (emotional first aid and crisis management group) has, as its core task, responsibility for helping people deal with emotional responses to critical incidents.
CHAPTER 3 / Learning for better emergency preparedness – The medical response to the terrorist incidents of 22 July 2011

Psychosocial support at Sundvolden Hotel
At Sundvolden Hotel, debriefing was carried out for first responders, primarily health personnel, but also fire crews and a small number of Red Cross workers and hotel staff. Coordination of the psychosocial work was led on 26 and 27 July by an employee seconded from the Directorate of Health.

The debriefing groups were led by representatives of SFK. The goal was to elicit facts about the terrorist incidents and the responders’ thoughts and impressions. Participants were invited to describe their own function and in this way be given the opportunity to show that they had made a positive contribution to the emergency. This was intended to help the participants to gain a general perspective on the events. They were also encouraged to bear in mind that there were positive lessons to be gained from their experiences. One of the main principles determining how groups were put together was the time at which the responders joined the emergency response: whether they were involved right from 22/23 July or whether they joined the efforts at a later stage, on 23/24 July or the days that ensued.

On 26 and 27 July, three debriefing teams were attending to up to three groups daily.

The different groups consisted of:

1. Staff from Ringerike district psychiatric centre and staff from the municipal health service in Hole and other neighbouring municipalities that had been involved from the start (22/23 July). This group also included chaplains.
2. Staff from Ringerike district psychiatric centre and staff from the municipal health service in Hole and other neighbouring municipalities that had joined the efforts from 23/24 July or later. This also included chaplains.
3. Fire scene commanders.
4. Duty doctors from the out-of-hours primary care centres.
5. The two municipal medical officers for health (MOHs) from Hole and Ringerike municipalities.
6. Fire crews.
7. Representatives from the municipal health service in Hole and Ringerike and representatives from Asker district psychiatric centre and the Modum Bad psychiatric institution. Chaplains and imams.
8. The chief administrative officers of Hole municipality.
9. An English-speaking group of hotel employees from Latvia and Estonia.
10. Hotel staff and a Red Cross worker.

A total of 15 debriefing sessions were held for emergency responders and psychosocial support workers. In addition, within the first few weeks, a course was held for managers as well as follow-up sessions for some of the emergency responders.

Prehospital centre
The EFOK group at the prehospital centre conducted interviews/follow-up with personnel from the following entities: the ambulance division, air ambulance division, EMCC, patient transportation service and Norwegian People’s Aid.

In response to the terrorist incidents, EFOK set up a crisis centre for personnel who had responded at the scene in the ambulance service’s premises in Oslo city centre. In this way, EFOK ensured that personnel involved in the response in the government quarter were registered and received the necessary follow-up and information about further support before they went home. A rapid needs-assessment was conducted to determine individual emotional needs. Everyone was informed that a technical review of events and a psychological debriefing would be conducted at a later stage.

Later that same evening/night, personnel began to return from the Utøya scene. They were assembled, registered and given the same information as the first group. A debriefing screening was conducted, and a small number of personnel were offered a bed for the night in the ambulance section. Personnel were also informed of arrangements that would be made by EFOK over the coming days. The purpose of these sessions was to achieve initial, joint closure. Personnel were told that the incidents and their impressions of them were too fresh in mind for debriefing to be helpful, and that at least 24 hours should elapse before debriefing could be carried out.

All personnel who were either first responders or on emergency standby during the incidents were requested to attend a technical review on 24 July. There was high attendance from all departments at the prehospital centre and from 330 squadron at Rygge airbase.

On 24 July, a group debriefing was held for all those who had been registered and who had been involved in responding to the terrorist incidents. 67 persons were registered for group debriefing and all of them were followed up. A few groups conducted multiple follow-up interviews with the entire group or individuals. A number of staff were followed up with one-to-one interviews. In addition, defusings were carried out either in person or by phone for 20-30 employees. These were personnel who had not been directly involved in responding to the incidents but had been on stand-by.

A technical review was conducted on 25 July in the auditorium at Ullevål campus. Anyone who had been involved in any capacity was invited to attend. Immediately after the technical review, a group debriefing was conducted among personnel.

On 26 July, a psychological debriefing was conducted at Holtet upper secondary school. A plan was drawn up for conducting the debriefings in which personnel were split.
up into groups. The sessions were conducted in
groups, and further sessions were arranged with 2
of the groups, as well as further individual follow-up
sessions. 2 new groups were subsequently set up
for debriefings. A total of 86 persons attached to the
prehospital centre were registered as having undergone
debriefing (D23).

City of Oslo out-of-hours primary care
centre and Oslo University Hospital
Some of the staff, especially frontliners at the City of
Oslo out-of-hours primary care centre reported post-
incident stress reactions. In response to this, the centre
offered all who had been involved a joint interview and
review of the incident that same weekend. Some 25
people participated in this on 24 July. The same staff
were also offered follow-up sessions.

By the evening of 22 July, the most intensely affected
units at Oslo University Hospital were systematically
following up staff. The departments that had been most
intensively involved in treating the casualties set up staff
rotation systems to allow them to rest, and in order to
distribute the workload. Many units had plenty of
resources available in the wards over the weekend
so that necessary rests and breaks could be coordi-
nated properly.

Over the days following the incidents, staff were
offered a debriefing with a psychosocial team. Some
units held their own meetings, where the incident was
reviewed in detail. The focus was on the effectiveness
of the emergency preparedness plan, and there were
suggestions for changes and reflections on mental and
emotional stress factors. In some units, meetings were
held so that staff who had been present could share
their experiences with staff who had been on holiday
or were absent for other reasons during the incident.
A number of the mobilised personnel who were not
directly involved in dealing with the casualties, especially
at OUH A and OUH Rikshospitalet, vented their frustra-
tion at not being used, as they had been keen to ‘do
their bit’.

The health trust’s emergency management held
three identical informational plenary meetings for all
employees at OUH A, OUH Rikshospitalet and OUH U.
The Psychosocial Crisis Team subsequently led groups
and provided individual counselling for those who
needed it. Where there was a need for further therapy,
referrals were made to regular GPs, the district
psychiatric centre/psychiatric outpatients’ clinic or
other support. The last debriefing at group level was
held on 10 August 2011.

Management also attended a meeting with the police
and Department of Forensic Medical Services, for those
who were involved in the identification process and
forensic pathology autopsies.

Evaluation
EFOK is an established system that comes into
operation in response to major incidents. It is seen as
important to have an established system and explicit
instructions to ensure that all personnel involved are
covered by the system. It is important that the deciding
factor in activating the system is not the individual’s wish
for or assessment of the need for emotional follow-up,
but rather the scale of the incident. It is regarded as a
positive factor that EFOK responded rapidly in register-
ing who had been involved and performing emotional
needs-assessment followed by individual follow-up and
debriefing, and that it was stressed that debriefing in the
acute phase when impressions were too fresh in mind
was not appropriate.

It is seen as a positive factor that follow-up for personnel
was in focus early on. Many units have effective routines
for follow-up and implementing measures right from the
acute phase. Group counselling and individual follow-up
was implemented in the days that followed. A special
programme has been established for this work, and also
for long-term follow-up so that managers and individual
members of staff can receive further psychosocial sup-
port if necessary and desirable.

Feedback indicates that debriefing is practised
quite heterogeneously and that there is a
need to review and clarify the concept. More
consistent models are needed for any future
use of debriefing and management-based
plans for how it should be conducted.

Reports of some experiences indicate that some staff
came to terms with what they had experienced by talk-
ing to co-workers they had worked alongside, and had
less need for the debriefing groups that were set up.

The emergency responders were offered structured
screening, debriefing and individualised follow-up. It
is expected that the post-incident programme will be
long-term, since needs differ depending on what the
individual employee was exposed to. It is assumed that
not all employees who were involved were identified
and covered by the system, since there no complete
overview of responders could be compiled. During the
technical review, however, information was provided that
those who had not been contacted by the EFOK group
should make contact themselves.
The Norwegian Armed Forces’ medical corps (Fsan) has a resource centre dedicated to follow-up of traumatised personnel, with 2 psychologists on call at home. They have been asked to submit suggestions for measures to improve cooperation between Fsan and the civilian health service on psychosocial follow-up of personnel exposed to extreme situations (M11).

As part of its evaluation process, the Directorate of Health requested statements concerning psychosocial management and follow-up from emergency responders within the health service, the municipalities, NGOs and other occupational groups that were directly or indirectly involved in the acute phase.

Several occupational groups and organisations were still adversely affected, with impaired capacity for work and in everyday life, six months after the terrorist incidents. This was especially true of those that had crew in the 'hot zone'. Several groups and organisations also describe the emotional stress associated with the direct and ongoing follow-up of victims and relatives. A number of services have their own resident expertise in psychological trauma care, in which individual members of staff are specialised in crisis management. Feedback indicates that municipalities and services have good psychiatric and psychological expertise and in many cases also have staff trained in psychological first aid, while other municipalities and services need more training in this.

Moreover, feedback indicates that debriefing is practised quite heterogeneously and that there is a need to review and clarify the concept. More consistent models are needed for any future use of debriefing and management-based plans for how it should be conducted.

Finally, other feedback suggests that it needs to be emphasised that debriefing for emergency responders is not appropriate until at least 24 hours after the incidents.

### Recommendations

A general plan should be drawn up for following up emergency responders who have been exposed to severe emotional stress factors in the line of duty, with a list of entities that the employer agency or service can contact for specialist support.

– Emphasis should be placed on training relevant health personnel to deal with patients with severe psychosocial trauma, and health personnel should be drilled in dealing with such situations.

– Health personnel with relatively more training should be used in the first line, while those with relatively less training should be shielded from the most emotionally distressing aspects of the work. Time must be allowed for post-incident follow-up of personnel. Personnel should not be sent directly out on new assignments without having had the opportunity for emotional/mental restitution.

– If debriefing is to be performed, the process must follow a well-defined plan for when and how it will be done and for how the concept of debriefing is to be applied. Debriefing should be defined consistently as a group intervention for emergency responders, an intervention that cannot be undertaken until at least 24 hours after the incident.

### 3.2.2 Psychosocial support for voluntary responders – organised and non-organised

Norwegian People’s Aid and the Norwegian Red Cross are both non-governmental non-profit organisations that specialise in responding to emergencies, that have many members nationwide and extensive experience. They have the capacity to provide rapid assistance in responding to major incidents. The members of these NGOs are highly dedicated individuals and can play an important role as experienced caregivers, providing emotional support, practical assistance and supplementing professionals at the scene.

One of the purposes of the “Cooperation agreement between the Norwegian Red Cross and the Directorate of Health on equipment and support-group preparedness for future crises and catastrophes” is to regulate roles and remits by establishing support groups for survivors and relatives in the aftermath of major incidents.

When major incidents occur, there will also be non-organised, untrained volunteers, passers-by, local citizens or other groups randomly at the scene who immediately respond as Good Samaritans.
Norwegian People’s Aid had 8 workers stationed on Utøya island as the first aid station for the youth camp. The organisation’s head office was initially alerted by media broadcasts on the bombing in Oslo via EMCC, but was subsequently alerted to the Utøya shootings directly by members of its Hadeland chapter who had barricaded themselves with a large number of youngsters inside the school building on Utøya. The organisation arrived at Utvika where there were many young casualties by approx. 19:00. Shortly afterwards, everyone was evacuated when the bomb alert came in. 50 young people were assembled in a house, 2 of them wounded. The organisation immediately provided psychological first aid, but also practical assistance and restored a sense of safety and security. They then relocated to Storøya and assisted in registration of casualties and onward transportation to Sundvolden. They also assisted in the psychosocial support at Sundvolden (D68).

The Norwegian Red Cross set up a crisis team on 22 July, but were also not alerted by the authorities. The organisation offered its assistance to the police. As its assistance was not required, it headed for the government quarter, and from there to the Cathedral. The organisation had 26 volunteer members in operation in Oslo.

The Norwegian People’s Aid HQ subsequently provided particular support to its Hadeland chapter that had lost one of its workers in the shootings at Utøya. They also helped to set up local relatives’ centres in different parts of the country. Norwegian People’s Aid participated in the liaison forum set up by the Directorate of Help with follow-up in the government quarter, in the revisits to Utøya and the official gatherings for survivors and the bereaved. All those involved from Norwegian People’s Aid reported that they were still emotionally affected several months after the events. Follow-up of the organisation’s own emergency responders was not organised as special follow-up aside from the offer of EFOK debriefing. The approach adopted was watchful waiting in that personnel were urged to seek help if they needed further follow-up (M3).

The Red Cross Buskerud chapter was present at Utvika quay where it assisted the police. At Sundvolden, it was decided that the Red Cross Vestfold chapter would supervise the some 40-60 Red Cross workers at the scene. At the relatives’ centre at Sundvolden, the role of Red Cross workers vis-à-vis professional responders was well defined and consisted of humanitarian assistance, provision of information, and referring casualties to professionals for medical, psychiatric or psychological assistance. As such, the Red Cross workers had a practical, non-therapeutic role. When the relatives’ centre at Sundvolden was abandoned, it was transferred to OUH U. Discussion and disagreement arose as to the role to be played by the Red Cross. Some relatives wanted to keep their Red Cross contact with them at all times, but this was disallowed by the hospital on the grounds that they needed to rest and recuperate.

The Red Cross held drop-in meetings throughout Norway, with some 65 local chapters organising drop-in meetings from 22 July to 31 July. The organisation’s online youth forum, with a helpline for reaching adult counsellors (“Kors på halsen”), provided advice to children, teens and adults affected by the attacks, and also guidelines/instructions to volunteers. The organisation also played a role in the clear-up operation at Utøya, assisting in finding lost property on the island.

The Red Cross took on responsibility for founding and running new support groups in their start-up phase, and assisted as a facilitator in administrative and practical arrangements for establishing the 22/7 National Support Group. The Red Cross also hosted the founding meeting on 21 August and was actively involved in the process together with the national support group network (NSN).

Local chapters of the Red Cross strive to be part of the local municipal emergency preparedness plan, and experience indicates that this form of collaboration is productive.

No Red Cross workers were killed, but 3 of the young people from Norwegian Labour Youth – AUF who were killed were associated with the Red Cross organisation, either as the leader of a local chapter or volunteer representatives within the organisation.

Non-organised volunteers played a major role in the rescue effort, and there is a need for the municipalities to draw up more consistent plans for post-crisis care of such volunteers.

The Red Cross subsequently contracted a private agency, SOS-CON, to conduct professional debriefing and follow-up of its volunteer workers. The follow-up consists of an integrated 12-month mandatory programme of 2 group sessions, follow-up after 3 months and 12 months and individualised sessions as required (M7).

Non-organised volunteers in this report refers to citizens who were first on the scene both in the government quarter and at Utvika camp site. Little was known about such volunteers at the Oslo scene. Passers-by who became voluntary helpers were generally left to their own devices in terms of psychosocial support, and in seeking help locally. Some of them were identified and brought under the public-sector psychosocial care system in connection with the drop-in meeting in the government quarter in the initial phase, and some passers-by and shop assistants were contacted via the St. Hanshaugen district.
The camp site owner, the campers at Utvika camp site, boat owners, neighbours and other volunteers made a huge contribution. They helped to rescue many of the youngsters who swam across from Utøya, brought them to the camp site and transported them to Sundvolden. The number of voluntary helpers had not yet been determined by the evening of 22 July. Next day, a team was set up composed of a psychiatrist, psychiatric nurse and public health nurse, which was dispatched to the camp site for that day and the following day. Meetings were held at the camp site café. Over the following days, there was a drop-in arrangement at the council premises in Hole municipality for all volunteers. This was attended by a team of health personnel. Initially, only a few volunteers showed up. There was some initial difficulty in obtaining a full list of volunteers who had taken part in the acute rescue effort in the water and on shore, among other things because the name lists were amended by the National Criminal Investigation Service (KRIPOS).

As a result of painstaking efforts to track down these volunteers by representatives from the psychosocial team in Hole, who asked for the names of other volunteers from those who attended, and made calls to invite volunteers to turn up and register their names, Hole municipality achieved a reasonably comprehensive list. The local press and local radio were also enlisted in finding the voluntary rescuers. A total of approx. 150 persons were registered, of whom approx. 100 wished to take part in the follow-up going forward. All of these volunteers were offered counselling, and very few declined. Some of them came in for several follow-up sessions over the three weeks in which the municipality advertised that additional health personnel would be available. Those who wished to take part in further follow-up were invited to Sundvolden Hotel on 7 September. They received an official thank you for their efforts from the mayor of the municipality and from the Minister of Health and Care Services. They also received information about critical incident stress and post-traumatic stress reactions. A week after the incidents, the head of Hole municipality’s psychosocial team (clinical social worker) set up groups for regular follow-up in conjunction with the head of Ringerike psychiatric centre (psychiatrist). Weekly sessions were held for approx. 20-30 participants at a time. The group was led by a psychiatrist and a clinical social worker. Some of the group meetings were themed, with information provided by the police and by public relations staff at the Directorate of Health. Initially there was a lot of e-mail activity, with many questions to be answered. Non-organised volunteers were offered follow-up locally or within the specialist health service according to their needs. A small number of the volunteers had to take extended sick leave, while others needed work adaptation or periodic sick leave. There was however the problem that a number of people were told by legal advisers that they had to be on extended sick leave to qualify for compensation (oral communication with the head of Hole municipality’s psychosocial team).

Follow-up continued as planned through to the end of October 2011, but the group wished to continue, and from November it switched from weekly to monthly meetings. The plan is to continue the meetings until summer 2012, when the plan is to close the group, rounding off with a visit to Utøya in early June. After this visit, the plan is to hold a ceremony in honour of the volunteers at Sundvolden Hotel. The ceremony will be hosted by the Norwegian Lifesaving Society.

**Evaluation**

It remains unclear who is responsible in a crisis situation for alerting organised volunteers. As a result, the alerts that went out on 22 July were both delayed and arbitrary. At-scene coordination and who was in command of volunteers was unclear. Post-incident follow-up of those who were involved from the different volunteer-led humanitarian organisations was conducted variably, ranging from the watchful waiting approach in which it is left to the individual volunteer to seek out the help they might need (Norwegian People’s Aid) to an organised and structured year-long follow-up programme (Norwegian Red Cross).

Follow-up of non-organised volunteers was complicated because these individuals were not registered in the acute phase, such that there were no name lists or other records of who they were, as a result of which they subsequently had to be traced individually. Some time therefore elapsed before their identities were established, with the risk that not everyone was traced and offered support. Responsibility for providing psychosocial follow-up to this group was also unclear. Moreover, the non-organised volunteers did not receive the recognition of their efforts received by other rescuers, for example, in the form of visits from official bodies.

**Recommendations**

- A decision must be made on who is responsible in a crisis situation for alerting NGOs.
- NGOs should have well-defined plans in place for looking after, and, where applicable, debriefing, their own rescue or relief workers.
- The municipalities should draw up more consistent plans for looking after voluntary rescuers.
3.3 POLICIES PURSUED BY THE NATIONAL AUTHORITIES AND THEIR RATIONALE

3.3.1 Directorate of Health’s role under the Comprehensive National Health and Social Preparedness Plan

“The Directorate shall be prepared to handle the overall coordination of the health and social sector’s crisis management when a crisis situation has arisen and/or is about to arise” (Comprehensive National Health and Social Preparedness Plan).

This coordinatory responsibility does not require the Directorate to take over responsibility or remits in the domain of other sectors or agencies.

**In the event of a crisis, the Directorate shall:**

- coordinate the implementation of measures on behalf of the Ministry of Health and Care Services.
- be prepared to coordinate measures on behalf of the Ministry of Labour.
- implement measures to ensure that citizens are offered essential health care and social services.
- administer legislation on health and social preparedness by means of special mandates.
- provide expert advice to the health and social services.
- coordinate information on the crisis situation and how it develops by obtaining situation reports from regional health authorities and county governors and other level-2 entities under the Ministry of Health and Care Services, and relay information from centralised to local level.
- establish a comprehensive crisis overview. If the Ministry of Health and Social Affairs is the lead ministry, the Directorate of Health shall be capable of relaying information across sectors.

3.3.2 National authority crisis management

On 22 July, the Ministry of Health and Care Services decided that the Directorate of Health was to be assigned responsibility for emergency preparedness liaison within the health service. The Directorate established a crisis management team on that same afternoon.

In July 2011, the Directorate had just completed its guide to psychosocial interventions (see separate fact box under 3.1.2) and this proved highly significant for the Directorate’s decision-making.

On 23 July, at the proposal of the Deputy Director General of the Directorate of Health, it was decided to set up a liaison forum and make arrangements to facilitate psychosocial follow-up on the incidents of 22 July. The object was to ensure consistent psychosocial follow-up and embed a professional standard across the different sectors, and to avoid unnecessary discussion between experts in the media.

The Directorate of Health, as represented by the Director General, held a telephone meeting with the county governors of Norway on 23 July. The Directorate issued a letter of instruction to those same county governors on that day, in which the county governors were requested to:

1. Ensure that all municipalities within their own county had a crisis team on stand-by, and that the telephone numbers of each team were prominently displayed on each municipal website.
2. Ensure that the municipalities were familiar with the national guidelines on psychosocial interventions in response to crises, accidents and disasters and facilitate dialogue between the specialist health service and the municipalities on the services available.
3. Procure a full list of the municipal helpline numbers for relatives and other affected parties for all the municipalities in their own county.
4. Report back on a daily basis (until further notice) on the number of affected parties and provisions for psychosocial support.

In connection with follow-up programmes under the Directorate of Health, a liaison forum was established which was responsible for tasks such as liaising with and coordinating interventions by the different resources centres serving within an expert group.

The Norwegian Resource Centre for Violence and Stress Studies (NKVTS) is a key institution as the Directorate of Health’s advisory body on the issues arising from extreme human emergencies of this kind. This Centre was consequently contacted early on for advice on psychosocial crisis management and follow-up of victims. In addition, the Center for Crisis Psychology (SfK) in Bergen was consulted.

**Directorate of Health liaison forum**

On 23 July, the Directorate of Health commenced the process of setting up a liaison forum composed of key organisations within the non-governmental and governmental sector, that is, organisations that were regarded as being significant for somatic and mental health care in the wake of the incidents. At that time there was no ready list of such organisations available, or contact details for them. A discretionary selection was therefore made of likely resources, who were then contacted over the course of 23 July via whatever channels were available.

Participants selected for assignment to the liaison forum were representatives of the individual offices of the county governors, the Directorate for Civil Protection and Emergency Planning, the Norwegian Women’s Public Health Association, the Norwegian Resource Centre for Violence and Stress Studies (NKVTS), the Center for Crisis Psychology (SfK), Norwegian Psychological Association, the Norwegian Nurses Organisation, the Norwegian Medical Association, the national mental health
The Directorate of Health issued recommendations to all Norwegian municipalities concerning follow-up of direct and indirect victims of the terrorist attacks in Oslo and on Utøya on 22 July. The Directorate of Health’s advice was sent out to the municipalities via the county governors.

A working party meeting was held on 27 July to plan establishment of the Directorate of Health’s expert group. Members present were: NKVTS, SFK, Norwegian Labour Party, Norwegian Centre for Minority Health Research, and the Directorate of Health.

Following the founding meeting, the liaison forum held five meetings: on 29 July, 3 August, 26 August, 20 October, 16 December, with a sixth meeting scheduled for 14 March 2012, when health service preparedness in connection with the trial and research will be the agenda items.

Expert group
The expert group was established as a subordinate body to the liaison forum, led by NKVTS and SFK. The expert group was composed of: 4 representatives of NKVTS, 2 from SFK, 1 from the Norwegian Psychological Association, 1 from the Directorate for Children, Youth and Family Affairs, 1 from the Office for Psychiatric and Stress Management at the Norwegian Armed Forces’ medical corps, 1 from the Norwegian Association of Local and Regional Authorities, 1 from the Norwegian Psychiatric Association, 2 from the Norwegian Medical Association, 1 from South-Eastern Norway Regional Health Authority, 1 from Norwegian Centre for Minority Health Research (NAKMI), 1 from Church of Norway, 1 from the Police and 1 from the Norwegian Labour Party.

The Directorate of Health also held meetings with Norwegian Labour Youth – AUF, and following the formation of the 22/7 National Support Group also held regular meetings with this organisation. Both the 22/7 National Support Group and the National Support Group Network were invited to join the liaison forum.

Information and advice to the public was produced by the Directorate of Health, NKVTS and SFK and was published on . On the website , dedicated to the terrorist attacks, information was posted for health professionals and other professional groups.

NKVTS outlined a series of interventions based on three principles:

1. Use of existing models for health services.
2. Proactive approach to direct and indirect victims.
3. Continuity in the follow-up. It was proposed that everyone be assigned a primary contact person.

Crisis committee
On 28 July, the Directorate of Health crisis committee received reports that citizens in some municipalities were finding it difficult to make contact with the public-sector care services and/or their regular GP.

In a memo from NKVTS dated 28 July 2011, a model was proposed for follow-up of direct and indirect victims of the terrorist attacks in Oslo and on Utøya. This was endorsed by SFK and other expert institutions. This model was presented to the Directorate of Health at the request of the expert group and constituted a key component of the recommendations sent out by the Directorate to the county governors/municipalities.

As early as at the preliminary meeting for the creation of an expert group, NKVTS had recommended a model for proactive follow-up of victims, which was endorsed by SFK and the Norwegian Labour Party. On the advice of the expert group, a municipal model was adopted for following up survivors from Utøya, and a corporate model for following up survivors from the government quarter.
In the follow-up, it was recommended to conduct a basic screening of psychological reactions and other adverse health conditions among the Utøya survivors. In its expert follow-up, the Directorate aimed to support the municipal follow-up system. The Directorate consequently worked to a municipal model devised in conjunction with experts from NKVTS and SfK and to a corporate model for the ministerial employees. There was consensus on the professional alignment of the follow-up.

The Directorate of Health guide to psychosocial interventions attaches importance to the principle of watchful waiting. This principle entails an active responsibility for monitoring reactions and a certain flexibility in interpreting how proactive follow-up should be. In conjunction with the liaison forum and expert group, there were preliminary discussions as to whether there was a need for proactive follow-up, and if so, which division of the municipal mental health care system would be responsible for this form of outreach.

There were also discussions concerning whether recommendations should be issued to lodge follow-up of victims and the bereaved with the primary care providers, i.e. the regular GPs. One argument against this was that GPs are part of the health service and this might result in medicalisation of the survivors and the bereaved. One of the arguments in favour of lodging follow-up with municipal crisis teams was as a way of avoiding medicalisation, while it would also make the municipalities, via the victim’s contact person, alert to the individual’s condition over time so that they could assist if the need arose for medical/psychiatric/psychological intervention. These arguments, taken together with the experiences of lodging follow-up of Norwegian tsunami victims with GPs following the 2004 tsunami, with varying degrees of follow-up and disagreement concerning physician fee-rates for this form of medical care, led the Directorate of Health to advise that follow-up not be lodged primarily with GPs, but with the municipal crisis teams.

NKVTS were key advisers in the process of devising a follow-up model for the victims. They provided clear-cut advice that it was important for the occupational health service to organise follow-up in the government quarter, because the attacks occurred while people were at work. The employees would lose an important dimension in the follow-up if they received follow-up in their municipality of residence, since it was likely that the main challenges would arise at work in terms of insecurity about the work premises, phobias and PTSD.

The municipal model was selected for the survivors of the terrorist attacks on Utøya. The expert recommendations were for the municipalities to be proactive in making contact. The object of using a proactive model was to ensure continuity in the relationship between direct/indirect victims and the health care system, and satisfactory and regular evaluation of social support and functioning. This was to form the basis for evaluation of the need for further interventions.

**Contact with the local crisis team**

The Directorate of Health recommended that follow-up should be based on established structures in the municipality and community generally. The NGOs were key actors in the long-term programme. The voluntary work was largely organised locally, and local associations were involved in various ways. A few organisations (Church of Norway, Norwegian People’s Aid) were involved in assisting the municipal crisis teams.

**Implementation of proactive follow-up**

The municipalities engaged in proactive follow-up, which entailed that the municipal health and welfare service took the initiative for contact with the victims. The same, dedicated contact person offered one-to-one sessions and continuity in the contact throughout a follow-up period of at least 12 months. It was recommended that the contact person have either health-care or social/educational qualifications and that contact was to be frequent to begin with, for example, weekly, and from then on adapted to personal needs. The focus was on stabilisation, practical assistance and support.

**Contact with the minority population**

The Norwegian Centre for Minority Health Research (NAKMI) called a meeting of specialists in the field on 16 August. A special working party was set up within the Directorate of Health to deal with this perspective in the follow-up work. Young immigrants in Norway do not make up a homogeneous group, and asylum reception centres/municipalities were in need of specific, tailored advice. Retraumatisation and the attack on the multicultural community were main themes. One particular focus was to follow-up on residents at asylum reception centres and unaccompanied minors. The Directorate of Health has produced information for immigrant youth generally and for teachers and other adults who work with young immigrants. Efforts were made to find suitable care-givers for those who find it difficult to trust the municipal welfare service, and public health nurses and other relevant groups were informed about the risk of retraumatisation and the importance of restoring a sense of security.

**NKVTS had multiple roles:**

- Provided advice to the health authorities in line with their general mandate
- Assisted with operative teams in connection with the revisits
- Contributed competence building through training seminars and knowledge dissemination via the Internet/informational materials
- Contributed to dissemination of information and knowledge via the media
- Research

**SfK had multiple roles:**

- Provided advice and inputs to the Directorate of Health on organisation and on practical arrangements for...
direct and indirect victims, including emergency responders. Assisted the Norwegian Labour Party with advice and guidance on psychosocial follow-up.

b) Assisted with operative teams in connection with the revisits

c) Produced "manuals" and documents for the gatherings held for the bereaved and survivors

d) Drew up proposals for grief research

e) Led the extended crisis team for all affected municipalities in Hordaland

Project within the Directorate of Health: Health care and psychosocial follow-up after 22 July 2011

After the incidents, the Directorate of Health has established a project for supervising and coordinating the programme of long-term psychosocial follow-up. This project was lodged with and led by the Directorate's Mental Health and Substance Abuse department under the Primary Health Care Services division. Many members of staff were involved in this project, which was wide-ranging and is still ongoing at the time of writing in February 2012. Project staff have maintained regular contact with the 22/7 National Support Group and with experts at the regional branches of the Resource Centre on Violence, Traumatic Stress and Suicide Prevention (RVTSs) and the national information and research centre, Norwegian Resource Centre for Violence and Stress Studies (NKVTS). Project staff coordinated the professional theme-day event, schools follow-up and organisation of the official gatherings for survivors and relatives, while they also liaised with research centres and coordinated research efforts.

Screening

In addition to the individualised follow-up, the Directorate of Health recommended that a screening be conducted of adverse reactions and symptoms among young people and adults who had survived Utøya. The screening tool was developed on the basis of experiences from school shootings and the terrorist attacks in the USA on 11 September 2001, and from the natural disaster wreaked by Hurricane Katrina. In addition, UK colleagues involved in the psychosocial follow-up of victims of the 7 July 2005 London bombings. The advice and checklist received were adapted to Norwegian conditions and the crisis at hand. Experience of screening for post-traumatic stress reactions in Norwegian survivors of the 2004 tsunami was also drawn on.

The Directorate of Health, on the recommendation of the expert group, recommended that the screening tool should be used within the municipal health service by personnel with adequate health care expertise. The tool incorporates elements which clinical evidence indicates is crucial to follow up. A number of studies also indicate that it is easier to interview people about traumatic experience if this is introduced as a routine (Saltzman, Layne, Steinberg, Arslanagic, & Pynoos, 2003).

The screening tool and accompanying guide was sent out to the county governors and the regional health authorities on 19 August. The package included a survey form, guide to the screening questionnaire, advice on follow-up and a guide to psychosocial follow-up in response to crises and disasters. The screening is an elective scheme, but it was recommended that it be carried out at least three stages: 5-6 weeks, 3 months and 12 months after the incidents. The purpose of the screening is to intercept adverse reactions and disorders that might not necessarily emerge in interviews and to ensure that everyone who needs help receives it. The screening questionnaire was custom-designed for use in following up Utøya survivors, but further elaborated for use with other groups such as volunteers and emergency responders.

Professional theme-day event on the psychosocial follow-up programme

A theme-day event devoted to the psychosocial follow-up programme was held on 6 September. The invitation was sent out to all municipalities and other relevant bodies. The professional theme-day event evaluation was completed by 203 different respondents, of whom half were directly involved in following-up direct and indirect victims, while the other half were involved in follow-up organisation or administration. Approx. 80% of respondents indicated that they had the necessary expertise to carry out follow-up work However, 50% responded that they needed more information about symptoms and disorders and 50% responded they needed to know more about short-term follow-up. More than 85% responded that they needed more knowledge about long-term follow-up.

Around half of the respondents stated that the municipal follow-up programme was effective, and that everyone was receiving the help they needed. However, more than a third (73 respondents) responded that the programme failed to cover everyone. The follow-up question as to who was not covered was answered by 68 of the 203 respondents, with responses breaking down as follows: relatives of survivors (46%), relatives of the bereaved (38%), survivors (34%), emergency responders (28%) and others (29%). Half of the respondents stated that all survivors were offered a regular contact person in the municipality, while a third stated that they did not know if this was the case. Only 3 respondents stated that the municipality did not offer a regular contact person. Only half of the respondents were aware of the screening questionnaire. 5% (10 respondents) stated that no one they were aware of had been offered screening.

Evaluation

The authorities opted to take an uncustomarily proactive and operational role in response to the incidents. The Directorate of Health does not have the role of performing health services itself, but in the aftermath of 22 July, the Directorate followed up very closely the health care providers to satisfy itself with regard to the good quality of follow-up across Norway. The Directorate of health led the liaison forum and expert group, maintained regular
contact with the 22/7 National Support Group and the National Support Group Network, laid down guidelines for the services in the use of a proactive municipal model and a corporate model, and surveyed municipal follow-up. Owing to the extraordinary scale and nature of the incidents, this is seen as the proper course of action.

The role of the authorities can be discussed from different perspectives, in favour of proactive versus passive, and in terms of cultural differences as regards expectations from the national health service. In Norway there is zero tolerance of failure on the part of the authorities. The public expects health service specialists to respond capably to crisis situations. The same goes for the needs reported by the victims. However, there is the risk to consider of widening the gap between high expectations from follow-up and what treatment can actually achieve.

The Directorate of Health’s crisis committee found it necessary to unite all resource centres/specialists in the field to facilitate a coherent process and provide consolidated and consistent advice to the services and the public. Cooperation between the resource centres was constructive, and there was general consensus on the professional alignment of the follow-up. The Directorate regards the ability of the resource centres to achieve professional consensus in the wake of 22 July as a resoundingly positive factor. The object was to address issues of concern and recommendations from different perspectives in an open process in which opinion-forming representatives were to be heard.

Experts from the International Advisory Council commended the Directorate of Health’s commitment to heading up long-term psychosocial follow-up in the project “Somatic and psychosocial follow-up after 22 July 2011” (The follow-up project). The Council also commended the Directorate of Health for achieving coordination of representatives of the resource centres within the expert group: “The organization, coordination and implementation of the acute psychosocial response and the follow-up project for this national large-scale event are admirable”.

“Establishing the systematic follow-up project and need-based support and treatment by collecting together all relevant actors and organizations, and avoiding unnecessary public disagreements among experts, was excellent” (M 28).

Local mobilisation is seen as having been facilitated effectively by the implementation of a corporate model and municipal model, respectively. Within these models, the occupational health service and municipal health services were respectively responsible for follow-up at the lowest-possible effective level of care, while their role was to be supported by advice and guidance from national authorities and the expert group.

According to the Comprehensive National Health and Social Preparedness Plan, responsibility for providing expert advice to the health and social services rests with the Directorate of Health. Only a day after the terrorist attacks it was decided to implement a programme for psychosocial follow-up. Along the way, the Directorate of Health has emphasised that the decision to use the corporate model and municipal model respectively was informed by policy and based on assertive recommendations.

One factor has been the difficulty in striking the right balance between providing effective psychosocial follow-up and preventing inappropriate medicalisation (pathologisation of reactions). The Directorate of Health made a well-informed decision regarding follow-up through municipal crisis teams to avoid this medicalisation of the direct and indirect victims. It was crucial to stem the notion that it was in the best interests of direct and indirect victims to be passive in receiving help. Research points to two overriding factors. On the one hand, many
people will undergo a natural healing process, so that excessive attention to symptoms and dysfunctions initially may lead to negative expectations and aggravate the risk of health problems. On the other hand, such people are at increased risk of developing permanent health problems, and studies indicate that far too many people are reluctant to seek treatment for those problems.

The International Advisory Council stressed that “Commonsense proactive screening and inter-action is a first-choice approach” (D117).

Preliminary reports from the municipalities, the ministerial occupational health service and direct and indirect victims suggest that the proactive outreach approach, a municipal model and corporate model made sense, and that follow-up has by and large been effective. This should however be evaluated after longer term observation and following more thoroughgoing and systematic fact-finding. Feedback from national care and support systems on the value of using the screening questionnaire was variable.

The 22/7 National Support Group stressed that the value of using a municipal model is entirely dependent on the proactivity of the municipalities, and their agility in seeking help and guidance from the specialist health service or other sources with in-depth expertise if they lack knowledge or capacity themselves. The Group emphasises that user experience of the national care and support systems is variable since expertise within the municipalities is variable, and that some users reported that follow-up from the municipality was either inadequate or lacking altogether. They also point out that it can be difficult for people to complain about follow-up in small communities with extensive transparency and lack of anonymity (M27).

Recommendations

The national health authorities should assess whether more explicit criteria may be drawn up for when they should take on such an active role in any future incidents.

– The health authorities' policies concerning the use of a proactive approach based on a corporate model and municipal model should be evaluated.

3.4
LONG-TERM FOLLOW-UP

3.4.1 Follow-up of survivors and relatives within the specialist health service

The specialist health service is required to support and guide the municipal health service in its work and to receive referrals and provide treatment for those who need specialist treatment.

Trauma-focused cognitive behavioural therapy (Tf-CBT) is a guidance-based method, and the gold standard in therapeutic interventions for children, adolescents and adults exposed to traumatising incidents (NICE guidelines). The purpose of this form of intervention is to reduce the difficulties arising from experience of traumatic incidents. National implementation of Tf-CBT was launched under the aegis of NKVTS and in association with the five RVTSs (regional resource centres on violence, traumatic stress and suicide prevention).

In the wake of 22 July, there was a large increase in communication conveying the need for competence building from therapists and other service providers in contact with victims and relatives. In response to the increased demand, NKVTS, in association with the Norwegian Psychological Association, arranged two series of seminars in Oslo and in Bergen, where a total of 500 therapists were instructed in the principles of early intervention and Tf-CBT. In addition, in cooperation with the Directorate of Health, a two-day seminar was held on post-catastrophe early intervention and on Tf-CBT.

The RVTSs assisted in implementation of the Directorate of Health guide to psychosocial interventions. All the regional health authorities were involved in the psychosocial follow-up in the acute phase after the terrorist incidents, and also in subsequent follow-up after the acute phase. In the reports, they describe that the different health authorities were involved to a varying extent. In some regions, they were highly active, and many BUPs and district psychiatric centres nationwide played an active role in following up direct and indirect victims. The full details of the reports from the specialist health service in different parts of the country are not reiterated here, suffice for a few main points.

In connection with the survey of follow-up in the municipalities in September/October 2011, it was reported that 360 individuals received follow-up within the specialist health service at the time of the survey.
South-Eastern Norway Regional Health Authority

The specialist health service within the South-Eastern Norway Regional Health Authority had multiple functions following the terrorist attacks.

OUH U referred psychosocial follow-up of casualties and relatives to the next level of treatment in that patients were discharged for further follow-up under the care of the district psychiatric centre serving their municipality of residence. Follow-up of relatives within their municipality of residence was assessed in terms of their need and the services available. Patients who required further treatment at a somatic hospital were transferred to the consultation/liaison unit at the hospital.

Vestre Viken Hospital Trust assisted crisis management in the acute phase at Sundvolden Hotel by assigning approx. 65 personnel to the scene. The Vestre Viken Clinic for Mental Health and Substance Abuse also established a system for follow-up for the 26 municipalities within their catchment area. The clinic remains on stand-by to assist the municipal psychosocial teams and administration.

Akershus University Hospital and the district psychiatric centres collaborated extensively with the municipal health services.

Hadeland outpatients’ clinic, under Gjøvik district psychiatric service which sorts under Innlandet Hospital Trust, assisted at Utøya when its staff were called to the scene in the acute phase. In the first week they had close, day-to-day contact with survivors and relatives. The clinic also collaborated with the municipal health services. All the survivors from the government quarter and Utøya who attended the outpatients’ clinic, their families and rescue workers from Norwegian People’s Aid were offered follow-up via Hadeland psychiatric outpatients’ clinic. All of them took up the offer and a number are still being treated by the clinic. The clinic offered emergency responders group debriefings, and organised debriefing groups for fire crews and their relatives.

From the report by Hadeland outpatients’ clinic:

“The key to effective follow-up in the aftermath of an incident on this scale lay in the close collaboration enjoyed by the clinic with the municipalities in its catchment area (Jevnaker, Gran and Lunner). Through a well-established resource team, we have a comprehensive picture of the expertise that exists in both the municipalities and specialist health service. This facilitates the task of assigning the right follow-up professionals to where they are needed. One crucial factor in follow-up is that the coordinator is familiar with both political and administrative executive levels in the municipality in order to mobilise interventions in the right sequence. Good inter-disciplinary and interagency collaboration are key.”

The municipalities have the primary responsibility for follow-up and have reported that long-term follow-up has generally been provided satisfactorily and in line with the authorities’ recommendations. Feedback from Norwegian Labour Youth – AUF and the 22/7 National Support Group concerning how satisfied the users have been with the follow-up has been more uneven however.
Good interdisciplinary and interagency collaboration are key.

St. Olav’s Hospital reported that they have the necessary expertise and capacity and that they have received inquiries concerning follow-up of victims warranting treatment at district psychiatric level. There was close collaboration with the municipalities, with low thresholds for referrals. Collaboration was established with BUP and VOP in order to cover the family-needs perspective and relatives of the patient. A group was commissioned to evaluate the level of expertise in mental health care with a view to holding training seminars, and produced a list of qualified persons for various assignments.

From Nord-Trøndelag county, a total of 30 young people had been at Utøya. Of these, 20 came under the BUP Levanger catchment area. At the time of the incident, the clinic was short-staffed, but staff were called in from their holiday leave as required. Psychosocial follow-up was provided to 16 of the 20 victims and their families. Initially, follow-up was provided to parents and siblings to the same extent as to the young survivors, but gradually mainly to the young survivors, and also to their friends. 10 individuals are still receiving psychosocial follow-up at the time of writing in February 2012.

From the report of BUP Levanger:
"In Nord Trøndelag county, we have experienced high demand for secondary care services with expertise in crises and crisis management, as great variation exists in such expertise even within individual municipalities”.

Guidance of municipal personnel was rapidly implemented and followed up. Levanger was particularly hard hit by the incidents. Nord-Trøndelag Hospital Trust mobilised additional assistance in this municipality, provided personnel for group follow-up organised under Levanger municipality and held regular meetings where the focus was on guiding and coordinating the support. The specialist health service was involved in debriefing of at-scene health personnel jointly with the municipalities and in some instances independently. Before the start of the new school year in August, contact had been made with all upper-secondary schools.

Northern Norway Regional Health Authority
University Hospital of North Norway (UNN) dispatched four members of its crisis team to the Utøya scene. They arrived at Sundvolden Hotel during the acute phase on the evening of 22 July to establish contact with young people from the UNN catchment area. They then accompanied many of the youngsters from the counties of Troms and Finnmark north to Tromsø by charter flight on the following day. Subsequently, patients were transferred to UNN from Oslo University Hospital. The mental health care services were brought in to assist patients and relatives on admission. UNN also assisted in local organisation, including in the organisation of a team to assist the municipal crisis teams.

The first process was to identify needs and the resources available. The most severely affected municipality is the location of the Viken centre for psychiatry and counseling. This centre has extensive expertise in trauma care and assisted in the follow-up. Norwegian Defence stress coping team North division also came to contribute resources to attend to the young victims.

UNN management issued a brief to all units that all casualties were to be given priority, and that, if need be, standard routines for referrals to the specialist health service could be circumvented. Owing to the holiday period, the northern municipalities were short-staffed. Members of the crisis teams were personally affected, either directly or as close friends or colleagues.

From the report by Northern Norway Regional Health Authority:
"A number of district psychiatric services received calls from people not directly affected by the incident, but who have been retraumatised by the situation. These will be attended to within normal processes.”

There have been several serious incidents in Northern Norway in recent years in which the municipal crisis teams and specialist health services have collaborated. This collaboration had consequently been evaluated. In response to major crises, the municipal crisis teams are responsible for overall management, and the specialist health service assists at their request.

Western Norway Regional Health Authority
The specialist health service within Western Norway Regional Health Authority was affected only to a slight extent by the terrorist incidents.

Egersund municipality in the south of Rogaland county faced the greatest challenges relative to the number of...
staff. There were relatively few referrals, and capacity was sufficient to permit treatment to be started relatively rapidly and within the usual time limits. The health service in the municipalities in question appears to have met needs as they arose satisfactorily without consulting the specialist health service for extensive guidance.

In the north of Rogaland county, Fonna Health Trust had around 5 patients for follow-up, and guidance was provided to the primary care services on a needs basis. A number of young people were treated by specialists in private practice.

Close contact has been maintained with the crisis centre in Haugesund municipality, which is coordinating psychosocial follow-up services in the north of Rogaland county, and with the crisis team in Odda. Fonna Health Trust made a psychological specialist available for guidance and otherwise focused on supporting the municipal primary care system in and around the start of the new school year after the summer holidays.

Stavanger Health Trust had good capacity and a low threshold for psychosocial support and follow-up, but low demand for the specialist health service.

The County Medical Officer recommended that all psychiatric units unite under a joint resource group to make it easier for people to get in touch with them. The resource group is to have trauma care as its specialist area.

Western Norway Regional Health Authority instructed its health trusts that it had made an arrangement with the Norwegian Armed Forces’ medical corps for support from its resource group in crisis psychiatry.

Bergen Health Trust reported that the outpatient clinics run by the district psychiatric services and child and youth psychiatric services (DPS and BUP) coped well with the greater influx of patients in the wake of the incidents of 22 July within the ordinary resources in the specialist health service.

In the Bergen Health Trust catchment area, SfK was requested to head up an upscaled crisis team. The affected municipalities in Hordaland county coordinated follow-up at extended crisis team meetings. Referrals to the specialist health service were made by the usual procedure.

From the report by Western Norway Regional Health Authority:

“Psychosocial follow-up going forward must be of a high professional standard. We need to take both mid-term and long-term approaches, and ensure that all personnel are coordinated and attuned to the needs of the young people and their loved ones.”

“From the specialist health service it is important to be able to offer sound professional support, but it’s a two-way process. Health personnel at the municipal and health trust level need to have conferred and maintain a common professional foundation. There will be a need for national resource centres to convene seminars and organise courses for specific target groups of personnel, and this should be done without delay.”

Generally, the report describes a productive collaboration. Bergen Health Trust has described its excellent collaboration with the 7 municipalities that were involved. This was coordinated via the Center for Crisis Psychology (SfK) in Bergen. There was a good overview of all persons involved, and the municipalities responded effectively to the needs of the bereaved, survivors and relatives.

Regular meetings are held between SfK, the municipal crisis teams, Hordaland University Hospital and the County Medical Officer. This network is led by SfK.

Evaluation

The scale of the psychosocial tasks undertaken by the specialist health service under the health trusts in different parts of the country following the terrorist incidents has varied. The regional health trusts report that in the majority of cases they had sufficient capability and capacity to provide the necessary therapy and long-term follow-up. They report that these commitments were not at the expense of longer waiting lists for other patients, since they were honoured through additional efforts.

There was high availability and good collaboration with the municipalities, and regular contact with the first-line service and county governor in many locations.

The specialist health service has been proactive and contributed knowledge transfer in collaboration with the municipalities and municipal crisis teams. Feedback from the services themselves largely focused on what worked well, while the user groups tended to present a more nuanced picture in indicating that, although a great deal was done effectively, their experience was that capability and availability in different parts of the country were uneven (M27).

3.4.2

Follow-up within the municipalities

In the wake of the incidents of 22 July, the Norwegian municipalities received supplementary allocations totalling NOK 80 million in 2011 for psychosocial follow-up. A further NOK 50 million has been allocated under National Budget 2012 for the same.

NKVTS was commissioned by the Directorate of Health to develop a survey questionnaire to cover the victims and guideline materials for supporting follow-up in the municipalities. The regional Resource Centres on Violence, Traumatic Stress and Suicide (RVTSs) were tasked with guiding the municipalities in this undertaking.

Questionnaire-based survey on municipal follow-up of victims

After the screening of the victims had been conducted, in October 2011, the Directorate of Health published
a report on the affected municipalities’ self-rating of their psychosocial follow-up. The purpose of this status survey was to ascertain how many victims had received follow-up, how effective it had been, whether there were any shortcomings in the follow-up, and municipal capacity, expertise and resources. The report also touched on follow-up of people who had moved address and follow-up of people with an immigrant background.

The questionnaire was sent out to relevant municipalities via the county governors on 20 September. In addition, a separate internal reporting form was sent out subsequently. All county governors were asked to report back jointly to the Directorate of Health by the end of September. The county governors were also requested to encode the identity of the municipalities for purposes of personal data protection.

The status report summarised the results of the survey at the national level. It is important to emphasise that the report represents the municipalities’ self-rating of their psychosocial follow-up work. Their ratings and reporting may therefore not necessarily correspond with how other parties, such as the victims themselves, perceive the follow-up that was provided. The Directorate of Health wanted to elicit the opinion of other parties concerning the psychosocial follow-up in other ways, including through ongoing dialogue with the 22/7 National Support Group.

The report is based on 150 affected municipalities which had responded to 19 open-ended questions. This amounted to a response rate of 90%, given that an estimated 165 municipalities were affected. Some 1,700 victims have received or are receiving follow-up in their municipality of residence. However, this should be assumed a rough estimate, since the report produced varying outcomes depending on who the municipalities had included in the number of victims receiving follow-up: young people who survived Utøya and their families, other persons bereaved by the Utøya attacks, affected families and people bereaved by the bombing in the government quarter, friends, rescue workers, health personnel, volunteers, witnesses/bystanders, emergency responders and municipal employees.

The municipalities responded that 3.6 per cent (61 out of 1,700) did not wish to be assigned a contact person. Half of all the counties (9 counties) cover municipalities that have victims with an immigrant background. According to this report, all persons with an immigrant background were offered adapted follow-up.

**Reporting on the use of the screening form in psychosocial follow-up**

The municipalities rated their own capacity and expertise in their individual reports. The national report indicated that the vast majority of the municipalities (85-95%) rated their own capacity, expertise and own resources as good or satisfactory. The main impression was that the municipalities gave priority to this work, but that, in several instances, it was at the expense of ordinary services, especially mental health work in the community.

A total of 69 municipalities out of the 150 that responded stated that they have finished screening affected municipalities. The commonest response to the question as to why the screening form had not been used was that the victims themselves had declined. However, a number of municipalities also found the screening form as not applicable, as other methods were in use for screening for post-traumatic stress. Others stated that the form was not used because the victims were followed up by the specialist health service, occupational health service or a psychologist with other relevant screening tools.

**Measures in response to failings in the follow-up**

A total of twenty percent of the municipalities (30 out of 150) had identified failings in follow-up of the victims. In these municipalities, it appeared that the failings identified had been investigated and satisfactorily resolved. A number of municipalities stated that they have an established system for detecting any future failings. Examples of reported failings: inadequate follow-up provision, difficulty of obtaining help, problems surrounding referral to a specialist, problems in making contact with the victims and shortcomings in follow-up at schools.

**Follow-up in schools and the school health service**

The Directorate of Health cooperated with the Directorate of Education and Training on psychosocial follow-up of school pupils. Health advice in terms of acute follow-up and long-term psychosocial follow-up was communicated to pupils, teachers and head teachers through various information channels. Competence building initiatives aimed at head teachers at schools with affected pupils were organised by various expert units with specialist expertise in grief, trauma and psychosocial work. Both the school health service and student health service offered support and follow-up for pupils and students. The formal cooperation between the two directorates will continue beyond 2012 in order to ensure somatic health and psychosocial advice and competence building for schools before and after the trial against the indicted terrorist.

**Evaluation**

Psychosocial follow-up in the municipalities was resource-intensive and some municipalities lacked expertise in certain areas. This may prove a key issue for future efforts by the county governors to support the municipalities in following up the victims of the incidents of 22 July, and for the RVTSs, which are to offer the municipalities professional assistance in the use of the screening tool and in the implementation of the Directorate of Health guide to psychosocial interventions.

In their own reports, the municipalities state that they generally have a high standard of expertise and capacity
and that collaboration with the specialist health service was effective. This form of self-rating does however pose a risk that failings and problems go under-reported. The survey should therefore be followed-up by a new survey with more specific questions to elicit responses in more restrictive categories than as responses to open-ended questions. Going forward, there may also be a need to establish a template and routine for documenting and rating capability and capacity in psychosocial follow-up in municipalities, given that approaches, care provisions and methods may vary.

The 22/7 National Support Group: “A municipal model is perfectly fine, but the municipalities will then have to have a low threshold for seeking help and assistance if their own capability falls short.”

3.4.3 Utøya revisits

In meetings with the expert group, the question of official organised revisits to Utøya was raised early on.

In consultation with the political parties at the Storting, the Government resolved to organise a national commemoration ceremony following the terrorist incidents in the government quarter and at Utøya on 19-21 August. Responsibility for the commemoration ceremony was delegated to the Ministry of Culture. The Ministry of Government Administration and Reform was responsible for organising meetings for direct and indirect victims of the bombing in the government quarter.

In a letter dated 5 August 2011, the Ministry of Health and Care Services instructed the Directorate of Health to assist in the planning and holding of the memorial in Oslo Spektrum on 21 August, to assist in the planning and holding of a reception for the bereaved on 21 August, and to plan and conduct a meeting between the bereaved and survivors of the AUF summer camp on Saturday 20 August.

In addition, at a meeting initiated by the Ministry of Health and Care Services on 5 August, it was decided to offer the participants an opportunity to revisit Utøya. Responsibility for the official revisits was delegated to the Directorate for Civil Protection and Emergency Planning. The Directorate of Health was responsible for providing health advice in the process of preparing and conducting the revisits, and for organising health service care/emergency services in connection with the revisits. Those who were unable or declined to revisit Utøya on the scheduled dates were informed that they would have another opportunity to do so. These revisits were organised for 1 October, with gatherings for survivors and an evening meal for the bereaved later that day.

The expert group was consulted concerning both occasions. Direct contact was then made with NKVTS and SFK, which assisted on an ongoing basis with inputs on issues and arrangements. In addition, advice was obtained from NAKMI and experts within the Directorate of Health.

Emergency preparedness planning for the events

The Directorate of Health adopted the recommendation received from its expert advisers on using, as far as possible, the same personnel who were involved on 5 August, owing to the fact that Utøya was to be reopened to the public earlier than scheduled, the decision was made to offer the bereaved and survivors an official revisit to the island to tie in with the commemoration ceremony on 21 August. Prior to that, opinion was that the revisits should be held in late September/early October.
CHAPTER 3 / Learning for better emergency preparedness – The medical response to the terrorist incidents of 22 July 2011

Hole municipality and the county governor of Buskerud county were contacted on 8 August to make the attendant emergency medical arrangements. At a meeting in Hole municipality on 11 August, it was confirmed that both the county governor and Hole municipality wished the Directorate of Health to coordinate the medical component of the event.

22-26 July. In addition, the experiences from the revisits organised for Norwegians affected by the South Asian tsunami in 2004, and the advice of health personnel involved in the post-acute phase after 22 July were taken into account in determining the size and composition of attendant health teams. Although previous experience and advice supported decisions, the revisits to Utøya were undertaken sooner after the disaster, and there was limited knowledge of reactions and needs for health care. Ordinary guidelines were followed as regards emergency preparedness (Vestre Viken Hospital Trust). But traditions from previous Norwegian Labour Youth – AUF events on Utøya were also followed, including Norwegian People’s Aid’s command of the first aid station for such events. The Directorate of Health organised and coordinated the health service support for the events.

Preparations for the events
The time elapsing from when it was decided to hold the events to when they were actually held was very short (a fortnight), and as a result, a number of inquiries and guidances were provided orally, or at most in the form of short memoranda. The Directorate of Health drew up a memorandum setting out recommendations for preparing the participants for the events, regarding participant numbers and concerning accommodation and the attendance of health personnel. The memorandum was sent to the Ministry of Culture on 4 August and passed to the Norwegian Labour Party at the first convention it held on Utøya. A separate memorandum was drawn up to address the ethnic minority perspective.

SFK was actively involved in organising the visit itself and in the practical hosting of the events. In advance of the revisits, separate letters sent out to the bereaved and survivors and their relatives with advice concerning the events that would take place. Photographs taken of buildings and locations on Utøya were placed on the quays in order to prepare the participants as well as possible for the sights they would be met with.

The county governors were kept informed throughout to ensure proper information relay to the municipal crisis teams and each individual participant in order to allow them to prepare, and in order to ensure that the invitations reached all intended recipients. The regional health trusts were notified of the official gatherings.

The events of the revisits
The revisit to Utøya for the bereaved was held on 19 August. Each family had the costs of travel and accommodation for up to 10 people and a health worker covered. An average of 6 members per family participated, bringing the total number of participants in the revisit on 19 August to around 850. On 20 August, a revisit was held for survivors who were invited to bring someone along to accompany them. The total number of participants was approx. 450. In line with recommendations, a health team was established, representing authorities and institutions involved in the immediate aftermath of 22 July. The health teams and a counselling team attended from the municipalities of Hole and Ringerike, and from the Modum Bad psychiatric institution and from the Vestre Viken Clinic for Mental Health and Substance Abuse. The same authorities and institutions assigned a health team to the revisit held on 1 October.

On 19 and 20 August, NKVTS and SFK also attended with their respective health teams. There were 3-5 mem-

Revisit to Utøya

Photo: SCANPIX
Cornelius Poppe
bers in each team, including a doctor and psychosocial workers. The teams were stationed in different locations on the island, and reported at set times to the island command centre.

In the afternoon of 20 August, a meeting was held at the city centre’s Plaza Hotel to facilitate contact between the bereaved and the survivors. The Director General of Health gave an introductory presentation outlining the aim of this contact to avoid undue strain on the participants. The meeting helped to create important contacts. Feedback from the event indicated that both parties felt able to ask questions and obtain answers. Some families however found themselves alone in that they did not find anyone able to give them information or answer the questions they had.

On 1 October, another revisit event was held, for the bereaved from approx. 10:00 to 13:00, while survivors were invited to Utøya from approx. 14:00 to 18:00. This event was organised to give those people who for various reasons had not participated in the earlier revisit another opportunity. There were considerably fewer participants in these revisit events.

The Norwegian Red Cross was in attendance during the revisits to Utøya with Red Cross workers acting as hosts to the individual families. Their role was that of facilitator in practical matters, rather than a health care role. 90 people participated in the first revisit, and 40 in the second.

Evaluation
No evaluation was made of the revisits or other events, but feedback from the Directorate for Civil Protection and Emergency Planning, the Ministry of Culture and the health teams involved indicates that the revisits and other events meant a great deal to the participants and were, on the whole, carried out in a satisfactory manner.

There were some challenges in terms of logistics. The National Criminal Investigation Service (KRIPOS) escorted each family to the location where their loved one was found, where the family was given plenty of time. This however meant long delays for others who were waiting. The logistics could have been better planned in conjunction with KRIPOS.

Norwegian Labour Youth – AUF reported that the events were carried out in a satisfactory manner, at the right time and were crucial in enabling people to find some degree of closure and move on. Many people felt “more rounded” after this opportunity to revisit the scene and come to terms with the incidents that had occurred there. However, a great many of the survivors found it difficult to pick just one person to accompany them on the revisit (M25). Both Norwegian Labour Youth – AUF and the 22/7 National Support Group commented that more flexible options should have been provided, for example, for both parents to be allowed to come (M25, M27).

3.4.4 Official gatherings for the bereaved and survivors

Official gatherings for the bereaved
In consultation with the Directorate of Health’s expert group and liaison forum, the Directorate decided to organise official gatherings for direct and indirect victims\(^7\). It was emphasised that the gatherings would not be therapeutic as such, but that a programme for the gatherings would be set up by relevant specialists and that health personnel would be in attendance.

SfK was assigned by the Directorate on 5 August to draw up a programme for the official gatherings/groups, with proposals for organisation, content and anchoring.

There were discussions from an early stage as to how official combined gatherings might be organised for all the bereaved (Utøya and government quarter) until it was concluded that this would not be feasible owing to the large number of participants. The decision was therefore made to organise separate weekend gatherings for the two groups, and for the groups to be offered the same type of event. On account of the anticipated number of participants and the setting for the specialist component, the target audience for the gatherings was restricted to parents/step-parents, siblings/step-siblings, children and spouse/partner of the deceased.

A working party was established for the purpose of planning the gatherings for the bereaved of those who died at Utøya, with representatives of the Directorate of Health, SfK, the Modum Bad psychiatric institution, the section for grief counselling at Akershus University Hospital\(^7\), the Norwegian Centre for Minority Health Research, the 22/7 National Support Group and the Norwegian Red Cross. The first two gatherings for the bereaved (Utøya) were scheduled for 11-13 November 2011 and 9-11 March 2012 and a final gathering will be held on 19-21 July 2012 (to coincide with the anniversary of the attacks).

Work on the gatherings for the bereaved of those who died in the government quarter involved the Directorate of Health, Modum Bad psychiatric institution, the Ministry of Government Administration, Reform and Church Affairs, the 22/7 National Support Group, the ministerial occupational health service and the Norwegian Red Cross. The gatherings were scheduled for 10-12 February, 11-13 May and 21-23 September 2012. In order for all the bereaved to be offered a place before Christmas, the decision was made to supplement the weekend gatherings with an evening gathering on 8 December 2011.

Official gatherings for the bereaved (Utøya)
The Directorate of Health hosted the gatherings, while SfK had the main responsibility for the official programme in association with the Modum Bad psychiatric institution, the section for grief counselling at Akershus University Hospital (grief counselling centre) as the providers of the specialist content of the official gatherings (Utøya and government quarter) was that these are Norway’s most eminent resource centres in their field, with specialist expertise in grief and crisis psychology. These institutions have special expertise in dealing with victims of loss in groups and in promoting peer support, which are the main constituents of the gatherings. These centres are also especially well-founded and experienced in attending to grief-stricken children and young people (individually and in groups), which were key aspects in choosing these particular centres. The institutions were also able to provide sufficient numbers of specialist staff at short notice. Out of regard for the victims, it was essential that the same resource centres (and group leaders) were present for the duration of the programme, which is limited in time to 3 weekend gatherings over the course of a year. SfK, Modum Bad and Akershus University Hospital (grief counselling centre) will consequently be continuing their commitment, which commenced on 22 July 2011, after the last gathering, to be held on 19-21 July 2012.
The gathering on 11-13 November combined plenary sessions, elective talks, group discussions and informal activities. The plenary sessions focused on closely defined themes designed to promote self-awareness, normalise experiences and teach the participants about reaction patterns. The chair of the 22 July Commission was invited as an external speaker to describe the commission’s mandate.

In delimiting and theming the gatherings, the aim was to prevent the formation of new “grief networks” or a “bereaved identity”. Each group was supervised by two group leaders. A written guide was issued to the group leaders ahead of each gathering to ensure that the group programmes kept to a consistent format. In addition to the group leaders, three specialists (one specialist in minorities) and two doctors (psychiatrists) were in attendance for individual follow-up outside of the groups.

The Directorate of Health as the organiser was responsible for the overall format of each gathering. The staffing and staff input were supervised by a specialist from SfK.

The county governors were kept informed about the gatherings in order to ensure full information relay to the contact persons in the municipalities. The Directorate of Health engaged in direct follow-up of municipalities with bereaved citizens of immigrant origin.

Official gatherings for the bereaved (government quarter)
The Directorate of Health hosted the gatherings held for the bereaved after the attacks in the government quarter, while the Modum Bad psychiatric institution was made responsible for the content of the gatherings. The evening session on 8 December was held at the Norwegian Red Cross conference centre. One key aspect in relation to the bereaved (government quarter) was to ensure that the workplace was represented as part of the sessions. The purpose of this gathering was to facilitate a meeting between the bereaved, while providing advice and tools for coping with loss at Christmas. Information about the future weekend gatherings was also provided. The 22/7 National Support Group was represented throughout the entire gathering and expressed its satisfaction with the arrangements. This gathering was not evaluated. In connection with the weekend gatherings, evaluations will however be carried out.

Evaluation
An evaluation was made of the first gathering for the bereaved (Utøya) among both participants and staff. The evaluation from the participants indicated that 94% of adult parents and 96% of adult siblings felt that the gathering had helped them enormously or very much. There was also positive feedback from the children and teens who took part. All the participants, including the child and young groups, gained most from the small groups where they could meet others in the same situation.

The participants reported a high degree of confidence in those who had led the gathering and the small groups, a high degree of professionalism, that they felt comfortable sharing experiences in small groups, and that they felt well looked after during the gathering as a whole. Parents, adolescents and children gave very positive feedback on the activities offered by the Norwegian Red Cross.

The staff also expressed that they were very happy with the way the gatherings were held in terms both of the programme for the participants and the organisational aspects of the gathering. A few improvement points to a great extent corresponded with feedback from the participants. This feedback will be followed up for the purposes of the planning the next gatherings.

A number of the participants reported that the programme was too tightly packed and wanted more time in the groups and more time to chat informally. They would also have liked more linkage between the parent and child and youth groups and for the programme outside the group discussions to have been better adapted to teens and young adults.

Planned gatherings for Utøya survivors and their relatives
At the Directorate’s request, SfK drew up a plan for collective gatherings with proposals for organisation, content and anchoring. The purpose of these gatherings is to facilitate peer support under the guidance of health professionals, and psychoeducation on commonly experienced reactions.

The holding of official gatherings was widely endorsed by the expert group. One aim for this form of gathering is for it to help people come to terms with traumatic experiences by promoting coping techniques and helping to normalise reactions and engender a sense of collective support. The focus would also be on the forthcoming trial and the role of schools and colleges. The need for gatherings for survivors and their relatives was also stressed by the 22/7 National Support Group, Norwegian Labour Youth – AUF and several municipalities.

Further gatherings have already been organised under the Norwegian Labour Party, AUF and a number of municipalities. These were launched informally or at the initiative of a crisis team or other parts of the health service. SfK recommended that regional gatherings be organised independently of the events already arranged by individual municipalities. The gatherings are intended for survivors and close family members, that is, parents/step-parents, and siblings/step-siblings. In terms of numbers, a rough estimate is for five relatives per survivor.
Organisation and delimitation
The large number of survivors spread up and down Norway makes it expedient to organise the events at county level, corresponding to the organisation of Norwegian Labour Youth – AUF. Where practicable, the recommendation is for the gatherings to be held simultaneously for survivors and relatives. This principle is supported by the 22/7 National Support Group. The recommendation was for the first gathering to be held as early as possible in 2012, while the second gathering would be held on the anniversary of the attacks.

Roles and remits
The Directorate of Health commissioned the gatherings. The resource centres jointly have the overall responsibility for coordinating specialist content. The user perspective has to be taken into account in the organisation of the gatherings. It is also important to be mindful of the foreign visitors who were on Utøya during the attacks. A representative of the 22/7 National Support Group is a member of the working party, and the Directorate of Health consults Norwegian Labour Youth – AUF on planning of the gatherings.

The gatherings for survivors are being held late on grounds of capacity and due to disagreement among the experts at the resource centres. AUF commented that the gatherings should have been held earlier, as there was a greater need for this form of collective activity at an early stage, and that the gatherings should be held at the county level.

3.5 Concluding evaluation of psychosocial interventions and follow-up
The authorities assumed an uncustomarily active role in the wake of the incidents. Owing to the extraordinary scale and nature of the incidents, this is seen as the proper course of action.

Relevant health trusts, municipalities and non-governmental organisations report that psychosocial support is covered by their respective emergency preparedness plans and that the requisite professional expertise is in place. However, a number of these plans are somewhat generalising, and psychosocial interventions are referred to only briefly and unsystematically. These plans should be revised and provide more comprehensive coverage of the psychosocial domain. The emergency preparedness plan for health service support for relatives of casualties should be updated.

Preliminary feedback from the services indicates that they had good capacity, were mobilised rapidly, were flexible and performed very well during the acute phase. Long-term follow-up was also generally provided satisfactorily and in line with the authorities’ recommendations.

A number of services and municipalities reported that they have no established routines for dealing with an emergency on this scale. There were statements that the events of 22 July were on such a scale and of such a nature that they exceeded capacity and capability in terms of effective and consistent follow-up over time.

The services themselves have proposed a number of adjustments and improvements, which confirms the general impression that these are reflective and learning organisations.

Feedback from Norwegian Labour Youth – AUF and the 22/7 National Support Group indicates dissension with regard to how satisfied users have been with the follow-up. The data sourced in connection with fact-finding for this report is too insubstantial to allow final conclusions to be drawn as to the quality of the psychosocial follow-up, since no systematic evaluation has been obtained from the users.

User representatives from Norwegian Labour Youth – AUF and the 22/7 National Support Group have expressed their satisfaction with the measures instituted by the health service, but assert that it must learn from its mistakes, should provide better information, procure more expertise as and when required and do more to shield direct and indirect victims from media intrusion. Norwegian Labour Youth – AUF also stressed that the defining traits of its organisation should be incorporated in the follow-up. It is important to collaborate closely with support groups in improvement processes.

Different health personnel may have a crucial role to play in providing practical assistance in the acute phase, but access to expert guidance and advice must be assured.

Training in psychological first aid and drills and preparations in managing crises, major accidents, disasters must be focal. Sound and consistent routines must be established for follow-up and any post-emergency debriefing of emergency responders.

The Directorate of Health finds it crucially important to follow-up the bereaved and survivors over time, and also follow-up parents and siblings of survivors. These efforts should be evaluated and research will serve to define best practices in acute-phase and long-term psychosocial follow-up. It is important that research, including surveys, are coordinated as far as possible to ensure that the bereaved and survivors are not burdened repeatedly with having to respond to the same questions.

Professional opinion regarding best practices in the field remains divided. Further research is needed to achieve more explicit guidelines for psychosocial interventions.

Existing research is in its infancy, but should be able to provide guidelines for subsequent official recommendations.
Chapter 4

Communication and crisis PR
OUH released a statement on its website at 16:35 with the information that an explosion had occurred in Oslo city centre and that the hospital was consequently on high alert.
The events of 22 July generated massive media coverage, and extensive activity in social media. Overall, the Norwegian health service communication and crisis PR were adequate and effective.

The nature and scale of the incidents of 22 July made it immediately clear to decision-makers in the health service that the crisis management communication and public relations did not rest with the health service. Key entities within the health service such as the Ministry of Health and Care Services and the Directorate of Health were therefore released from managing and coordinating communication with other sectors in society. Nonetheless, the health service was a crucial entity with considerable responsibility for communication with and from its own sector.

This chapter concentrates mainly on how the main actors under the South-Eastern Norway Regional Health Authority and the Directorate of Health dealt with the communication and PR challenges faced during the first weekend, from 22 to 24 July. For City of Oslo and Hole municipality, it is difficult to distinguish between what constitutes communication and PR within the health sector’s area of responsibility and what sorts under general communication and PR, and their role will consequently not be examined here. The topics addressed in the following notably concern press management, the relatives’ helplines, internal information flow and coordination, online information and social media.

The incidents generated some 250,000 Twitter posts within the first few days after 22 July13. There were in total more than 150,000 mentions in print media during 2011, making this the most reported news item in Norway since 194514. No specific media research has been conducted on news items concerning health service activities in connection with 22 July. Public perceptions of overall health service communication and PR are also not addressed in the present chapter.

4.1 COORDINATION, RESPONSIBILITY AND COMMUNICATION/PR MANAGEMENT

The government communication policy prescribes how responsibilities are shared in a crisis15:

"The purpose of crisis communication is to provide citizens with rapid and factual information to enable them to cope to best ability with an adverse incident. The communication shall convey division of responsibilities, coordination between authorities and state how crisis-affected persons may obtain additional information or help and support as applicable. Responsibility for crisis management in a particular ministerial domain rests with the agency or service that is responsible for that domain under normal circumstances. Best practice in crisis communication and PR requires regular drills and evaluation of performance following real incidents."

While this definition of government communication policy is not necessarily applicable to local government (municipalities) or non-governmental bodies, the prevailing standard in crisis management is for the entity that would be responsible under normal circumstances to retain the same responsibility during a crisis.

Emergency preparedness plans

All institutions that were immediately affected by the incidents of 22 July have a separate section devoted to crisis communication and PR in their emergency preparedness plans.

The specialist health service

In its plan, the South-Eastern Norway Regional Health Authority (‘South-Eastern Norway RHA’) refers to the relationship between the regional health trust and Oslo University Hospital (OUH) in a crisis. If the crisis is confined to the region and OUH assumes a regional co-ordinating responsibility, OUH shall then be provided with information concerning the parent company’s (i.e. South-Eastern Norway RHA’s) capacity to deal with the emergency preparedness situation itself, while South-Eastern Norway RHA for its part is to be furnished with information concerning general health care provision, and the impacts of the emergency preparedness situation on operations within its subsidiaries. It is also recommended that information about the medical response to the crisis is lodged solely with OUH, and that South-Eastern Norway RHA publishes links to the relevant OUH sites on the internet.

Furthermore, it is expressly stipulated that the police have executive responsibility for information concerning accidents and disasters. The health service is consequently required to coordinate information with the police and be aware of what information may be issued solely by the police (D7, D37, D85).

The Directorate of Health’s crisis plan sets out that "The Directorate shall be prepared to handle the overall coordination of the health and social sector’s crisis management when a crisis situation has arisen and/or is about to arise"16 (D104).

In the event of a crisis, the Directorate shall:

- coordinate the implementation of measures on behalf of the Ministry of Health and Care Services.
- implement measures to ensure that citizens are offered essential health care and social services.
- administer legislation on health and social preparedness by means of special mandates
- provide expert advice to the health and social services.
– coordinate information on the crisis situation and how it develops by obtaining situation reports from regional health trusts and county governors and other level-2 entities under the Ministry of Health and Care Services, and relay information from centralised to local level.

– establish a comprehensive crisis overview. If the Ministry of Health and Social Affairs is the lead ministry, the Directorate of Health shall be capable of relaying information across sectors.

4.2 ALERTS, STAFFING AND THE PRESS

The acting information officer within the Directorate of Health alerted the Emergency Preparedness division within the Directorate to the explosion in Oslo city centre at 15:32. Within a short space of time, contact was also made with the Head of Information at the Ministry of Health and Care Services, who travelled to Oslo on the evening of the 22 July because of the incidents. The explosion in Oslo damaged and disabled the Ministry’s Information Department. The Directorate of Health’s acting information officer managed to rapidly summon sufficient resources to the Communication division. (D105, D115).

OUH had to deal with intense media interest early on. In its report, OUH states that “Information officers were alerted rapidly and were in place with sufficient resources at the hospital within a short space of time. In the initial hours, there was very heavy influx of requests for information from Norwegian and international media. Although it tailed off gradually, there was still intense media interest several weeks after 22 July.” OUH also reports that “Information officers had insufficient capacity for dealing with media inquiries. The dedicated press line was engaged for much of the time and a number of calls went unanswered”. It is believed that over that weekend, calls were made to OUH from around 40 international media, approx. 20 Norwegian media and six embassies. A number of these made only one telephone call, while the majority made three, four, five and up to twenty calls during the afternoon and evening of 22 July (D81, D96).

OUH held three press briefings on the first evening and two on 23 July. Media inquiries were answered by hospital management and the trauma team with the support of information/PR officers. According to OUH, staff were under-prepared for international media interest so that it took some time before they were available for interviews with media organisations such as Al Jazeera, CNN and the BBC. Updated information was posted as it became available in Norwegian and English on the hospital website (D81, D96). Other Norwegian hospitals were also inundated with media inquiries (D71).

According to the event log at South-Eastern Norway RHA, at 17:43, the acting information officer offered any assistance needed to the information department’s 24-hour service phone as required. Although the offer of assistance was considered, OUH concluded that its information department was sufficiently well staffed.

South-Eastern Norway RHA received no media inquiries concerning its own organisation on the first weekend, and was referring media to the OUH press office (D42, D103).

The Directorate of Health received no inquiries from the press on the first weekend. As the days went on, the media were used more actively as a channel for providing information about somatic and psychosocial follow-up, and as a means of mobilising the municipalities (D105, D115).

City of Oslo reinforced its out-of-hours primary care centre with a single information officer. Hole municipality also procured public relations assistance within the first 24 hours. Both City of Oslo and Hole municipalities faced massive challenges surrounding communication and PR. Hole municipality was quick to establish a centre for relatives and survivors at Sundvolden, which became focal for media inquiries (D31, D33, D63, D95, M15).

Internal information flow and coordination

The acute phase in crises is often described as chaotic. The flow of information – particularly officially authorised information – tends to be deficient which results in the reticence of key agencies and institutions. The Directorate of Health received no officially confirmed information from any public-sector agencies or services until it had established liaison with the National Police Directorate after 19:00.

The Directorate of Health made rapid contact with OUH, South-Eastern Norway RHA and the Ministry of Health and Care Services (D115).

Relatives’ helplines

The various agencies and services (the police, OUH, City of Oslo, Sundvolden relatives’ centre, Vestre Viken Hospital Trust etc.) released several helpline numbers for relatives to call on the evening of 22 July. For more information on this, see the chapter on psychosocial follow-up.

Online communication

OUH released a statement on its website at 16:35 with the information that an explosion had occurred in Oslo city centre and that the hospital was consequently on high alert17. At 17:50, South-Eastern Norway RHA posted information on its website in which it referred visitors to OUH information services, including a relatives’ helpline18. The Directorate of Health did not publish any information on its own website at www.helsedirektoratet.no or on the public health service portal www.helsenorge.no until shortly before midnight. As time went on, the portal at www.helsenorge.no provided explicit information on where to seek help within the municipalities, together with relevant information for direct and indirect victims, with a dedicated telephone number to call (D96, D103, D105, D115).

Social media are discussed separately later in this chapter.

**Liaison forum**
The Directorate of Health’s cooperation with the liaison forum for somatic and psychosocial follow-up commenced on 24 July, and amounted to extended informational activities in which representatives of ministries, directorates, NGOs and religious communities reached consensus on a joint position on essential interventions and on coordination of information and PR. The result of this was mass dispersal of the information.

**Evaluation**
According to South-Eastern Norway RHA, staffing in the information departments within the health trusts will not hold up to a crisis situation. The information departments should therefore be able to requisition resources from other health trusts and South-Eastern Norway RHA. OUH did not believe it needed such reinforcements. However, along the way, it found that it did not have the capacity to handle all media inquiries. OUH also reported that information flow between the medical scene commander and OUH communications staff was not as good as it could have been (D96, D103).

In hindsight, with the benefit of experience, it is clear that, in situations of this nature and scale, the policy should be to observe a low threshold for accepting the offer of reinforcements in order to deal with massive media interest and the coordination challenges that arise in such situations.

It would appear that interpretation differs as to what coordination entails, and what is expected of a coordinator.

OUH commented that, although its own emergency preparedness plan and the regional equivalent permit responsibility for coordinating information on a situation and on the specialist health service’s response to be devolved from South-Eastern Norway RHA to OUH, on 22 July this responsibility remained lodged with the parent organisation. A number of other agencies and services were under the impression that OUH had been assigned this responsibility on 22 July (D96, D103, D115, M25).

The Directorate of Health interpreted its responsibility for coordination as being one of facilitating coordination within the health sector. It was therefore a challenge for the Directorate that OUH did not coordinate information and instead referred requests for information on to each individual hospital. South-Eastern Norway RHA states that, in this situation, it was referring the press to OUH. Does this mean that the press and other inquirers could expect OUH to coordinate information from all the hospitals involved within South-Eastern Norway RHA and that OUH was actually in a position to respond on behalf of all hospitals and maintain online updates reporting comprehensively on behalf of all these hospitals? This would appear to be a moot point, as is OUH’s own perception of what its role entailed (D103, D115).

Responsibility for issuing information on the number of casualties and missing persons and so forth rests with the police, and not the hospitals. However, it is crucial that hospitals facilitate police access to the information that is being requested. The incidents of 22 July, in which large numbers of casualties were dispersed across primary care centres and several hospitals, called for a great deal of liaison. Doubt over whether OUH actually did have coordinating responsibility inevitably led to many people seeking information from multiple sources. There have been reports that patient information was not being coordinated between hospitals, as a result of which relatives had to put the same questions over and over again when contacting different hospitals. This added to the distress of relatives seeking information about their loved ones, made it more difficult to obtain a comprehensive overview of the situation, and also placed increased pressure on staff at each hospital (M25, D105, D115).

Online communication was generally established rapidly at OUH and other institutions facing intense media pressure. Some time elapsed before other official bodies released information on the internet. The Directorate of Health should have issued information about the coordinating responsibility it had, and how it was responding to the situation, far earlier in the evening. Regrettably, a number of different telephone numbers were initially published for relatives to call. This caused confusion among callers and, in addition, a number of these helplines had poor line capacity.

### 4.3 Social media

Media practices are changing. The government communication policy stresses that “electronic communication shall serve as the primary channel for dialogue between citizens and public-sector organisations”. With this wording, the operative sense is of seeking to achieve dialogue.

The incidents of 22 July resulted in extensive use of social media, notably Twitter. NRK, the Norwegian Broadcasting Corporation, contacted the Twitter site to request that it be sent any posts containing certain predefined keywords. The Corporation was supplied with 244,034 tweets19 which it subsequently made an edited selection of before presenting them on a dedicated section of its website, at http://www.nrk.no/terrotwitter/.

Representatives of the health service were conspicuous by their absence from social media on the afternoon and evening of 22 July, with the exception of Oslo University Hospital. The hospital was on Twitter several times to advertise press briefings, helpline numbers for relatives and to request blood donors to come forward, and subsequently posting information that they had enough donors20. City of Oslo tweets were to say that the City
of Oslo out-of-hours primary care centre had sufficient resources in place\textsuperscript{21}.

However, the tweets compiled on the Norwegian Broadcasting site show that communication and information flow was rapid and essentially surprisingly reliable even in the absence of updates from public-sector agencies and institutions. The initial information vacuum was soon filled with reports which public-sector agencies and institutions could conceivably have issued themselves. That said, a number of misapprehensions and rumours did arise that could have been disaffirmed or followed up; there were, for instance, non-official posts that blood donors no longer needed to come forward, but then later in the evening that they should come forward.

Social media and the emergency services
A number of the posts on Twitter cited in the Norwegian Broadcasting Corporation’s compendium concern the situation before the perpetrator was detained on Utøya. Those posts include ones urging boat owners to come to the rescue, telling people not to make mobile phone calls in order not to overload the mobile network, to not make calls to anyone on the island, that ambulances were on the way and that shots had been heard and so forth.

One question in this context is whether the emergency services could or should have employed social media in their communication, both in order to monitor incoming messages, but also to issue information themselves. This form of communication necessarily calls for a great deal of precision. However, the fact is that the technology exists and that increasing numbers of people and organisations are communicating via social media.

Another reason for raising the question of whether the emergency services should consider using social media is that there are a number of settings in which telephone conversations are best avoided, settings in which a telephone conversation might reveal the speaker’s whereabouts to a perpetrator, but might also include contexts in which the ambient noise levels are too high to permit communication by telephone, such as at concerts.

Concluding remarks
Communication and PR activities within the health service were on the whole in line with applicable plans. This in itself is impressive in view of the fact that the incidents occurred late on Friday afternoon in what is usually the quietest week of the summer holiday period. Essential and adequate staffing was put in place in the various information and PR departments.

Since crisis management was led by the Ministry of Justice, much of the press attention was diverted to this Ministry. The remit of the health service was essentially to support executive crisis management. Although OUH had problems answering all calls from the media initially, they soon made up for this with a series of press briefings in which health personnel who were treating the casualties did an impressive job of conveying the scale of the emergency they were coping with.

There is however a need to examine all the implications of coordinatory responsibility, especially at health trust level. Another unfortunate situation arose from the numerous telephone numbers released for relatives to call in the first evening. Health service agencies and services could have had a stronger presence and improved the quality of communication in social media.

Recommendations

The regional health trusts’ emergency preparedness plans should set out more explicitly what is entailed by regional coordinatory responsibility within public relations. This should be aligned with the expectations of the Ministry of Health and Care Services and the Directorate of Health as to what this responsibility entails.

– More explicit policy must be laid down between the individual health trusts, other public sector agencies and services, including the municipalities within the catchment area of each health trust, as to which telephone numbers are to be advertised as crisis helplines for relatives to call. The number of helplines should be limited, and capacity on each line should be sufficient for it to be able to handle a large number of calls.

– In the event of crises involving several hospitals, more rapid updating must be ensured of lists of patients admitted and uninjured victims.

– Effective communication via social media should be given greater priority in crisis PR. In the event of major crises, health service actors should be more proactive in monitoring, engaging in dialogue and providing information via social media.

– The use of social media as a PR channel for the emergency services should likewise be considered.
Chapter 5

The national health administration’s response to the terrorist incidents

PAGES 108-111
The Secretary General of the Ministry of Health and Care services first made phone contact with the Director General of Health at 15:45.
The bomb in the government quarter was detonated at 15:25.

Executives and senior officials in the national, regional and local branches of the Norwegian public health administration were informed of the incident shortly thereafter and set up crisis management units at different levels.

The Agency for Fire and Rescue Services in the City of Oslo was already on alert because it has offices at Arne Garborgs plass 1, which were damaged by the explosion.

The acting director of communication within the Directorate of Health alerted the emergency response unit and acting Director General of Health 7 minutes after the explosion. The crisis committee was established approx. +50 minutes, and held its first meeting at approx. +90 minutes.

The acting director at Oslo University Hospital (OUH) was alerted at +7 minutes and had established a crisis team at approx. +60 minutes.

The Secretary General of the Ministry of Health and Care Services first made phone contact with the Director General of Health at 15:45.

All county medical officers throughout Norway were alerted by SMS at +9 minutes.

The emergency response unit at the Directorate for Emergency Communication was informed of the incident at +9 minutes.

The Chief Executive Officer of South-Eastern Norway Regional Health Authority was alerted after approx. 30 minutes and set up a crisis management unit at approx. one hour after the explosion.

The County Medical Officer of Oslo and Akershus notified the County Governor of Oslo and Akershus at +15 minutes.

Liaison and reporting routines were established at strategic level within a few hours.

The County Governor and the County Medical Officer of Oslo and Akershus contacted the Directorate of Health, the Chiefs of Police in the respective police districts, Oslo and Akershus Civil Defence District, Home Guard district HV-02, City of Oslo and the Office of the Prime Minister for a briefing on status, resources and needs at approx. +30 minutes.

The first telephone meeting between the CEO of the South-Eastern Norway Regional Health Authority and executive management of the health trusts was held approx. 3 hours after the explosion.

Initial liaison between the Directorate of Health’s crisis committee and the regional health authorities took place a few minutes after the crisis committee was convened.

The Ministry of Health and Care Services received the first written report from the Directorate of Health at +5½ hours.

The County Governor of Oslo and Akershus briefed the Directorate for Civil Protection and Emergency Planning at approx. +3½ hours.

The County Governor of Oslo and Akershus notified the County Medical Officer of Oslo and Akershus to a major police operation on Utøya involving an unknown number of perpetrators. The acting County Governor of Buskerud then set up a crisis team.

At 18:03, the Directorate of Health’s crisis committee was informed that there might be as many as 50 casualties with gunshot wounds from Utøya. However, it was not possible to verify this information.

At 18:07, the Director General of Health notified South-Eastern Norway Regional Health Authority of unconfirmed reports of shooting at Utøya.

At 18:33, the perpetrator was arrested. From that time on, operations command was informed that there was high number of fatalities and casualties at Utøya.

At 19:50, that is, approx. one and a half hours after the perpetrator was detained, the situation on Utøya was as yet unclear to the Directorate of Health’s crisis committee.

Based on reports received by the Directorate of Health from various national agencies, it is clear that routines for documentation and reporting in response to major emergencies are very heterogeneous.

In spite of the fact that the explosion in the government quarter on 22 July occurred on a Friday afternoon during the general staff holiday period, executives in the national, regional and local health administration were alerted to the incidents within a very short space of time. This is regarded as being due largely down to a number of fortuitous factors, including:

- time of day, in that the incident occurred during the daytime
- that the incident occurred in Oslo city centre and was witnessed by many, and that several members of staff and relatives of staff with the national health administration were rapidly alerted to the incident
- that the incident received massive media coverage

In terrorist acts, there is the risk of multiple simultaneous attacks affecting a wider geographical area, as was the case for the Norwegian counties and municipalities on 22 July 2011. This means that county governors should be alerted to a single major incident as a matter of routine. In a terrorist situation, the Ministry of Justice will tend to be the lead ministry on behalf of the government. Under the Comprehensive National Health and Social Preparedness Plan of 31 January 2007, the Ministry of Health and Care Services/Directorate of Health is
The Directorate for Emergency Communication owns and operates Nødnett, the new digital communication network used for all the emergency services, i.e. police, emergency medical and fire & rescue services. Day-to-day operations are managed by Nokia Siemens Networks (NSN), which is responsible for operations such as monitoring, fault correction, preventive maintenance and network optimisation. The Directorate for Emergency Communication has established a command centre as a back-up systems administration centre for the operator, but also has access to monitoring the network itself, as it did on 22 July. In relevant planning systems, the Directorate for Emergency Communication, as an agency that performs critical services for the health service, should be listed among entities to be alerted in emergencies. Such alerts should be issued directly from the health service.

A known risk in terrorist acts is the planting of “dirty bombs”, or devices for dispersing hazardous chemical, biological, radiological, or nuclear agents. Where this risk is present, it is crucial to have immediate access to the requisite expertise in these hazards. In Norway, this means that the Norwegian Radiation Protection Authority and the Norwegian Institute of Public Health, and, subject to special assessment, the Norwegian Center for NBC Medicine at OUH, should be alerted in the event of terrorist incidents. Where justified by the requirements of the Comprehensive National Health and Social Preparedness Plan of 31 January 2007, the Ministry of Health and Care Services/Directorate of Health is responsible for alerting the Norwegian Radiation Protection Authority and the Norwegian Institute of Public Health.

The Norwegian Institute of Public Health has a key responsibility for monitoring communicable diseases in order to be able to detect cases of intentional dispersal of infectious agents, otherwise known as bioterrorism.

The Directorate of Health did not alert the Norwegian Radiation Protection Authority or the Norwegian Institute of Public Health to the bomb explosion in the government quarter. The police bomb squad did however did however perform a routine check of the bomb site in the government quarter for potential contamination from the device. The Norwegian Center for NBC Medicine at OUH checked all patients from the government quarter at the time of their admission.

Under the Act on health and social preparedness (lov om helsemessig og sosial beredskap), the Ministry of Health and Care Services may delegate authority for directing and coordinating nationwide health resources in the event of major emergencies.

The Ministry of Health and Care Services is also the owner of all regional health authorities and hospitals. Among other things, this means that the specialist health service reports on a routine basis to the Ministry in its ownership capacity. In situations where the Ministry of Health and Care Services delegates authority for directing national health resources to the Directorate of Health, reporting from the specialist health service is to the Directorate, which coordinates this with information from other divisions of the health service.

The Ministry of Health and Care Services premises were among those damaged by the bombing in the government quarter, and as a result, its capacity was substantially reduced. At the time, the Directorate of Health assessed the scale of the incident and the risk of further terrorist attacks as substantial, as was subsequently confirmed by the police post-incident risk assessments.

The Directorate of Health event-log reveals that the Ministry of Health and Care Services did not delegate responsibility for control and national coordination of the health service to the Directorate until 19:51. Based on interviews with those involved in crisis management within the Directorate of Health and the Ministry of Health and Care Services, it was finally established that the Ministry did in fact delegate responsibility for control and coordination to the Directorate shortly after the explosion, but that this was not formalised in writing until 19:51.

**Recommendations**

All bodies within the health administration should review their internal routines for issuing internal and external alerts in the event of major incidents and emergencies.

- In the event of terrorist acts, the Directorate of Health should assess issuing special alerts to: Norwegian Radiation Protection Authority
  Norwegian Institute of Public Health and, if applicable, the NBC Center at OUH
- Alerts to the Directorate for Emergency Communication should in the main be issued directly from the health service, from an EMCC and/or out-of-hours primary care centre.
- The tools and routines in use by health administration bodies for documentation and reporting following major incidents and emergencies should be improved and standardised.
Chapter 6

Evaluation and lessons learned from emergency incidents

PAGES 112 – 145
21:00
The Ministry of Health and Care Services received the first written report from the Directorate of Health approx. 5½ hours after the first terrorist attack, based on extensive information from the health service.
Norway has a long-standing tradition for instituting public inquiries or evaluations following major accidents and other serious incidents. The present report is a good example of such scrutiny.

Emergency preparedness drills and large-scale simulation exercises are regarded as a crucial means of evaluating and enhancing plans for health care and social services preparedness. Under the regulations regarding requirements for emergency planning and preparedness, the various health enterprises (meaning national, county and local authorities, regional health authorities, health trusts, the Food Safety Authority and waterworks) have a statutory obligation to carry out drills and large-scale emergency preparedness simulation exercises.

Real incidents, such as those that occurred in the government quarter and at Utøya on 22 July, will clearly hold considerable learning potential for the purposes of evaluating and enhancing the health enterprises’ emergency preparedness plans. It is thus important for management of each health enterprise to acknowledge this and apply the lessons learned from such incidents for own institutional improvement and advancement.

In the course of its review, the Directorate of Health has learned that a number of health enterprises did not institute internal evaluations until much time had elapsed, and that at the time of writing, 7 months later, some have still not completed their evaluations. A long delay between incident and evaluation is problematical in that it makes it difficult to make an accurate record of events, but also because it weakens the organisation’s motivation for adopting the lessons to be learned. The Directorate of Health has lacked a formal legal instrument for procuring information from various parties. These circumstances have made information gathering difficult and limited.

The health enterprises themselves are those who stand to benefit more immediately from evaluation of their own performance and identification of improvement points. Institutional self-evaluation also holds considerable learning potential for other comparable enterprises.

While the capacity for documenting own institutional performance in emergencies diminishes with passing time, the effort required is known to increase proportionately. Health enterprises that have been involved in responding to major accidents or other serious incidents will inevitably be evaluated by many different parties. In the Directorate of Health’s meeting with Hole and Ringerike municipalities, the Directorate was, for example, informed that the municipalities had participated in a total of 11 groups that had rated their performance after 22 July. In our opinion, this serves to illustrate the importance for all parties of seeking to document own performance as a matter of urgency in the wake of major accidents and other serious incidents.

Recommendations

- The health enterprises that are involved in major emergencies must document their own institutional performance shortly after the events and apply the experience and lessons learned in appraising and enhancing their own undertakings.
- For the purposes of conducting reviews of this nature, the legal authority for information gathering must be clarified.

Afterword

Project Manager Professor Inggard Lereim, Norwegian University of Science and Technology

The catastrophic incidents in the government quarter and on Utøya on 22 July 2011 have gone down in history as the worst tragedy in peacetime Norway. The direct and indirect victims, the health service, and other rescue agencies and society as a whole were tested in the extreme and the after-effects have been pervasive in many everyday domains.

Norway has a well-developed health service, not least in terms of its capacity to deal with most types of emergency. We have well-qualified personnel of different categories, hospitals with effective routines and emergency preparedness plans based on relevant risk and vulnerability analyses. Other major disasters that have afflicted Norway in recent decades have engendered greater awareness of such challenges in society at large. We are better prepared for the fact that, like other countries, ours too may be threatened by incidents that result in massive loss of life and limb. Yet a disaster of this nature and on this scale was unexpected and overwhelming.
Large hospitals face the daily challenge of dealing with severe injuries in accident victims. But combined with training, certification and skills accreditation, this has resulted in highly qualified key personnel. Regular updating of procedures is another crucial element. The efforts of the Norwegian health service during and in the wake of this disaster were outstanding. Apart from the large number of fatalities, a great many victims sustained critical injuries. The casualty survival rate was patently higher than could be expected based on injury severity.

All units serving the emergency medical response chain, from initial diagnostic and treatment-delivery teams, primary care and transportation through to the very last surgical procedure at the trauma centre and other hospitals deserve immense gratitude and recognition.

Much work has been accomplished in other domains also. Psychosocial interventions and support at the incident scenes, during evacuation, at the casualty clearing stations and ensuing months have been unstinting. This work is a far more protracted process than the emergency medical response in somatic fields. The psychosocial response comprises the direct victims and their relatives, indirect victims, colleagues and others. All of this poses wide-ranging and time-consuming challenges for the health care and social services system at both national and local levels. For some of the victims, the process may extend far into the future. This must be taken into account in terms of both professional competence and resources.

Volunteers made a colossal effort in many respects. The rescue effort undertaken in small boats at risk to own life and limb was singularly important and nothing short of heroic. The Directorate’s contact with representatives of the relatives has left an indelible impression. People who only a short while ago experienced unimaginable atrocities have provided us with constructive feedback that will foster better solutions in a number of health service domains. We are deeply grateful.

The tireless and effective efforts in response to the disasters of 22 July and in the ensuing months have nonetheless yielded learning points for even better preparedness. In the process of extensive information gathering, assessment and knowledge exchange with national and international experts in their field, the Directorate of Health has identified a number of areas with learning-for-improvement potential.

The medical and health sciences are evolving rapidly, and disaster medicine in all its phases and sub-disciplines must keep step with general advances. Learning from experience is a necessary consequence. Above all, we owe it to the victims of these unfathomable tragedies to follow up on the lessons to be learned from 22 July. Realisation of this mission in the form of actual resolutions and practice is anticipated within the near future. In support of that, all entities in the health service must rise to their obligations.

Contributors to the report

THE DIRECTORATE OF HEALTH’S WORKING PARTY

Leader: Professor Inngard Lereim MDPhD, Norwegian University of Science and Technology

Members: Rut Prietz, Mali Strand, Even Klinkenberg, Merete Ellefsen, Gunnar Misvær, Vegard Nore, Gase Handeland, Bjørn Jamtli (last-named on secondment from the Norwegian Board of Health Supervision).

A number of employees in the Directorate of Health provided inputs during the process. The Directorate’s Emergency Preparedness Department was of great assistance, as were Hedda Bie, Gry Hay, Astrid Nylenna and Gitte Huus who made written contributions. We would also like to extend special thanks to Freja Ulvestad Kårki, the manager of the Directorate of Health’s psychosocial follow-up project following the 22 July disasters.

NATIONAL PEER REVIEWERS

The Directorate of Health requested the three regional health authorities that do not cover Eastern Norway, professional organisations in the field of mental health and the National Centre for Emergency Primary Health Care for assistance in nominating national peer reviewers who had not been involved in following up the incidents of 22 July. These experts in their field were tasked with reviewing relevant sections of a first draft of the report and providing commentaries with special emphasis on the recommendations.

Those who contributed in this way were:

Bjørn Ole Reid / consultant anesthesiologist, St. Olav’s Hospital, Trondheim University Hospital

Steinar Hunskår / Professor MDPhD, Director of the National Centre for Emergency Primary Health Care, University of Bergen

Eldar Søreide / Professor MDPhD, Dept of Anaesthesiology and Intensive Care Medicine, Stavanger University Hospital

Erland Sundland / Head of Department, Ambulance Service, St. Olav’s Hospital

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Øyvind Sorensen / section manager, ambulance coordination and EMCC – University Hospital of North Norway

Bent-Åge Rolandsen / consultant surgeon – St. Olav’s Hospital

Ida Garløv / specialist in psychiatry – head of the Norwegian association of child and adolescent psychiatrists (Norsk barne- og ungdomspsykiatrisk forening)

Anders Skuterud / psychologist – chief adviser, Norwegian Psychological Association

Tone Skjerven / specialist in psychiatry – chair of the Norwegian Psychiatric Association

Tor Levin Hofgaard / president of the Norwegian Psychological Association
APPENDIX 1.
STATEMENT OF THE INTERNATIONAL ADVISORY COUNCIL
The Norwegian Directorate of Health decided to establish an International Advisory Council to give advice on its review of the Norwegian health sector’s response to the terrorist attack in Norway on July 22, 2011. The Council is requested to give guidance on what areas the review should cover, and also present a statement with its recommendations.

The Health Directorate appointed the following persons as members of the International Advisory Council.

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Role and/or competency</th>
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<tbody>
<tr>
<td>Sweden</td>
<td>Dr Lars-Erik Holm</td>
<td>Chairman of the Council, Director General of Socialstyrelsen, Chief Medical Officer (CMO)</td>
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<tr>
<td>Finland</td>
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<td></td>
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<td></td>
<td>Dr Fernando Prados Roa</td>
<td>Chief of Department of Civil Protection of SAMUR</td>
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The International Advisory Council met twice in Oslo between November 2011 and January 2012, when the Norwegian Directorate of Health provided information regarding the response to the attack. The Council has also read the English preliminary Summary of the Health Directorate’s report including its recommendations. In addition information was shared at several occasions via e-mails to members.

The Council focused its evaluation on the following core questions in its report:

1. What are the existing plans, how well were they being followed and can they be improved? This item includes planning, organization, personnel, equipment, activation system, leadership and communication.
2. How can we maximise survival rates while limiting the risk to providers?
3. What lessons can be learned from the psychosocial response?

1. INTRODUCTION
The Council is impressed by the way the Norwegian health system managed to deal with the somatic and the psychosocial aspects of the catastrophic incidents that took place on 22 July, 2011. The mobilisation of the emergency medical response, including tens of ambulances, several helicopter emergency medical services (HEMS) and two SAR helicopters, and several mobile medical teams from local hospitals, within a short time frame, is commendable. Many individuals within the healthcare system mobilised to respond to the incident, despite this being a Friday afternoon during the summer holiday, when reserve capacity is classically at its lowest. They did so responding to information disseminated through media, and through direct activation by means of SMS text messaging. Further, the preparation of the hospitals in Oslo to create capacity for, and then receive, the critically injured on the one hand and the walking wounded on the other hand was equally impressive. That only one person should die, of those that reached healthcare providers alive, is an attest to the efforts of the healthcare system.

2. PLANNING
2.1. Preparedness plan
There are local preparedness plans available for individual hospitals and individual units, but there is no coordinating plan for regional or national scale events. Patients presented in a contained and controlled manner due to the incident being located on an island. During the incident, discussions were had and plans made as to how to escalate response and where to send the patients, if many more patients had arrived. There is a lack of all encompassing emegency medical services (EMS) plans across health regions and institutions.

Advisory Council Recommendations
– There is a need for a national preparedness plan, giving structure to regional plans, which then should facilitate the local plans. This structure would allow for local flexibility and give structure to deal with situations that overwhelm the resources available. The national plan should support and facilitate local plans, rather than taking primacy.
The Council recognises the need for a liaison plan, to coordinate the efforts of the various agencies responding to major incidents. This should outline the roles and responsibilities of the emergency services (EMS, fire, police, air ambulance, and others), and should allow for a better structure on the whole and facilitate communication between the responding services.

Ideally, emergency preparedness planning should reflect everyday situations as much as possible. Training for these incidents should be with normally available resources and should be carried out with other agencies/services.

Placing all of the eggs in one basket (i.e. the MTC) leaves the trauma system vulnerable if it becomes overwhelmed by too many patients arriving there, or even more so if it would be incapacitated by the actual event (e.g. earthquake). Major trauma patients could then be transferred out of their region (or abroad if more appropriate), but capacity should also be increased locally by providing doctors at local hospitals as well, such that they will be trained and equipped to deal with trauma at their hospitals.

### 2.2. Triage plan

Triage is a critical element in the medical management of any incident, and allows clinical and logistical decisions to be made in order to maximise patient outcomes. Whilst recognising the autonomy of clinicians to practise and provide what they feel is the best possible care for their patients, it is important, during a major incident that may require numerous medical providers to contribute to that response, to work to a common set of triage principles.

There was no coordinated triage plan, so each service was working according to its individual protocol. However, robust criteria are being developed with respect to who should be sent to the trauma centre. Communications problem affected the clearing of casualties from Casualty Clearing Station 1, but this worked well nonetheless due to the experience of the attending teams. Casualty Clearing Station 2 was better organised, but received a lesser burden of critical patients. Main asset for triage and treatment was clinical experience (and number of teams available). Teams were well equipped and trained, but not good at interacting between agencies.

Based on the available information about the severity of the patients’ injuries and the recently published flow chart of the total of 172 patients treated, and making the following assumptions that:

- the 105 patients initially seen at the GP outpatient clinic (100 from government scene and 5 from Utøya) had only minor injuries, and the one transferred to Oslo University Hospital (OUH) was not transferred because of erroneous assessment of the severity of the injuries
- 2 patients sent from the government scene to the Diakonhjemmet had minor injuries not requiring major treatment procedures, the patients can be grouped in the following severity categories:

Overall, the triage from the government scene went well and the OUH trauma centre was not overwhelmed with patients with minor injuries. There were a few patients that in retrospect could have been treated elsewhere but their transfer to the OUH did not seem to affect the treatment of the more severely injured. Nine of the 10 patients had penetrating injuries with a median Injury Severity Score (ISS) of 16.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Government scene</th>
<th>Utøya</th>
<th>Total</th>
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<tbody>
<tr>
<td>Total no. of injured</td>
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<td>172</td>
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<tr>
<td>Severity by clinical assessment</td>
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<tr>
<td>Minor moderate injuries</td>
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<td>144</td>
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<td>3</td>
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<tr>
<td>To non-trauma centre</td>
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<td>141</td>
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<tr>
<td>Overtriage rate</td>
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<td>0/12</td>
<td>3/22 (14%)</td>
</tr>
<tr>
<td>Undertriage rate</td>
<td>0/7</td>
<td>9/21</td>
<td>9/29 (32%)</td>
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<tr>
<td>Severity by Injury Severity Score</td>
<td></td>
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<tr>
<td>ISS ≥ 16</td>
<td>6</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Directly to OUH</td>
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<td>9</td>
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<tr>
<td>To non-trauma centre</td>
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<td>5</td>
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<tr>
<td>ISS &lt; 16</td>
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<tr>
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<tr>
<td>To non-trauma centre</td>
<td>102</td>
<td>43</td>
<td>145</td>
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<tr>
<td>Overtriage rate</td>
<td>4/10</td>
<td>3/12</td>
<td>7/22 (32%)</td>
</tr>
<tr>
<td>Undertriage rate</td>
<td>0/6</td>
<td>9/21</td>
<td>9/28 (32%)</td>
</tr>
</tbody>
</table>

* Based on the information that 3 patients transported directly from the government scene to OUH could have been treated in another hospital in the Oslo region without significant reduction in treatment quality.
Severity Score (ISS) of 24 (range 1-50) and no mortality.

From Utøya, 12 clinically severely injured patients (9 with ISS > 16) were transferred directly to OUH. In addition, 5 patients with minor injuries were seen at the GP outpatient clinic.

Ringerike hospital received 35 patients (14 with gunshot wounds), 18 requiring admission with 5 major (ISS > 16, thoracic or abdominal gunshot wounds, one critically injured with ISS = 41), 6 moderate (ISS 5-15) and 7 (ISS 1-4) minor injuries. Including chest drainage, 11/18 patients were operated at Ringerike. Seven patients required transfer to OUH. Bærum hospital received 7 patients (4 with gunshot wounds), 5 were admitted (4 for injuries). One patient (ISS = 12) was transferred to OUH. Drammen hospital received one patient from Utøya with unknown injury severity, and the patient was transferred to OUH.

The triage process from Utøya was affected by the security situation that required change of the initial casualty clearing station and might have contributed to the somewhat high undertriage rate (9/21 = 43%). However, in retrospect it can be stated that the 9 moderately to severely injured patients undergoing secondary transfer to the OUH might have been better served by direct transfer to OUH provided that the OUH capacity would not have been overwhelmed. In the future, a good communication system from the scene to the OUH could secure the optimal distribution of the severely injured patients among the major hospitals in the region.

In general, the 31 patients (30 with mainly penetrating injuries) treated at the OUH had an ISS range from 1 to 59, with 20 having an ISS > 16. Thirteen required ventilator management. The actual survival rate was 30/31 that testifies to the high quality of care at the OUH. With the total number of immediate survivors (brought alive to a hospital) with ISS >16 being 20 and one patient dying, the Critical Mortality Rate (CMR) was 1/20 (5%). Regarding the application of extremity tourniquet as first aid measure done by the police, there is lack of agreed indications for when to do this.

It is the understanding of the Advisory Council that Norway does not use colour-coding for field triage, e.g. red for urgent, yellow for severe but not immediately life-threatening and green for mild injuries (walking wounded). The Council finds the use of such water-proof cards very useful. The field triage could primarily involve selecting the patients with red and yellow cards to be transferred directly to the trauma center (to minimise undertriage) and patients with green cards would be transferred to other hospitals (non-trauma centers) to avoid trauma center overtriage.

**Advisory Council Recommendations**

- There should be a closer cooperation between and possibly unification of the Emergency Communications Centres (at the very least a coordinated plan).
- The capability of the receiving hospitals will depend on critical resources including ED, OR, and ICU capacity. When receiving large amounts of patients over time, the ICU capacity may become the limiting factor.
- There should be agreed indications for when to apply extremity tourniquet as first aid measure done by the police.
- The use of colour-coding for field triage should be considered to minimise undertriage and overtriage.

**2.3 Organisational framework**

Managing disasterous events requires cross-sector cooperation, coordination and communication. The head­actors always involved are the police, fire-and rescue, and the health area. There is thus a need to coordinate the efforts of the various agencies responding to major incidents.

This raises the question: Does the organisational framework facilitate the above mentioned recommendations on national and regional plans, and working cross-sector at all levels (at scene, regionally and nationally)? The three sectors always involved should agree on a line of directions for operations at scene in the cross sector crisis staffs.

To cooperate and coordinate plans, as mentioned above, it could be profitable to consider the organisational framework. It expresses which units are involved in the action, and how to adjust and cooperate to carry out the efforts as a whole, so the final result is satisfying.

The Council has noted that the number of EMC in Norway is numerous and the area of responsibility geographically is relatively small. It is also noted from the event, that the EMC in Oslo broke down and concern has been expressed whether or how even bigger events might be managed. This could call for considerations on uniting EMCs in Norway into bigger and fewer units, taking into consideration the cooperation and coordination with other involved partners.

**Advisory Council Recommendations**

- There should be a closer cooperation between and possibly unification of the Emergency Communications Centres (at the very least a coordinated plan).
- An organisational framework that would allow for local flexibility and give structure to deal with situations that overwhelm the resources available should be considered. The national level should support and facilitate the local level, rather than taking primacy.
- The roles and responsibilities of the emergency services (EMS, fire, police, air ambulance, and others) should allow for a better structure on the whole and facilitate communication between the responding services.
- Training should be cross-sectorial.
2.4. Equipment
There was good availability of helicopters for transport within the healthcare system. However, there was a lack of coordination between areas and in this incident HEMS units from other areas heard of the incident through media and offered their assistance. There was also a lack of air traffic control for helicopters and this makes a large action such as this dangerous. At one point a medical helicopter was forced to hover over nearby Sandvika, as it could not enter the area due to a media helicopter hovering over the area. There was good use of light emergency stretcher systems.

Advisory Council Recommendations
– There is a need for one person to be in charge for the entire operation.
– A common liaison document should be produced, setting out the strategic level parameters/framework for multi-agency coordination and communication between the emergency services. The arrangements detailed in the document should be exercised and tested regularly including being reviewed, as a minimum, every three years.

2.5. Activation System
Many healthcare providers learned of the incident through social media and were “activated” to the incident.

Advisory Council Recommendations
– SMS text messaging can be used for activation, but also distribution of information, e.g. to units outside the actual region to request them to be on stand-by.

2.6. Leadership
The Oslo EMCC (AMK) does not have a doctor available 24/7 and relies on doctors from HEMS units and the ALS ambulance in Oslo for medical direction and control. If these doctors get directly involved in an incident, there is no one in the “back office” with medical command. On a strategic level, decisions can be made to try and influence the influx of people into the hospital system by keeping them informed regarding what is happening and pointing to other available options.

Advisory Council Recommendations
– There is a need for good communication within the leadership structure. It is difficult for one person to communicate effectively (in dialogue) with much more than five persons.
– When an incident covers several regions, there is a need for one person to be in charge for the entire operation.

2.7. Communication
The emergency medical communications centre (EMCC/AMK) in Oslo broke down during the incident. There was limited cooperation and coordination between ECCs in different areas and between communication centres for the various emergency services. Communications between triage and MTC and EMC were limited. Information sent by youngsters via mobile devices directly from the scene was already being distributed on Twitter before conventional media had the chance to inform the public what was happening.

Experience suggests that to provide effective internal communications between organisations providing medical care, a national protocol is needed that is understood by providers and health care system managers to ensure each organisation understands their role and place within the system during a major incident.

The protocol is most effective when it has been designed to enable it to expand depending on the scale and type of incident. Therefore, it should build on a principle that supports the management of the incident at the most appropriate level possible. The protocol should reflect strategic national coordination arrangements for the health sector, including an expression of intent as to how different providers will work together during an incident, and how system managers will provide support and coordination when the local response becomes overwhelmed by events.

A clear framework is required between all the emergency services allowing each agency to integrate its operational response whilst recognising the individual responsibilities and accountability of each individual organisation. The framework needs to be sufficiently flexible to accommodate a wide range of incidents, but sets the principles of command, control and coordination each of the emergency services/first responders will follow.

Advisory Council Recommendations
– Communications between triage and MTC and EMC need to be improved.
– New technologies for distributing information, e.g. social media (Twitter, Facebook) should be considered to supplement the emergency response.
– A national strategic command arrangement protocol should be produced for use internally within and across the health sector of Norway. This should form the framework by which local health providers plan for major incidents.
– A common liaison document should be produced, setting out the strategic level parameters/framework for multi-agency coordination and communication between the emergency services. The arrangements detailed in the document should be exercised and tested regularly including being reviewed, as a minimum, every three years.

3. HOW CAN WE MAXIMISE SURVIVAL RATES WHILE LIMITING THE RISK TO PROVIDERS?
It is difficult to assess whether there was potential for saving further lives on scene prior to evacuation. We discussed several points regarding inserting EMS in tactical gear into the “hot zone” vs. increasing the medical training of the police (and military) units responding to such incidents. In Norway there are within the special Delta police unit individuals with EMT training.
Advisory Council Recommendations

- The Directorate of Health should explore with the police how to facilitate more rapid extrication from the scene or whether it is possible to insert medical teams in the “hot zone” earlier.
- Proper triage will further aid in preserving those lives that can be salvaged.
- There is a need to make sure that the EMSs are working according to up to date protocols and that they follow these.
- Key performance indicators (e.g. time to CT for head injuries, time to operation for abdominal GSW) should be audited to ensure that treatment is up to standard.

4. PSYCHOSOCIAL RESPONSE

The Advisory Council is of the opinion that the Norwegian authorities should be commended for the organisation, coordination and implementation of the acute psychosocial response and for the follow-up project for this national large-scale event.

The acute response was coordinated by primary services, something which illustrates the strength of the Norwegian primary service system. The role of volunteers was important, but the coordination and documentation of their contribution remains somewhat unclear.

Establishing the systematic follow-up project and need-based support and treatment by bringing together all relevant actors and organisations, and avoiding unnecessary public disagreements among experts, was excellent. The coordination of the psychosocial support and services via county governors and leading primary health care physicians has been well-planned and comprehensive.

The psychosocial project has been evidence-based and in line with international guidelines (such as NICE). Overall, the principles in providing pragmatic psychological first aid, active watchful waiting and providing support and specific treatment for those in need, have been sound. The aftermath of these national terror events has been tackled comprehensively and pragmatically.

4.1. Medical staff working in hot zone

Providing medical staff with the ability to work within the hot zone of an incident presents unique challenges, especially those incidents involving high velocity firearms. In general, the focus should be either to make the hot zone cold to enable medical response teams to work in safety, or provide sufficient training resource and capability for certain medical response teams to work within the zone. Limited medical care can be undertaken in the hot zone due to the complexity of the environment and/or the safety of the responders and the patients. Where medical staff are resourced and trained to enter the hot zone, the level of medical care to be provided should be reviewed and limited to those skills that can add immediate life saving affect. Any additional interventions can compromise the safety of responders and also the wider care of patients.

Also, medical staff working in the hot zone can only be achieved successfully if supported by the other emergency services, and any hot zone capability is integrated into the three emergency services joint operating plan.

Advisory Council Recommendation

- The UK has developed a specialist medical capability called Hazardous Area Response Teams (HART) that are embedded with the UK regional ambulance services. Joint working between the Health Directorate and the UK ambulance services could assist in the scoping of any potential capability and feasibility of hot zone working for medical personnel in Norway.

4.2. Helping the public to help themselves

During a major incident, the call demand on health services can increase significantly. In order to provide the best possible care to the most patients, a critical part of any major incident plan should also focus on the ability for the health advice to be shared as widely as possible by as many communication media as possible. Good clear public health messaging in the pre-incident planning phase can assist the population to provide assistance to themselves and other injured citizens when an incident occurs. Experience from military combat indicates that rapid intervention that provides basic life support skills (e.g. stemming blood loss) can increase the patient survival rates following significant trauma events. This ‘immediate self help’ can assist medical services respond to incidents that present a logistics challenge through either geography or the safety of responding personal.

During periods of increased call demand experienced during major incidents, experience from the UK indicates that telephone advice on first contact with the caller can filter out calls to allow clinicians to prioritise deployment of resources. Using simple questioning within the call can allow initial ‘telephone triage’ to route patients to suitable care. Through using evidence based algorithms this first stage telephone triage can be completed by non-medically trained personnel, freeing clinicians to focus on those callers referred to second stage telephone advice. For those callers identified in the first wave telephone triage as requiring emergency assistance, or where a response may be delayed due to incident location or safety of responding personnel, immediate first aid advice or public safety advice can be provided to the caller.

Meeting the increased demand for medical response during a major incident will always present unique challenges to responding agencies due to the unexpected nature of the scale and location of the incident. Building an evidence base to support planning for a major incident is difficult due to the low frequency of large-scale incidents, therefore data should be considered from other major incidents in other countries to allow a comparison to be made. However, call data and demand
analysis of routine call activation and patient outcomes can develop a good foundation for setting up a response to a major incident.

Due to the dynamic nature of providing emergency health care, a demand management process that continually reviews performance and clinical outcome data can assist emergency planning; health care management and clinical professionals develop detailed crisis plans that can reflect local requirements, allowing national strategic planning to be integrated with the local community.

At a national level, the Health Directorate should be linked into the work of the intelligence and enforcement agencies. Through health being viewed as an equal trusted partner in the central government planning process realistic and sustainable health emergency plans can be developed to maximise investment in common risks from cross-government departments and ensure an integrated response by all responding agencies. This work can be further enhanced through establishing a national risk assessment process that health partners are included in, that looks at the threats and hazards Norway faces.

Advisory Council Recommendation
– A national programme of training the population in the essentials of basic first aid, especially focusing on injuries caused by major trauma should be considered.
– The use of telephone advice that provides first stage triage and public health/safety advice should be considered as part of health emergency planning.
– Establishing a process that links resource demand data and clinical outcomes to support pre-incident planning should be considered.
– The Health Directorate should be included in any cross-government risk analysis process and considered an equal partner in this work. The output from this work should inform strategic national decision making for health emergency planning including investment in developing capability and capacity.

4.3. Other
Some issues should be clarified for the future, not necessarily because they are problematic in Norway, but because the information that the Council received so far may provoke these questions:

Advisory Council Recommendations
– The role of volunteers should be clarified for the preparedness planning.
– Legislation or guidelines for the registration of the victims and families should be clarified for screening and follow-up projects.
– The adequate training for acute volunteers should be defined, as well as the coordination of their role and the organisation of their need-based support.
– The organisation of “hot-lines” (telephone numbers, e-mail-centers) for relatives should be defined, as well as the support for the relatives or others linked to the perpetrator.
– The Health Directorate should clarify whether (and if so, how) the victims and their families and friends could be more actively protected against potentially harmful media interaction without limiting freedom of the press.
– Collaboration of the work in schools (universities etc.) and the follow-up project needs to be ensured.
APPENDIX 2.
LIST OF MEETINGS AND DOCUMENTS

The following section lists meetings held by the Directorate of Health’s working party, and key documents assembled for the review. The Directorate of Health has also been in extensive oral and written communication with the external entities referred to and its own staff. We have also received important input from national and international expert advisers. We have inserted cross-references to meetings (M) and documents (D) within the report where appropriate, but the general impressions and assessments are based on the totality of information from a variety of sources and our professional reflections.

Meetings:

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<th>Ref.</th>
<th>Date</th>
<th>Meeting with</th>
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<tbody>
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<td>M1</td>
<td>02.11.11</td>
<td>22 July Commission (secretariat and health representatives)</td>
</tr>
<tr>
<td>M2</td>
<td>07.11.11</td>
<td>Attended meeting of Deputy Director General Bjørn Guldvog with Psychologiskistand A/S, which is assisting the Commission</td>
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<td>M3</td>
<td>15.11.12</td>
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<td>International Advisory Council</td>
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<td>Norwegian Red Cross</td>
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<td>M8</td>
<td>29.11.12</td>
<td>Norwegian Resource Centre for Violence and Stress Studies (NKVTS)</td>
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<td>M9</td>
<td>02.12.12</td>
<td>Department of Forensic Medical Services, Norwegian Institute of Public Health</td>
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<td>M10</td>
<td>05.12.12</td>
<td>Vestre Viken Hospital Trust (Ringerike, Drammen and Baerum hospitals attended)</td>
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<td>06.12.11</td>
<td>Norwegian Armed Forces’ medical corps</td>
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<td>M12</td>
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<td>Support group in the government quarter</td>
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Documents:

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<td>Hole municipality</td>
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<td>Emergency Preparedness Plan: responsibilities and task allocation</td>
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<td>Letter to 22 July Commission concerning documents</td>
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<td>Letter to Northern Norway Regional Health Authority concerning assistance to Utøya victims</td>
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APPENDIX 3. EVIDENCE, PSYCHOSOCIAL INTERVENTIONS AND FOLLOW-UP

Following traumatic events, the commonest after-effects are psychological stress reactions, somatic complaints and behavioural changes. Psychological stress reactions may be characterised by distinct post-traumatic stress reactions (re-experiencing, avoidance, hyper-arousal), anger, lack of concentration and recall problems, grief, traumatic grief reactions, depression, generalised anxiety, phobias or sleep disturbances (Bonanno et al., 1995; Neria et al., 2010; Goenjian et al., 2011). Somatic complaints following trauma include headache, stomach ache or aggravation of somatic illness. Behavioural problems may include truancy, hyperactivity, aggressiveness, increased use of intoxicants or sedatives (tobacco, alcohol, street drugs or medication), risk-taking and recklessness with own or others’ safety, or suicidal tendencies (Pat-Horenczyk et al., 2007). In adolescents, even moderate disturbances may cause problems in relation to ordinary developmental challenges such as leaving home (Eisenberg & Silver, 2011; Shafii & Shafii, 2001). Post-traumatic stress reactions such as difficulty concentrating and sleeping problems in children and adolescents may affect performance and academic grades and hence have long-term consequences. The same reactions apply to bereavement (Dyregrov, 2004; Dyregrov, 2006; 2009). In adults, functioning in working life may be affected, especially in the setting of a workplace affected by a traumatic event.

The figures for the incidence of post-traumatic stress disorder (PTSD) in international studies vary considerably, but as an estimated average, 30% of children and adolescents exposed to disaster will have lasting or mounting symptoms within the first 1-2 years (Bonanno et al., 2010). Studies following shootings in kindergartens or schools demonstrate that approx. 1/3 develop PTSD, measured at 1 to 14 months post-incident (Pynoos et al., 1987; Schwarz & Kowalski, 1991; Trappler & Friedman, 1996). In sum, the finding is that young age, proximity to the incident, loss of loved ones, disablement arising from injury and familial relationships are significant predictors in adolescents of post-disaster psychopathology, somatic complaints and behavioural problems (Neria et al., 2011; Norris et al., 2002).


Based on findings from previous disasters, the Norwegian Center for Crisis Psychology described interventions for groups of individuals bereaved by disasters, interventions which have also been employed and evaluated in Finland (Dyregrov & Straume, 2003; Dyregrov, Straume & Saari, 2009) following different types of disasters.

Consequences of sudden death

National and international findings are available on the situation of bereaved individuals in the case of single traumatic death. Kari Dyregrov’s doctoral thesis indicates that cot-death, fatal accidents and suicide cause powerful after-effects in parents in the form of post-traumatic reactions and complex grief reactions (Dyregrov, 2003). The study also demonstrates that surviving siblings struggle significantly with school and daily functioning (Dyregrov et al., 2000; Dyregrov & Dyregrov, 2005). In addition to the effects on the individual of losing a loved one, there are also substantial impacts on the family unit comprising multiple problems and challenges associated with family interaction and communication (Dyregrov & Dyregrov, 2007). International studies demonstrate increased mortality among bereaved parents and bereaved siblings (Harper et al., 2011; Li et al., 2003; Rostila & Saarela, 2011). Research on parenting capacity in the wake of traumatic events and mental distress indicates that this area should be given more emphasis in both research and parent counselling (see Dyregrov, 2006). In addition, other health consequences of bereavement may be seen (Stroebe et al., 2011). The situation of the bereaved following different types of natural disasters has been investigated in various studies (Arnberg et al., 2011; Levin, 2004; Raphael, 1985), including a Norwegian study (Kristensen et al., 2009; 2010) which demonstrate varying degrees of traumatisation and complex grief reactions. Generally, recent grief research demonstrates that grief constitutes a serious health problem that may result in ill-health, premature death and severely impaired quality of life.

APPENDIX 4. REFERENCES, PSYCHOSOCIAL INTERVENTIONS AND FOLLOW-UP

For this clinical field, we have considered it particularly relevant to familiarise readers with the source literature for the various expert comments and evidence presented in the report.


Suicide and Life Threatening Behaviour, 35(6), 714-724.


APPENDIX 5. RESEARCH

Many of the major disasters that have occurred in recent decades have led to both research and advances in professional practice in many disciplines. Much of this research has generated innovations in diagnostics, treatment and practice, risk and vulnerability analyses and other fundamental work conducive to better emergency preparedness.

In the field of somatic health care, clinical research has resulted in new, rational treatment programmes combining quality and low cost. Many of the worst disasters have afflicted socioeconomically disadvantaged nations, which is why cost aspects take on particular significance. Research targeting pragmatic solutions serves to ease recovery efforts in disaster-struck communities once the hordes of international relief organisations have left the scene. While many projects have been carried out and financed by socioeconomically privileged nations, the involvement of local communities remains essential.

In disaster psychiatry, comprehensive long-term studies of major population groups are in progress both within the countries in which the disasters occurred and with domestic victims as the research subjects. Norwegian disaster psychiatry has risen to international prominence in this field of study, a fact which the IAC made special mention of. In some countries, such as Sweden, research centres devoted to disaster medicine have been established at all university hospitals and are funded mainly by the Swedish National Board of Health and Welfare. This arrangement fosters research diversification based on the special capabilities represented by the individual research centres. The projects proposed at these centres undergo comprehensive evaluation in respect of their methodology, quality and relevance by a panel of experts.

The twin disasters that occurred on 22 July 2011 spurred the Norwegian research community, like foreign counterparts, to initiate pre-research activities. Shortly after the incidents, representatives of both somatic medicine and disaster psychiatry assessed potential research topics surrounding the incidents in Oslo and on Utøya. Applications were prepared, typed up and submitted to the Regional Committees for Medical and Health Research Ethics. Some applications were granted quickly and the projects were then commenced. A few publications have already been accepted for publication in international and national journals. Many more projects are expected, both in the near future, and as follow-up projects over a number of years.

Aspects of the present report may well pave the way for research on a range of topics in the time ahead.

Examples of current projects:

**Somatic medicine (emergency medicine/anaesthesia/surgery):**

Oslo University Hospital (OUH) launched the following quality studies on 15 December 2011:

- “Behandling av pasienter i Oslo universitetssyke-hus etter bombeexplosjon i Oslo og skyttetrage-die på Utøya 22.juli 2011” (Treatment of patients at Oslo University Hospital following the bomb blast in Oslo and shooting tragedy on Utøya on 22 July 2011)

- “The July 22nd events in Oslo and Utøya from an orthopaedic perspective”
“The 22 July events in Oslo and Utøya, Neuro- and maxillofacial surgery in a trauma centre”

“Utøya shooting and Oslo bombing 22nd July 2011: The immediate pre-hospital medical service response”

OUH has published an article in the Journal of the Norwegian Medical Association: “The Oslo Blood Bank, 22 July 2011”.

OUH has established an advisory liaison group for research activities relating to the terrorist incidents.

The following article was published in Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine on 20 March 2012: “Oslo government district bombing and Utøya island shooting July 22, 2011: The immediate prehospital emergency medical service response”

**Psychosocial interventions and follow-up**

The complexity of traumatising incidents and post-traumatic reactions entail that research should concentrate on the interaction of individual factors and societal circumstances. The Norwegian Resource Centre for Violence and Stress Studies (NKVTS) is engaged in research relating to the incidents of 22 July. The goal of the research programme is to investigate the implications of terrorist acts for indirect victims, rescuers and the general public, and the role of public-sector institutions. The research perspectives embrace both individual, group and community levels as essential foci for building the knowledge that is to form the basis for individual or community-based measures (WHO, 2011). The aim is for the outcomes to provide greater insights into the sequelae of terrorism and knowledge of how these might be prevented or limited. The programme will also advance knowledge of assistive interventions and form the basis for treating the victims of subsequent disasters.

**Studies of the effects of terrorist attack on the victims**

In studies of child and youth victims of terrorist incidents, the majority (on average more than 70 per cent) eventually regain functioning and develop normally in spite of their distress with the support of existing social structures, friends, family, school and leisure activities. (North, Smith, & Spitznagel, 1994; Schwarz & Kowalski, 1991; Verger et al., 2004). This varies somewhat according to the type of incident they were exposed to. Studies indicate that around a third develop problems so severe they become dysfunctional in daily life. Such individuals will require some degree of assistance and support from the public-sector care services. The number that develops such problems varies greatly depending on factors such as what the victims experienced, how vulnerable they were before the incident, the nature of the support and assistance received after the incident, and the time that has elapsed since the incident (Neria, Nandi, & Galea, 2008; Norris et al., 2002). The commonest reactions to such incidents are post-traumatic stress disorder (PTSD), depression, anxiety and grief reactions, including complex grief reactions following the loss of loved ones. In Norway, studies have been conducted of traumatic experiences such as war (Askevold, 1976; Egede-Nissen, 1978; Major, 1996; Sund, 1976), captivity (Eitingger, 1964; Strom, 1968), major accidents (Dyb, 2005; Eid, Johnsen, & Thayer, 2001; Holen, 1990; Malt, 1986; Malt & Ugland, 1989; Weisæth, 1984) and rape (Dahl, 1989, 1992; T. K. Jensen, 2004). A major Norwegian research programme was initiated under NKVTS following the South-East Asian Tsunami in 2004. Other Norwegian studies have focused on interventions in adults (Sveeas, 2000; Varvin, 2002) and children (Dodge & Raundalen, 1991; Dyregrov, 1997; Hukkelberg & Jensen, 2011; T. K Jensen, 2011) who have experienced this degree of trauma. However, little research has been done in Norway on the consequences of terrorist acts. Long-term follow-up of children 47 years after the Nazi terrorist atrocities in the Telavåg community revealed an increased incidence of anxiety disorders, post-traumatic and psychosomatic disorders and possibly early onset of serious bodily ailments (Andersson, 1996; Weisæth, 2004).

Internationally, research has been done in the wake of terrorist actions, both bombings and shootings. Studies include a systematic review of PTSD research following the terrorist attacks of 11 September 2001 (Neria, Digrande, & Adams, 2011). The review concluded that there is a distinct shortage of longitudinal studies. Research following terrorist acts tends primarily to concentrate on the health consequences for individuals, PTSD in particular. Less has been researched or is known about other sequelae such as depression, anxiety and psychosomatic disorders (Norris et al., 2002). Scarcely anything is known about how acts of terrorism affect society at large and thus indirectly influence individual reactions to terrorism.

**Studies of grief reactions among the bereaved**

Several Norwegian studies have investigated parental and sibling grief and trauma reactions following sudden, violent death. These studies indicate that parents are afflicted significantly and enduringly by somatic, psychosocial and existential problems following the sudden death of a child or adolescent from unnatural causes (suicide, accident and sudden infant death syndrome). The research indicates that on the death of a child, mothers who are unemployed, who self-isolate and who lose an only child are at high risk of developing serious disorders (Dyregrov, Nordanger & Dyregrov, 2003). International studies stress the serious consequences of increased risk of premature death, serious somatic disease in parents who lose a child (Harper et al., 2011; Li et al., 2003; Rostila & Saarela, 2011). Norwegian research also shows that parents whose children die
suddenly want early help, outreach help, flexible, family-related and individualised professional care, and over time (Dyregrov, 2002). Other studies indicate that the most important support comes from social networks and peers (Dyregrov & Dyregrov, 2007). Children and teens grieving the traumatic death of a sibling also report a need for help and support, especially from their school (Dyregrov & Dyregrov, 2009). Other Norwegian research into close family members bereaved by the South-East Asian Tsunami supports previous research (Kristensen, Weisæth, & Heir, 2010).

**Research topics in the wake of 22 July at NKVTS**

The research programme will study direct and indirect victims of the incidents in both the government quarter and at Utøya. In addition, a population survey will be conducted to learn more about reactions and attitudes in the general population in the wake of such attacks. The object of the research programme is to provide insights into after-effects in relation to both direct/indirect victims and the population at large.

1. **Population survey:** This survey will study experiences, reactions, sense of safety and attitudes among youth and adults in the Norwegian population in the wake of the terrorist attacks of 22 July 2011. A secondary aim will be to establish comparison groups for surveys of individuals directly affected by the attacks, that is, teens and young adults who survived Utøya, their parents and/or siblings, employees in the government quarter and bereaved families. A sub-survey of the population survey will be carried out for a group that has previously experienced traumatic events. The sub-survey of retraumatisation in individuals previously exposed to traumatic events aims to obtain insights into how the terrorist attacks and the way in which Norway tackled the situation have affected refugees/immigrants who have previous traumatic experiences of war, captivity or torture.

2. **Utøya:** This project will study experiences and reactions in children, adolescents and adults who survived the terror on Utøya. One of the aims is to study the direct victims and their parents to determine the effect of direct exposure on mental and somatic health, functioning and quality of life from a long-term perspective. Post-traumatic development and coping strategies will also be studied. Initial data collection for the project has been completed and just over 300 interviews have been conducted with children and adolescents, together with a corresponding number of interviews with parents. Interviewers throughout Norway have participated in data collection. A number of sub-projects are planned, including one on somatic disorders, experiences relating to the trial and how schools have handled the disaster.

3. **Government quarter.** The project will study direct and indirect victims of the government quarter bombing. The purpose of the study is to survey employee health, job satisfaction and fitness for work following the bombing, to survey employee perceptions of workplace safety, and to examine the impacts of the terrorist attacks on the physical and psychosocial work environment, together with factors conducive or detrimental to health, job satisfaction and fitness for work. This project will be carried out in association with the National Institute of Occupational Health.

The three research projects will be longitudinal and will seek to employ comparable methodologies and instruments. Telephone interviews will be employed for the population survey, and personal interviews in the study of the direct victims of the Utøya attacks. For employees in the government quarter, a questionnaire will be used. Consent will also be sought for the use of information from the ministerial occupational health service. Common to the three projects will be that they obtain information as to what the victims experienced, their reactions during and after the event, mental health, quality of life, family relations, social support etc. The material will provide the basis for analysis of the processes undergone by individuals, but also general public reactions in the wake of a terrorist attack.

**Research topics at the Center for Crisis Psychology**

4. **Research into bereavement.** The Center for Crisis Psychology submitted an abstract entitled, “Etterlatte foreldre, søsken og venner etter 22.07” (Parents, siblings and friends bereaved by 22/7) on 7 December 2011.

The object of this research project is to gain insights into the situation of different groups of individuals bereaved by the Utøya killings.

The study will have three sub-projects:

1. Bereaved parents
2. Bereaved siblings
3. Friends of the deceased

The aim is to carry out a prospective longitudinal non-experimental study. The study will concern the incidence of, and any correlations with, trauma and grief reactions, distress following the killings and help and support interventions. Subjective perceptions of the need for further help will also be surveyed. Both quantitative data (questionnaire) and qualitative data (focus group, in-depth interview) will be gathered.
Topics for research at Modum Bad

5 Research on rescuers
In a communication to the Directorate of Health on 20 December 2011, the research institute of the Modum Bad psychiatric institution indicated that Modum Bad should be involved in research in the wake of 22 July. Modum Bad aims to survey and direct research at emergency responders and organised and voluntary rescuers.

Through the use of questionnaires, multiple dimensions of emergency responder and rescuer experiences during and after the attacks will be surveyed, e.g. immediate reactions and after-effects, degree of exposure, importance of psychosocial support in the acute phase, co-worker support and the timing of debriefing, the importance of preparing and drilling crisis management, the significance of responder/rescuer vulnerability and resilience and the type of psychosocial help that was available and of significance for individual outcomes.

Research topics at the universities

6 Ongoing and planned research at the universities

University of Bergen
At the University of Bergen, three departments are either running or planning research projects related to 22 July. The Department of Clinical Psychology’s contribution will be via a supervisor for a PhD project devoted to police interviews of Utøya eyewitnesses.

At the Department of Psychosocial Science, a research project on terror threats and tourism has been in progress for some time. Data are available from various cohorts from before 22 July and the plan is now to continue this project by gathering further data following the terrorist attacks of 22 July. The Department of Psychosocial Science also has an Operational Psychology Work Group which has conducted research on first responders’ (police, defence, health personnel) reactions to critical incidents and during demanding operations.

Another research project on 22 July is pending at the Department of Education but has not yet been finalised as at January 2012.

The proposed research has been fraught by ethical concerns over the added distress that might be caused to victims of being contacted repeatedly to answer the same questions over and over about their reactions to the incidents. Nonetheless, the department has found it important to gather systematic evidence and conduct studies in order to obtain more reliable understanding of what constitutes the best psychosocial follow-up following major crises, accidents or disasters, and in that context, the victim perspective should be given due emphasis.

APPENDIX 6. EXTENDED SCENARIOS
As stated in the report’s descriptions and evaluations of the medical response to the terrorist incidents in Oslo and on Utøya on 22 July, the health service had good capacity in all affected functions to meet the challenges it faced in terms of both casualty numbers and quality of medical care. The recommendations regarding follow-up do not detract from this in any way.

However, reflections on the circumstances of the terrorist incident in the government quarter elicit discussion of the wider implications of the incident for national emergency preparedness capacity. The bomb went off at a time when relatively few employees were at work, official estimates putting the number at 310 out of 3,500 employees (D123). It was a Friday afternoon during the general staff holiday. It being the summer season, the working day was over for many members of staff by 15:00. Moreover, the bomb exploded an hour later than planned due to traffic congestion. At the Ministry of Government Administration, Reform and Church Affairs almost 50% more employees would still have been at work an hour earlier, but whether this would have been representative of the entire government quarter is unknown (D124). The implication is, however, that at this time of day, there would have been far more fatalities and casualties, but that the situation would nevertheless have been manageable. However, if the car bomb had been placed at a different location where the blast would have caused total collapse of the high-rise building, or the explosion had happened closer to mid-day outside of the holiday season, the number of fatalities and casualties would have been many times higher. Under these circumstances, the situation would in the worst case have been unmanageable for the health service in terms of providing all patients with time-critical treatment. To achieve the best possible outcome for as many casualties as possible, it would have been crucial to distribute them across many hospitals. Realisation of the inter-Nordic health sector cooperation would have been an essential component of the response in terms of both hospital treatment and patient transportation operations. An example of realisation of the latter was seen on 22 July when ambulances from Västra Götaland county across the border in Sweden assisted Østfold county with patient transportation.

The time and site of the explosion were factors that made it possible to achieve rapid and effective medical follow-up. There was only a short distance from OUH U and City of Oslo out-of-hours primary care centre to the scene of the disaster. Highly qualified rescue workers and abundant technical equipment were soon in place. Triage and primary care could be instituted shortly after the explosion. The fact that this was the holiday season
also meant that hospital bed occupancy was lower than at other times of the year. As such, provided that personnel could be called in, spare capacity was assured. This was duly achieved for reasons described in the report. However, had a major disaster occurred at night, it would have been difficult to achieve as rapid a response from the many employees who were not on call.

Effective cooperation with neighbouring hospitals meant that OUH U was able to transfer non-disaster in-patients to them. This in turn meant greater intensive-care capacity, which would otherwise have been a limiting factor. In the Greater Oslo area, there are many hospitals to distribute patients among. This applies above all to all the units at OUH, but also Akershus University Hospital (which is a trauma centre group 2 hospital). In addition, South-Eastern Norway Regional Health Authority has cooperation agreements with the Lovisenberg and Diakonhjemmet private hospitals. City of Oslo has a large out-of-hours primary care centre and outpatients’ casualty clinic at the Storgata 40 premises, where the high capacity-limit was not reached that day. The various means of transportation, both ordinary road ambulances and many rescue helicopters were rapidly mobilised. These were called in from the geographical vicinity and from other parts of Southern Norway. The short journey times from the scene to the out-of-hours primary care centre and the hospital in Oslo also meant that transportation capacity exceeded demand.

However, it is not difficult to conceive of disasters that would exceed present health service capacity. Scenarios would include:

– A large cruise liner sinks or catches fire off the coast at a location more than a hundred kilometres from the nearest hospital

– Fire in a passenger train or head-on train collision at high altitude

– Air accident remote from the nearest hospital with trauma capability

– Explosions and fires on off-shore installations

In such situations, the rescue work itself would be extremely demanding, and it would take a long time before casualties reached hospital. If the nearest hospital is a local hospital or other hospital with no or limited capacity and experience in trauma care, some casualties will have to be transported onwards in order to receive proper medical care. Transport capacity may be a serious bottleneck even if road and air ambulances are called in from different health regions. It might be absolutely crucial to have assessed correctly at triage stage which casualties are to go directly to a trauma centre even if this will mean several hours’ transportation; which casualties are to be stabilised at a local hospital prior to onward transportation, and which casualties can be given full medical care locally.

At hospitals with limited daily training in dealing with severe injuries, as part of the actions to escalate emergency preparedness, it may be appropriate to bring in personnel from outside. Although it will be possible to send many casualties on to a trauma centre, at-scene triage must be performed by personnel with experience and high-level expertise. The secondment of specialists with such expertise would be a good solution. Secondment of entire surgical teams would be another option. Working with equipment that is not used on a daily basis combined with other logistics are other issues in such settings. However, given the improvisation skills acquired by experienced disaster-response teams, interim transfer to another place of work might be a realistic component of the solution in the initial phase of major accidents and disasters.
# APPENDIX 7. TIMELINES

**SOURCES**

| TS | Terje Strand |
| OA | Oslo Agency for Fire and Rescue Services |
| VV | Vestre Viken Hospital Trust |
| OU | Oslo University Hospital |
| ANS | Luftambulanstjenesten ANS |
| Ring | Ringerike municipality |
| Hole | Hole municipality |
| Pol | The police |
| Bærum | Vestre Viken Bærum Hospital |
| VV | Vestre Viken |
| NBHS | Norwegian Board of Health Supervision |
| S-ENRHA | South-Eastern Norway Regional Health Authority |
| Oslo | City of Oslo |
| SO | Steinar Olsen |
| OPCC | City of Oslo out-of-hours primary care centre |

## Executive health service

<table>
<thead>
<tr>
<th>At</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Activity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRIDAY 22 JULY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:25</td>
<td>00:00</td>
<td></td>
<td>The bomb is detonated in the government quarter</td>
<td>Pol</td>
</tr>
<tr>
<td>15:26</td>
<td>00:01</td>
<td></td>
<td>An ambulance located on Storgaten hears a loud bang and notifies the ambulance service commander of a “possible explosion”</td>
<td>OUH</td>
</tr>
<tr>
<td>15:26</td>
<td>00:01</td>
<td></td>
<td>EMCC Oslo and Akershus (EMCC) receives the first reports from the public about the explosion. Initially unclear what has happened and where. The EMCC subsequently receives approx. 80 calls about the explosion, about 50 per cent of them answered.</td>
<td>OUH</td>
</tr>
<tr>
<td>15:26</td>
<td>00:01</td>
<td></td>
<td>The Police Operations Centre (PO) alerts the EMCC about a number of reports of explosions in Oslo city centre</td>
<td>Pol</td>
</tr>
<tr>
<td>15:27</td>
<td>00:02</td>
<td></td>
<td>The fire service’s 110 emergency centre receives a triple alert from the EMCC about the incident in the government quarter</td>
<td>OAFRS</td>
</tr>
<tr>
<td>15:28</td>
<td>00:03</td>
<td></td>
<td>2 ambulance units from OUH arrive in the government quarter</td>
<td>OUH</td>
</tr>
<tr>
<td>15:28</td>
<td>00:03</td>
<td></td>
<td>The EMCC notifies PO of casualties after people fell from the roof of the VG building</td>
<td>OUH</td>
</tr>
<tr>
<td>15:29</td>
<td>00:04</td>
<td></td>
<td>The EMCC dispatches a total of 10 ambulances to the government quarter</td>
<td>OUH</td>
</tr>
<tr>
<td>15:30</td>
<td>00:05</td>
<td></td>
<td>Casualty clearing station 1 is established on Høyesteretts plass</td>
<td></td>
</tr>
<tr>
<td>15:32</td>
<td>00:07</td>
<td></td>
<td>The acting CEO of OUH receives a report of the incident in the government quarter. Contacts the EMCC and initiates information gathering and summoning of emergency management at OUH</td>
<td></td>
</tr>
<tr>
<td>15:33</td>
<td>00:08</td>
<td></td>
<td>The Oslo and Akershus ambulance service commander who is on scene requests the EMCC to issue a disaster alert</td>
<td>OUH</td>
</tr>
<tr>
<td>15:33</td>
<td>00:08</td>
<td></td>
<td>A police patrol initiates assembly of evacuated persons on Youngstorget</td>
<td></td>
</tr>
<tr>
<td>15:33</td>
<td>00:08</td>
<td></td>
<td>First patient arrives at City of Oslo out-of-hours primary care centre (OPCC) on foot</td>
<td>OUH/TS</td>
</tr>
<tr>
<td>15:34</td>
<td>00:09</td>
<td></td>
<td>First patient is transported from the scene to Ullevål hospital</td>
<td></td>
</tr>
<tr>
<td>15:35</td>
<td>00:10</td>
<td></td>
<td>An ambulance scene commander requisitions a scheduled bus in service at the scene to carry casualties to OPCC</td>
<td>OUH/TS</td>
</tr>
<tr>
<td>15:37</td>
<td>00:12</td>
<td></td>
<td>The police request the Joint Rescue Coordination Centres (JRCC) South Norway for assistance from 330 squadron’s helicopter at Ørlandet for transporting IEDD team</td>
<td>OUH</td>
</tr>
<tr>
<td>15:40</td>
<td>00:14</td>
<td></td>
<td>On-call doctor, helicopter ambulance/rapid response vehicle 1-1 and EMCC doctor, contacts the EMCC after learning of an explosion in the government quarter through the media. Initiates lights and siren dispatch of RRV 1-1 and 1-2 to the government quarter. Pilot of helicopter ambulance 1-1 uses van to transport LESS stretchers to the government quarter</td>
<td>ANS</td>
</tr>
<tr>
<td>15:40</td>
<td>00:15</td>
<td></td>
<td>The police notify the EMCC that Youngstorget is to be the casualty clearing station and marshalling area for ambulances</td>
<td></td>
</tr>
<tr>
<td>15:47</td>
<td>00:22</td>
<td></td>
<td>The EMCC summons helicopter ambulance/RRV 1-2 to the government quarter</td>
<td>TS</td>
</tr>
<tr>
<td>15:48</td>
<td>00:23</td>
<td></td>
<td>The switchboard at OUH receives a message from the trauma centre coordinator to implement yellow-level state of alert</td>
<td></td>
</tr>
<tr>
<td>15:50</td>
<td>00:25</td>
<td></td>
<td>EMCC OA notifies the trauma centre at Bærum hospital of the explosion in the government quarter – hospital awaits implementation of measures</td>
<td>Bærum</td>
</tr>
<tr>
<td>15:50</td>
<td>00:25</td>
<td></td>
<td>The EMCC decides to set itself up as a Regional EMCC and requests ambulance resources from Vestre Viken Hospital Trust (Buserud), Innlandet Hospital Trust and Østfold Hospital Trust, and additional preparedness from Oslo Red Cross and the Norwegian People’s Aid Oslo medical service.</td>
<td></td>
</tr>
<tr>
<td>15:50</td>
<td>00:25</td>
<td></td>
<td>A bus with walking wounded from the government quarter arrives at OPCC</td>
<td>OPCC</td>
</tr>
<tr>
<td>15:51</td>
<td>00:26</td>
<td></td>
<td>Patients 1 and 2 arrive at the trauma centre at Ullevål hospital</td>
<td>OUH</td>
</tr>
<tr>
<td>15:51</td>
<td>00:26</td>
<td></td>
<td>41 ambulances and medical units from OUH have arrived in the government quarter</td>
<td>OUH</td>
</tr>
<tr>
<td>15:55</td>
<td>00:30</td>
<td></td>
<td>The head of the OUH air ambulance section is dispatched to the government quarter from OUH and takes over as medical scene commander on arrival</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td></td>
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<tr>
<td>15:55</td>
<td>Doctor and a paramedic, helicopter ambulance 1-1 Lørenskog arrive at Youngstorget in an RRV</td>
<td></td>
<td></td>
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<tr>
<td>15:56</td>
<td>Police incident manager establishes Youngstorget as casualty and evacuee clearing station casualties</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16:00</td>
<td>Patients 3 and 4 arrive at the trauma centre at Ullevål hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:02</td>
<td>EMCC Buskerud summons a helicopter ambulance from Ål to OUH following the explosion in the government quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:02</td>
<td>A disaster alert (SMS) is sent to the OUH air ambulance section on the decision of the section head</td>
<td></td>
<td></td>
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<tr>
<td>16:08</td>
<td>The switchboard at OUH receives a message from the trauma centre coordinator to implement red-level alert</td>
<td></td>
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<tr>
<td>16:10</td>
<td>Patients 5, 6 and 7 arrive at Ullevål</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16:21</td>
<td>The police have searched R4 for more bombs, the fire service starts extinguishing the fire, search in S block undertaken by police patrol, search in the high-rise building begins</td>
<td></td>
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<tr>
<td>16:25</td>
<td>Ambulance (174) with ambulance crew, anaesthesiologist, 2 HEMS nurses and a paramedic bring emergency equipment, travelling from Lørenskog airbase to the government quarter</td>
<td></td>
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<tr>
<td>16:26</td>
<td>The police begins searching Supreme Court building</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30</td>
<td>Doctor and paramedic, helicopter ambulance 1-1 arrive in government quarter in RRV</td>
<td></td>
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<tr>
<td>16:30</td>
<td>An anaesthesiologist, 2 HEMS nurses and a paramedic with emergency equipment from the air ambulance section are dispatched from Lørenskog air base</td>
<td></td>
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<tr>
<td>16:30</td>
<td>New report from EMCC OA to trauma centre at Bærum hospital. Hospital initiates yellow-level alert</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:32</td>
<td>The EMCC requests JRCC South Norway for assistance from the Sea King SAR helicopter from Rygge for transporting casualties</td>
<td></td>
<td></td>
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<tr>
<td>16:40</td>
<td>Patient 8 arrives at the trauma centre at Ullevål hospital</td>
<td></td>
<td></td>
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<tr>
<td>16:40</td>
<td>Doctor and paramedic, helicopter ambulance 1-1 assist OAFRS in searching for casualties in R4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:45</td>
<td>Ambulances from Innlandet Hospital Trust, Vestre Viken and Østfold Hospital Trust in situ at casualty clearing station 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:45</td>
<td>Setting up of relatives' centre at Ullevål Hotel started</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16:45</td>
<td>Sea King SAR helicopter takes off from Rygge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:45</td>
<td>OAFRS calls in all staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:48</td>
<td>Doctor and paramedic, Âl helicopter ambulance travel to the government quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:50</td>
<td>An anaesthesiologist, 2 HEMS nurses and a paramedic with emergency preparedness equipment from OUH arrive in the government quarter and report for operational medical scene command (see 16:55)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:50</td>
<td>The police Delta unit requests assistance from the 720 squadron at Rygge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:51</td>
<td>Doctor and paramedic, helicopter ambulance 1-2 return to Lørenskog airbase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:52</td>
<td>HEMS sends an anaesthesiologist and 3 HEMS nurses to OUH to assist in admission and treatment of patients from the government quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:55</td>
<td>Ambulance 174 with an anaesthesiologist, 2 HEMS nurses and a paramedic with emergency preparedness equipment from OUH arrive at Aker hospital and report for operational medical scene command</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:56</td>
<td>Police commander at casualty and evacuee clearing station on Youngstorget reports that the clearing station is empty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>Patient transferred from OPCC to Aker hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>The ambulance service's response in the government quarter is de-escalated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>OUH has set up emergency management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>Doctor and paramedic, Âl helicopter ambulance arrive in the government quarter and assist in treating casualties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:04</td>
<td>Patient 9 arrives at the trauma centre at Ullevål hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:08</td>
<td>Presumed time of arrival of perpetrator at Uteya</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:09</td>
<td>Sea King SAR helicopter from Rygge lands at Voldslekkva. Doctor and paramedic sent to Ullevål trauma centre to assist in patient admissions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:15</td>
<td>Patient 10 arrives at the trauma centre at Ullevål hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:20</td>
<td>RRV 1-2 Lørenskog returns to Lørenskog air base</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>00:00</td>
<td>Event Description</td>
<td>Agency</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>17:24</td>
<td></td>
<td>First call to EMCC Buskerud (EMCC B) about the shootings at Utøya. From the AMIS information system: &quot;Shooting wildly in all directions. Using automatic weapon. Many dead. Disguised as policeman, says he is from the Police Security Service. Tall, blond man, approx. 35 years old. Caller sees 6 dead&quot;</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:25</td>
<td>00:01</td>
<td>EMCC B alerts North Buskerud police district to the shootings at Utøya</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:26</td>
<td>00:02</td>
<td>Oslo police district receives the first phone call that there is a shooting in progress at Utøya</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:26</td>
<td>00:02</td>
<td>First ambulance (05-2 from Ringerike hospital) dispatched to Utøya</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:28</td>
<td>00:04</td>
<td>EMCC OA receives first emergency call from relatives about shootings at the youth camp on Utøya</td>
<td>OUH</td>
<td></td>
</tr>
<tr>
<td>17:29</td>
<td>00:05</td>
<td>Oslo police district verifies that the EMCC information about shootings on Utøya is correct</td>
<td>OUH</td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td>00:06</td>
<td>2 anaesthesiologists, 2 HEMS nurses and a paramedic drive from the government quarter to Utøya</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:32</td>
<td>00:08</td>
<td>Helicopter ambulance 1-2 Lørenskog despatched to Utøya</td>
<td>OUH/ANS</td>
<td></td>
</tr>
<tr>
<td>17:33</td>
<td>00:09</td>
<td>EMCC OA notifies the police operations centre that a shooting is taking place at Utøya. Also advises that there is a fire on the island.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:33</td>
<td>00:09</td>
<td>First ambulance from Vestre Viken arrives in the area but awaits clearance from the police before driving down to Utvika quay</td>
<td>OUH/VV</td>
<td></td>
</tr>
<tr>
<td>17:34</td>
<td>00:10</td>
<td>EMCC B alerts Ringerike intermunicipal out-of-hours primary care centre to the shootings on Utøya</td>
<td>Ring</td>
<td></td>
</tr>
<tr>
<td>17:35</td>
<td>00:11</td>
<td>EMCC OA despatches helicopter ambulance 1-2 Lørenskog</td>
<td>ANS</td>
<td></td>
</tr>
<tr>
<td>17:35</td>
<td>00:11</td>
<td>EMCC releases ambulance resources from Vestre Viken that are in Oslo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:35</td>
<td>00:11</td>
<td>Helicopter ambulance 1-1 (pilot) contacts EMCC OA and is given safe position at Sollihøgda – takes off immediately to Sollihøgda with 4 extra anaesthesiologists who have been summoned</td>
<td>ANS</td>
<td></td>
</tr>
<tr>
<td>17:40</td>
<td>00:16</td>
<td>Doctor and paramedic, helicopter ambulance 1-1 travel by RRV from Oslo towards Sollihøgda</td>
<td>ANS</td>
<td></td>
</tr>
<tr>
<td>17:40</td>
<td>00:16</td>
<td>EMCC releases ambulance resources from Innlandet and Østfold Hospital Trusts in Oslo; they are sent to Sundvolden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:42</td>
<td>00:18</td>
<td>Helicopter ambulance 1-2 Lørenskog takes off from Lørenskog base to Sollihøgda</td>
<td>VV/ANS</td>
<td></td>
</tr>
<tr>
<td>17:42</td>
<td>00:18</td>
<td>EMCC OA contacts EMCC B and offers all available ambulance resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:45</td>
<td>00:21</td>
<td>Bærum hospital, Ringerike and Drammen hospital are put on disaster alert (red-level alert)</td>
<td>OUH/VV</td>
<td></td>
</tr>
<tr>
<td>17:48</td>
<td>00:24</td>
<td>Ringerike intermunicipal out-of-hours primary care centre alerts district medical officer of Hole, Bernt Ivar Gaarder, to the shootings on Utøya</td>
<td></td>
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<tr>
<td>17:50</td>
<td>00:26</td>
<td>Æ helicopter ambulance doctor notified by EMCC B of the shootings on Utøya – travels with paramedic to OUH where the helicopter is waiting</td>
<td>VV/ANS</td>
<td></td>
</tr>
<tr>
<td>17:50</td>
<td>00:26</td>
<td>Helicopter ambulance 1-1 from Lørenskog base (without doctor and paramedic) despatched to Utøya</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:50</td>
<td>00:26</td>
<td>EMCC OA sends 21 ambulances, 2 Helseekspress ambulance buses and a motorcycle unit to Sollihøgda</td>
<td>OUH</td>
<td></td>
</tr>
<tr>
<td>17:50</td>
<td>00:26</td>
<td>EMCC OA alerts the trauma centre at OUH, Ullevål hospital to the shootings on Utøya.</td>
<td>OUH</td>
<td></td>
</tr>
<tr>
<td>17:50</td>
<td>00:26</td>
<td>OUH Ullevål decides to close and secure the hospital, including evacuation of non-working personnel/the general public and requests police protection</td>
<td>OUH</td>
<td></td>
</tr>
<tr>
<td>17:51</td>
<td>00:27</td>
<td>First police patrol goes down to Utvika quay</td>
<td>Pol</td>
<td></td>
</tr>
<tr>
<td>17:53</td>
<td>00:29</td>
<td>Helicopter ambulance 1-1 with 4 extra HEMS doctors takes off from Lørenskog base and flies towards Sollihøgda</td>
<td></td>
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</tr>
<tr>
<td>17:54</td>
<td>00:30</td>
<td>North Buskerud Police (NBP) inform AMCC B that the marshalling area for police and ambulances is Utvika quay</td>
<td>Pol</td>
<td></td>
</tr>
<tr>
<td>17:55</td>
<td>00:31</td>
<td>The police patrol on Utvika quay notifies NBP that there is line of sight from Utøya to the marshalling area on the quay. Issues orders to move the marshalling area up to the main road.</td>
<td>Pol</td>
<td></td>
</tr>
<tr>
<td>17:55</td>
<td>00:31</td>
<td>Terje Strand, anaesthesiologist and HEMS section leader at OUH, in consultation with the police scene commander. checks out as medical scene commander from the government quarter. Together with an ambulance operative (Steinar Olsen), 2 HEMS nurses and a paramedic with emergency preparedness equipment from OUH HEMS travel in ambulance 174 to Utøya in response to a alert about the shootings there.</td>
<td>SO</td>
<td></td>
</tr>
<tr>
<td>17:56</td>
<td>00:32</td>
<td>Police patrol on Utvika quay advises NBP that a rowing boat is arriving with people aboard, and that people are swimming from Utøya</td>
<td>Pol</td>
<td></td>
</tr>
<tr>
<td>17:57</td>
<td>00:33</td>
<td>First ambulance arrives at Utvika quay</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:57</td>
<td>00:33</td>
<td>Æ helicopter ambulance flies without a doctor and paramedic onboard to Sollihøgda</td>
<td>VV</td>
<td></td>
</tr>
<tr>
<td>17:58</td>
<td>00:34</td>
<td>Doctor and paramedic, helicopter ambulance 1-2 are back on stand-by at Lørenskog base after responding to the government quarter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>00:36</td>
<td>The first young survivors arrive at the Esso station at Sundvolden</td>
<td>Hole</td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>00:36</td>
<td>An RRV from Ringerike intermunicipal out-of-hours primary care centre arrives at Utvika quay – police and ambulance are already in situ</td>
<td>Ring</td>
<td></td>
</tr>
<tr>
<td>18:01</td>
<td>00:37</td>
<td>A member of the public notifies NBP that he has 12 uninjured persons in his own boat on the way to Utvika camp site. Information that some of the people swimming from Utøya are cold and starting to get cramps</td>
<td>Pol</td>
<td></td>
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<tr>
<td>Time</td>
<td>Event</td>
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<tr>
<td>18:05</td>
<td>00:41 Three ambulances are withdrawn from Utvika quay by the police due to shooting</td>
<td></td>
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<tr>
<td>18:08</td>
<td>00:44 Helicopter ambulance from Arendal dispatched to Utøya</td>
<td></td>
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<tr>
<td>18:10</td>
<td>00:46 Helicopter ambulance from Ål lands at Sollihøgda</td>
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<tr>
<td>18:11</td>
<td>00:47 Sea King SAR helicopter from Rygge leaves Voldsløkka and flies towards Utøya (NB: see also 18.30)</td>
<td></td>
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<tr>
<td>18:12</td>
<td>00:48 Helicopter ambulance from Arendal flies to Utøya</td>
<td></td>
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<tr>
<td>18:15</td>
<td>00:51 Helicopter ambulance 1-1 from Lørenskog base lands at Sollihøgda</td>
<td></td>
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<tr>
<td>18:15</td>
<td>00:51 Briefing and grouping into teams of HEMS personnel at Sollihøgda</td>
<td></td>
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<tr>
<td>18:15</td>
<td>00:51 Ambulance with anaesthesiologist/HEMS nurses/paramedic arrives at ambulance marshalling area at Sollihøgda. Meets response</td>
<td></td>
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<tr>
<td>18:22</td>
<td>00:58 Helicopter ambulance from Arendal lands at Sollihøgda</td>
<td></td>
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<tr>
<td>18:23</td>
<td>00:59 SAR helicopter from Ørlandet lands at Lutvann recreational area</td>
<td></td>
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<tr>
<td>18:24</td>
<td>01:00 Helicopter ambulance from Dombås despatched to Utøya</td>
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<tr>
<td>18:25</td>
<td>01:01 First police units land on Utøya</td>
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<tr>
<td>18:25</td>
<td>01:01 Helicopter ambulance 1-2 Lørenskog lands at Sollihøgda after having circled over Utøya</td>
<td></td>
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<tr>
<td>18:30</td>
<td>01:06 EMCC B issues instructions for new ambulance marshalling area at Sænesterud tunnel. At this point, a large number of ambulances</td>
<td></td>
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<tr>
<td>18:33</td>
<td>01:09 Perpetrator is arrested by police on Utøya</td>
<td></td>
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<tr>
<td>18:35</td>
<td>01:11 The SAR helicopter from Rygge is sent to Sylling (south end of Tyrifjord) to be on stand-by in case of overclouding around Sollihøgda</td>
<td></td>
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<tr>
<td>18:35</td>
<td>01:11 The police ops commander on Utøya notifies NBP that many people have been shot, both injured and killed. Requests rapid</td>
<td></td>
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<tr>
<td>18:36</td>
<td>01:12 Police scene commander onshore (P05) asks the medical scene commander if fire and ambulance personnel should be taken out to</td>
<td></td>
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<tr>
<td>18:37</td>
<td>01:13 EMCC OA appoints itself as R-EMCC</td>
<td></td>
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<tr>
<td>18:43</td>
<td>01:19 The police are uncertain if there are more perpetrators on Utøya. There is suspicion that there may be explosives on Utøya.</td>
<td></td>
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<tr>
<td>18:47</td>
<td>01:23 The police have not secured the perpetrator’s car on Utvika quay. Decide that the evacuation station must be moved to the golf</td>
<td></td>
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<tr>
<td>18:50</td>
<td>01:26 First organised casualty clearing station (clearing station 1) at Utvika quay is established – Ambulance 174 drives down to</td>
<td></td>
<td></td>
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<tr>
<td>18:50</td>
<td>01:26 Instruction from medical scene commander that casualties from Utøya are to be transported to Sundvolden Hotel for triage in respect</td>
<td></td>
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<tr>
<td>18:52</td>
<td>01:28 Helicopter ambulance 1-2 from Lørenskog flies a surgeon who is stuck in traffic from Sollihøgda to Ringelike hospital</td>
<td></td>
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<tr>
<td>18:55</td>
<td>01:31 Ambulance 174 leaves Utvika quay with 2 patients. Initially drives to Sundvolden Hotel but turns back and goes to Storeøya where</td>
<td></td>
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<tr>
<td>18:57</td>
<td>01:33 The first Bell helicopter from 720 squadron takes off from Rygge</td>
<td></td>
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<tr>
<td>19:02</td>
<td>01:38 Helicopter ambulance 1-2 from Lørenskog lands at Ringelike hospital with a surgeon on board – proceeds immediately to Storeøya/Elstangen</td>
<td></td>
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<tr>
<td>19:03</td>
<td>01:39 Helicopter ambulance from Dombås lands at Storeøya- doctor and paramedic participate in at-scene activities</td>
<td></td>
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<tr>
<td>19:05</td>
<td>01:41 Casualty clearing station 2 established at Storeøya/Elstangen</td>
<td></td>
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<tr>
<td>19:05</td>
<td>01:41 HEMS doctors begin patient transport by ambulance to Sundvolden</td>
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<tr>
<td>19:06</td>
<td>01:42 Helicopter ambulance 1-1 Lørenskog takes off from Sollihøgda to Storeøya/Elstangen</td>
<td></td>
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<tr>
<td>19:08</td>
<td>01:44 Helicopter ambulance 1-2 Lørenskog lands at Storeøya/Elstangen</td>
<td></td>
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<td></td>
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<tr>
<td>19:08</td>
<td>01:44 Triage of casualties is initiated at Storeøya by doctors and ambulance crews</td>
<td></td>
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<tr>
<td>19:15</td>
<td>01:51 Police SWAT team on Utøya suspects that a further two perpetrators may have blockaded themselves in a school room on Utøya</td>
<td></td>
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<tr>
<td>19:16</td>
<td>01:52 Helicopter ambulance 1-1 Lørenskog and Ål helicopter ambulance land at Storeøya/Elstangen</td>
<td></td>
<td></td>
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<tr>
<td>19:17</td>
<td>01:53 SAR helicopter from Ørland is sent to Sylling</td>
<td></td>
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<tr>
<td>19:20</td>
<td>01:56 OUH trauma centre is advised that there are many casualties on Utøya but that responders have no access and are standing by for</td>
<td></td>
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<tr>
<td>Time</td>
<td>Event Description</td>
<td>Location</td>
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<tr>
<td>19:21</td>
<td>Ringerike hospital receives patient 1 from Utøya</td>
<td>VVHT</td>
<td></td>
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</tr>
<tr>
<td>19:21</td>
<td>The police scene commander on Utøya advises that he needs help evacuating approx. 30 seriously injured casualties from the south side of Utøya.</td>
<td>Pol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:23</td>
<td>Ringerike hospital receives patients 2, 3 and 4 from Utøya</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:25</td>
<td>The first team of health personnel arrives on Utøya by boat</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:27</td>
<td>Helicopter ambulance from Stavanger lands at Sollihøgda and takes a critically injured patient from a ground ambulance</td>
<td>VV</td>
<td></td>
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<tr>
<td>19:28</td>
<td>SAR helicopter from Ølandet lands at Sylting</td>
<td>VV</td>
<td></td>
<td></td>
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<tr>
<td>19:28</td>
<td>Police incident manager (PO5) asks whether health personnel can be sent onto Utøya. Is informed by NBP that the island is not yet secured.</td>
<td>Pol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:29</td>
<td>Ringerike hospital receives patient 5</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:30</td>
<td>The police decide to evacuate Utvika quay due to suspected car bomb</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:30</td>
<td>The first Bell helicopter from 720 squadron lands at Storeøya</td>
<td>Ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:35</td>
<td>Ringerike hospital closes the hospital area to everyone except casualties and people involved in the Utøya response</td>
<td>VV</td>
<td></td>
<td></td>
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<tr>
<td>19:38</td>
<td>Helicopter ambulance 1-1 Lørenskog leaves Storøya with 2 patients for OUH (patients 3 and 4)</td>
<td>VV</td>
<td></td>
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</tr>
<tr>
<td>19:38</td>
<td>HEMS doctors arrive at casualty clearing station 2 at Elstangen, near Storeøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:40</td>
<td>A second team of health personnel arrive on Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:41</td>
<td>Ringerike hospital receives patient 6</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:42</td>
<td>Ringerike hospital receives patients 7 and 8</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:45</td>
<td>Bell helicopter no. 2 from 720 squadron lands at Storeøya</td>
<td>OUH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:46</td>
<td>Ringerike hospital receives patient 9. (Subsequently transferred to OUH?)</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:49</td>
<td>Patient 2 with minor injuries from the government quarter is admitted to Aker hospital.</td>
<td>OUH</td>
<td></td>
<td></td>
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<tr>
<td>20:00</td>
<td>Ringerike hospital receives patient 10</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:01</td>
<td>Ringerike hospital receives patient 11</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:03</td>
<td>OUH receives its first patient (patient 1) direct from Utøya by Stavanger helicopter ambulance. Helicopter returns to Storeøya</td>
<td>OUH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:06</td>
<td>Ringerike hospital receives patient 12</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:08</td>
<td>OUH receives patient 2 direct from Utøya by Arendal helicopter ambulance. Helicopter returns to Storeøya</td>
<td>OUH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:00</td>
<td>Doctors on call from Ringerike intermunicipal out-of-hours primary care centre have established an extended general medical and psychosocial casualty clinic at Sundvolden Hotel</td>
<td>Ring</td>
<td></td>
<td></td>
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<tr>
<td>20:02</td>
<td>Sea King SAR helicopter from Rygge lands at Storeøya – doctor and paramedic participate in at-scene activities</td>
<td>VV</td>
<td></td>
<td></td>
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<tr>
<td>20:05</td>
<td>Ringerike hospital receives patient 14</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:08</td>
<td>Ringerike hospital receives patient 15</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:08</td>
<td>Helicopter ambulance 1-2 Lørenskog leaves Storeøya with a patient (patient 9) for OUH</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:10</td>
<td>Ringerike hospital receives patient 16</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:10</td>
<td>Helicopter ambulance delivers a patient to Drammen hospital – returns to Storeøya (patient subsequently transferred to OUH)</td>
<td>VV</td>
<td></td>
<td></td>
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<tr>
<td>20:10</td>
<td>Bærum hospital receives patient 1 from Utøya. The patient is subsequently transferred to OUH Rikshospitalet and then to OUH Ullevål</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:14</td>
<td>Helicopter ambulance from Dombås leaves Storeøya with 3 patients (nos 6-8) for OUH</td>
<td>VV</td>
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<tr>
<td>20:15</td>
<td>EMCC advises OUH trauma centre that there are still many casualties and a large number of fatalities on Utøya. The area is partially non-secured.</td>
<td>VV</td>
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<tr>
<td>Time</td>
<td>Action</td>
<td>Location</td>
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<tr>
<td>20:16</td>
<td>Ringerike hospital receives patient 17. Patient is subsequently transferred to OUH</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:17</td>
<td>Ringerike hospital receives patient 18</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:19</td>
<td>Ringerike hospital receives patients 19 and 20. Patient 19 is subsequently transferred to OUH</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:20</td>
<td>Ringerike hospital receives patient 21. Patient is subsequently transferred to OUH</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:23</td>
<td>Ringerike hospital receives patient 22. Patient is subsequently transferred to OUH</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:24</td>
<td>Stavanger helicopter ambulance lands and is available at Storeya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:26</td>
<td>Ringerike hospital receives patient 23. Patient is subsequently transferred to OUH</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:27</td>
<td>Stavanger helicopter ambulance lands and is available at Storeya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:30</td>
<td>Sea King SAR helicopter from Ørlandet lands at Storeya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:31</td>
<td>OUH receives patients 6-8 direct from Utøya by Dombås helicopter ambulance. Returns after delivery to Storeya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:32</td>
<td>Ringerike hospital receives patient 24</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:38</td>
<td>Ringerike hospital receives patient 25</td>
<td>VVHT</td>
<td></td>
<td></td>
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<tr>
<td>20:39</td>
<td>Last casualty transported off Utøya by ferry</td>
<td>SO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:40</td>
<td>Ringerike hospital receives patient 27</td>
<td>VVHT</td>
<td></td>
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<tr>
<td>20:43</td>
<td>Helicopter ambulance 1-1 from Lørenskog takes off from Storeya with a patient for OUH (patient 10)</td>
<td>VV</td>
<td></td>
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<tr>
<td>20:44</td>
<td>OUH receives patient 9 direct from Utøya by helicopter ambulance 1-2 from Lørenskog</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:46</td>
<td>Ringerike hospital receives patient 28</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:49</td>
<td>Ringerike hospital receives patient 30</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:51</td>
<td>Ringerike hospital receives patient 31</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:53</td>
<td>Ringerike hospital receives patient 32</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:54</td>
<td>Ringerike hospital receives patient 33</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:55</td>
<td>Helicopter ambulance 1-2 Lørenskog leaves OUH and flies to Storeøya/Elstangen</td>
<td>ANS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:57</td>
<td>Helicopter ambulance from Dombås lands and is available at Storeya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:57</td>
<td>Report to EMCC that dead and injured are still being found on Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:04</td>
<td>OUH receives patient 10 direct from Utøya by helicopter ambulance 1-1 from Lørenskog. Returns after delivery to Storeøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:05</td>
<td>Helicopter ambulance from Ål takes off from Storeøya with a patient for OUH (patient 11)</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:05</td>
<td>Ringerike hospital receives patient 34</td>
<td>VVHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:16</td>
<td>Bærum hospital receives patient 2 from Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:17</td>
<td>Helicopter ambulance 1-2 Lørenskog lands and is available at Storeøya</td>
<td>VV/ANS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:29</td>
<td>OUH receives patients 11 direct from Utøya by Ål helicopter ambulance</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:30</td>
<td>Bærum hospital receives patient 3 from Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:30</td>
<td>Ål helicopter ambulance is released from OUH</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:43</td>
<td>Bærum hospital receives patient 4 from Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:45</td>
<td>OAFRS chief fire officer arrives at Storeøya to begin searching for persons in the water. After a time, a surface search is begun by crews from various fire &amp; rescue services, starting from the quay on Utøya.</td>
<td>OAFRS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:45</td>
<td>Bærum hospital receives patient 5 from Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:46</td>
<td>Arendal helicopter ambulance is released from Storeøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:48</td>
<td>Dombås helicopter ambulance is released from Storeøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:49</td>
<td>OUH receives patient 12 direct from Utøya</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:50</td>
<td>Helicopter ambulance 1-2 Lørenskog leaves Storeøya and flies to Ringerike hospital to transfer a patient to OUH</td>
<td>VV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>Time 2</td>
<td>Activity</td>
<td>Source</td>
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<tr>
<td>FRIDAY 22 JULY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:25</td>
<td>00:00</td>
<td>The bomb is detonated in the government quarter</td>
<td>Pol</td>
<td></td>
</tr>
<tr>
<td>15:25</td>
<td>00:00</td>
<td>Employees of the City of Oslo’s Agency for Fire and Rescue Services (OAFRS), which has offices at Arne Garborgs plass 1, were impacted by the explosion and immediately alerted to the incident</td>
<td>Oslo</td>
<td></td>
</tr>
<tr>
<td>15:29</td>
<td>00:04</td>
<td>Lars E. Hanssen, Director General of the Norwegian Board of Health Supervision was alerted by an employee to the explosion in the government quarter.</td>
<td>NBHS</td>
<td></td>
</tr>
<tr>
<td>15:32</td>
<td>00:07</td>
<td>Margrethe Halvorsen, acting Director of Communications at the Directorate of Health, alerts the emergency response officer at the Directorate, Ragnar Salmén, to the explosion in the government quarter. Ragnar Salmén informs Deputy Director General Bjarne Guldvåg, and the Director of Emergency Preparedness, Morten Ranmæl. Margrethe Halvorsen notifies acting Director General of Health Toril Lahnstein.</td>
<td>Directorate of Health</td>
<td></td>
</tr>
</tbody>
</table>

**Health administration**

<table>
<thead>
<tr>
<th>At</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Activity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUNDAY 24 JULY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:45</td>
<td></td>
<td></td>
<td>OUH receives patient 21 from Utøya – patient transferred from Vestre Viken, Drammen Hospital</td>
<td></td>
</tr>
</tbody>
</table>

**Saturday 23 July**

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>Activity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:07</td>
<td></td>
<td>OUH receives patient 15 from Utøya – patient transferred from Ringerike hospital</td>
<td></td>
</tr>
<tr>
<td>01:30</td>
<td></td>
<td>Last health personnel from OUH leave Utøya after assisting with ID of bodies.</td>
<td></td>
</tr>
<tr>
<td>02:45</td>
<td></td>
<td>Deceased from the government quarter removed from the scene and taken to the Department of Forensic Medical Services at the National Institute of Public Health.</td>
<td></td>
</tr>
<tr>
<td>08:57</td>
<td></td>
<td>Divers from OAFRS start searching for the deceased</td>
<td>OAFRS</td>
</tr>
<tr>
<td>09:35</td>
<td></td>
<td>OUH receives patient 16 from Utøya – patient transferred from Ringerike hospital</td>
<td></td>
</tr>
<tr>
<td>11:50</td>
<td></td>
<td>OAFRS finds one dead person in the waters off Utøya</td>
<td>OAFRS</td>
</tr>
<tr>
<td>12:45</td>
<td></td>
<td>OUH receives patient 17 from Utøya – patient transferred from Ringerike hospital</td>
<td></td>
</tr>
<tr>
<td>13:17</td>
<td></td>
<td>OUH receives patient 18 from Utøya – patient transferred from Ringerike hospital</td>
<td></td>
</tr>
<tr>
<td>16:20</td>
<td></td>
<td>OUH receives patient 19 from Utøya – patient transferred from Ringerike hospital</td>
<td></td>
</tr>
<tr>
<td>16:27</td>
<td></td>
<td>OUH receives patient 20 from Utøya – patient transferred from Asker and Bærum hospital</td>
<td></td>
</tr>
</tbody>
</table>

**Sunday 24 July**

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>Activity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>21:45</td>
<td></td>
<td>OUH receives patient 21 from Utøya – patient transferred from Vestre Viken, Drammen Hospital</td>
<td></td>
</tr>
</tbody>
</table>

**Monday 25 July**

Status at OUH: 33 patients admitted. 3 discharged and 1 deceased.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:32</td>
<td>The acting CEO of OUH receives a report of the incident in the government quarter. Initiates information gathering and summoning of emergency management at OUH</td>
</tr>
<tr>
<td>15:34</td>
<td>Lars E. Hanssen alerts the Permanent Secretary of the Ministry of Health and Care Services, Anne Karin Lande Hasle, and the county medical officers of the explosion by SMS</td>
</tr>
<tr>
<td>15:34</td>
<td>The emergency response officer and operational manager of the Norwegian Directorate for Emergency Communication (DNK) are made aware of the explosion in the government quarter. Nokia Siemens Networks (NSN), in charge of day-to-day operations of the Nednett safety radio network, is informed of the incident. The Director of DNK is then informed.</td>
</tr>
<tr>
<td>15:34</td>
<td>Akershus University Hospital (AUH) receives a message from EMCC OA about the incident in the government quarter and initiates yellow-level alert</td>
</tr>
<tr>
<td>15:40</td>
<td>Anne Karin Lande Hasle contacts acting Permanent Secretary Anne Marie Leseth</td>
</tr>
<tr>
<td>15:40</td>
<td>The County Medical Officer of Oslo and Akershus, Petter Schou, alerts County Governor Hans J. Resjorde to the explosion in the government quarter</td>
</tr>
<tr>
<td>15:45</td>
<td>Anne Karin Lande Hasle contacts Director General Bjørn Inge Larsen (who is returning to Oslo from a trip abroad)</td>
</tr>
<tr>
<td>15:46</td>
<td>NSN notifies DNK that Nednett has not been affected by the incident in the government quarter</td>
</tr>
<tr>
<td>15:47</td>
<td>Lars E. Hanssen is in phone contact with Anne Karin Lande Hasle</td>
</tr>
<tr>
<td>15:48</td>
<td>Oslo Chamber of Police alerts the City of Oslo emergency response team</td>
</tr>
<tr>
<td>15:50</td>
<td>Acting Director of Communications at S-ENRHA, Anne-Britt Bæ, notifies acting CEO Steinar Marthinsen about the explosion in Oslo city centre</td>
</tr>
<tr>
<td>15:50</td>
<td>DNK activates systems for network monitoring of voice traffic and radio terminals in Nednett.</td>
</tr>
<tr>
<td>15:56</td>
<td>Acting departmental director of the Norwegian Board of Health Supervision is in contact with the emergency response officer that the Directorate of Health is aware of the explosion in Oslo</td>
</tr>
<tr>
<td>16:00</td>
<td>Crisis team at OUH Prehospital centre is operational. Headed by Centre Manager Arild Østergaard</td>
</tr>
<tr>
<td>16:00</td>
<td>County Governor Hans J. Resjorde and County Medical Officer Petter Schou meet at the governor’s office. They contact the Directorate of Health, police chiefs in the respective police districts, Oslo and Akershus Civil Defence district, HV-02 Home Guard unit, City of Oslo and the Office of the Prime Minister for information about their statuses, resources and requirements. The County Governor did not find it necessary call in all staff, but summoned key personnel.</td>
</tr>
<tr>
<td>16:00</td>
<td>Directorate for Civil Protection and Emergency Planning (DSB) establishes a crisis and advisory team</td>
</tr>
<tr>
<td>16:00</td>
<td>Ringerike intermunicipal out-of-hours primary care centre alerts the Ringerike municipality crisis team to the explosion in the government quarter. The crisis team is put on alert.</td>
</tr>
<tr>
<td>16:02</td>
<td>Bjørn Inge Larsen notifies Ragnar Salmen that he is on his way from Gardermoen airport to Oslo</td>
</tr>
<tr>
<td>16:03</td>
<td>The Minister of Health and Care Services Anne-Grete Strøm-Erichsen, who is on Svalbard, is informed of the incident by satellite phone</td>
</tr>
<tr>
<td>16:15</td>
<td>Ragnar Salmen arrives at the Directorate of Health and the Directorate’s crisis committee is put under the leadership of acting General of Health Toril Lahnstein</td>
</tr>
<tr>
<td>16:18</td>
<td>Crisis management at S-ENRHA is established. CEO Bente Mikkelsen is informed. OUH is on red-level alert and been delegated operational responsibility for managing and coordinating the S-ENRHA hospitals. Other health trusts are alerted and requested to establish capacity for supporting OUH.</td>
</tr>
<tr>
<td>16:24</td>
<td>The head of emergency preparedness at OUH, Inge Solheim, advises the Directorate of Health that they have admitted 10 patients from the government quarter and that a crisis team is being established at OUH. The hospitals in S-ENRHA are alerted. They ask the Directorate of Health to contact City of Oslo and OPCC with regard to capacity/requirements</td>
</tr>
<tr>
<td>16:24</td>
<td>City of Oslo crisis management team advises the police that they have set up in Oslo City Hall</td>
</tr>
<tr>
<td>16:30</td>
<td>The government crisis council meets in the premises of the Ministry of Defence</td>
</tr>
<tr>
<td>16:30</td>
<td>DNK advises that they have been in contact with operational managers in the police, fire and health services who report that Nednett is working without problems.</td>
</tr>
<tr>
<td>16:35</td>
<td>AUS raises alert to red level</td>
</tr>
<tr>
<td>16:35</td>
<td>The first statements about the explosion in the government quarter are released on OUH’s web pages and intranet</td>
</tr>
<tr>
<td>16:40</td>
<td>The Directorate of Health contacts the management of OPCC which states that the primary centre is well set up and has treatment capacity. Asks the Directorate of Health to handle national communications/crisis PR activity</td>
</tr>
<tr>
<td>16:42</td>
<td>Bjørn Inge Larsen arrives at the Directorate of Health premises in U2 and assumes management of the crisis committee</td>
</tr>
<tr>
<td>16:50</td>
<td>Anne Karin Lande Hasle asks for the Ministry of Health and Care Services to be lodged in the Directorate of Health's premises</td>
</tr>
<tr>
<td>16:50</td>
<td>The IT operations centre and crisis helpline in the Directorate of Health are staffed. Security guards are installed at the entrance of the Directorate of Health.</td>
</tr>
<tr>
<td>16:58</td>
<td>DNK notifies the Directorate of Health of increasing traffic on Nednett, but the network is stable</td>
</tr>
</tbody>
</table>
CHAPTER 6

17:00 01:35 County Medical Officer Petter Schou arrives at the Directorate of Health to join the crisis team, led by Bjørn Inge Larsen and comprising 7 other employees

17:00 01:35 The crisis team in the Directorate of Health assesses whether to relocate from U2, but this is decided against. It is decided that issues of risk assessment, including securing of hospitals and primary care centres, should be discussed with the Ministry of Health and Care Services

17:05 01:40 OUH establishes a helpline for relatives of admitted patients

17:10 01:45 The police confirm to the Directorate of Health that the explosion in the government quarter was a bomb

17:24 01:59 First emergency call to EMCC Buskerud on the shootings at Utøya

17:24 01:59 S-ENRHA in contact with the Ministry of Health and Care Services and the Directorate of Health about reporting routines following the incident in the government quarter

17:30 02:05 The head of security at OUH instigates perimeter security at the hospital

17:34 02:09 EMCC B alerts Ringerike intermunicipal out-of-hours primary care centre to the shootings on Utøya – an RRV is mobilised

17:35 02:03 First OUH press briefing on the hospital’s admission of patients from the government quarter with acting CEO and trauma team representative.

17:35 02:03 OUH issues English-language information about the incident in the government quarter on its website. The press centre at Søsterrhemmet, OUH Ullevål is opened

17:43 02:09 Ringerike intermunicipal out-of-hours primary care centre alerts senior duty doctor Karin Møller to the shooting on Utøya – summons another doctor and alerts the chief municipal executives of Ringerike and Hole municipalities.

17:45 02:11 The Ringerike municipal crisis team is activated

17:48 02:23 Senior duty doctor Karin Møller, Ringerike municipality informs municipal medical officer for health (MOH) Bernt Ivar Gaarder of Hole municipality about the shooting on Utøya

17:49 02:24 Anne Karin Lande Hasle contacts the Governor of Svalbard and requests the Minister of Health to return to Oslo

17:50 02:25 OUH Ullevål trauma centre informed about the shooting at Utøya – asks OUH emergency management to secure the hospital, including police protection (see executive health service timeline above)

17:55 02:30 Police scene commander in Oslo reports that the Government crisis committee is meeting in the premises of the Ministry of Defence.

18:00 02:35 S-ENRHA issues information on its own website, referring relatives to information from OUH, including relatives’ helpline number

18:00 02:35 The police report that the relatives’ helpline in Oslo is operational

18:00 02:35 MOH Bernt Ivar Gaarder alerts crisis team leader of Hole municipality, Jane Nordhagen. Nordhagen alerts the municipal crisis team Hole municipality about the shooting on Utøya

18:00 02:35 MOH Bernt Ivar Gaarder contacts the police at Sundvolden and establishes himself as medical scene commander at Esso Sundvolden/Sundvolden Hotel

18:03 02:38 Departmental Director Cecilie Daae of the Directorate of Health is notified by SMS from a member of staff of 50 casualties with gunshot wounds at Utøya. Daae contacts acting Departmental Director Marit Endresen and informs her about this.

18:03 02:38 OUH requests police security at Ullevål hospital

18:07 02:42 Bjørn Inge Larsen informs S-ENRHA of reports of shootings on Utøya

18:09 02:44 Ringerike municipal crisis team has prepared Ringerike Hotel for receiving relatives

18:15 02:50 MOH Bernt Ivar Gaarder requisitions Sundvolden Hotel as a casualty clearing station following agreement with the mayor of Hole municipality

18:15 02:50 The emergency manager at Ringerike hospital, Idun Eid, requisitions Solliaugård tourist café as a casualty clearing station following agreement with the mayor of Hole municipality

18:18 02:53 The police are asked again to provide security at OUH

18:20 02:55 First coordination meeting between Ringerike senior duty doctor and the crisis management at Ringerike hospital

18:29 03:04 The police set up security at OUH U

18:30 03:05 Anne Karin Lande Hasle participates in the Government’s crisis committee – the Ministry of Justice is the lead ministry

18:30 03:05 S-ENRHA holds a phone meeting with the CEO of the hospital trusts in S-ENRHA. Briefing on the situation, including the increased need for security around the hospitals, and unconfirmed messages about a shooting on Utøya. Vestre Viken Health Trust reports that they have established red-level alert and are in the process of establishing a relatives’ centre at Sundvolden Hotel.

18:30 03:05 County Governor of Oslo and Akershus Hans J. Resjord alerts the acting County Governor of Buskerud and County Medical Officer Ketil Kongelstad that a shooting is taking place on Utøya, uncertain how many young people are involved, a major police operation has been instigated. Ketil Kongelstad alerts head of emergency preparedness Peter Aamodt and both travel to the County Governor’s office in Drammen to establish a crisis team. Spend the evening in contact with the MOH of Hole, the MOH of Ringerike and visit EMCC Buskerud.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:30</td>
<td>Members of the Hole municipal crisis team arrive at Sundvolden Hotel and begin registration of young people arriving at the hotel from Utøya.</td>
</tr>
<tr>
<td>18:30</td>
<td>A relatives’ helpline is set up at Sundvolden Hotel</td>
</tr>
<tr>
<td>18:30</td>
<td>OUH issues Twitter messages with information about the incident in the government quarter and relatives’ helpline</td>
</tr>
<tr>
<td>18:33</td>
<td>Perpetrator is arrested by police on Utøya</td>
</tr>
<tr>
<td>18:40</td>
<td>City of Oslo informs the Directorate of Health that they have established a crisis team</td>
</tr>
<tr>
<td>18:45</td>
<td>Bjørn Inge Larsen reports that the Ministry of Health and Care Services has established a crisis team in the Ministry of Defence’s premises</td>
</tr>
<tr>
<td>18:45</td>
<td>County Medical Officer Petter Schou contacts the County Medical Officer of Buskerud Kjøt Kongelstad concerning the events at Utøya</td>
</tr>
<tr>
<td>18:55</td>
<td>Anne Karin Lande Hasle confirms that the Ministry of Health and Care Services will be using premises in U2 from Saturday morning</td>
</tr>
<tr>
<td>19:00</td>
<td>The Directorate of Police reports that they want to establish a liaison channel with the health service. This is provided; Helene C from the Emergency Preparedness Department of the Directorate of Health is sent to the Directorate of Police</td>
</tr>
<tr>
<td>19:00</td>
<td>County Governor of Oslo and Akershus Hans J. Resjorde informs the Directorate of Civil Protection and Emergency Planning about the situation in Oslo</td>
</tr>
<tr>
<td>19:15</td>
<td>Even Klinkenberg of the Directorate of Health has been in contact with the management of all Regional Health Trusts to ensure that they follow developments in the situation</td>
</tr>
<tr>
<td>19:15</td>
<td>Senior doctor on call Karin Møller, Ringerike municipality, contacts the crisis management at Hole municipality and reports that they have set up a crisis centre for people involved at Utøya at Hotel Ringerike in Hænøfoss. Agree relocation to and coordination at Sundvolden Hotel.</td>
</tr>
<tr>
<td>19:25</td>
<td>The head of emergency preparedness at OUH, Inge Solheim, contacts the Directorate of Health and asks them to protect hospitals receiving casualties – primarily OUH Ullevål. Bjørn Inge Larsen contacts Anne Karin Lände Hasle about this.</td>
</tr>
<tr>
<td>19:30</td>
<td>Ringerike hospital closes the hospital area to everyone except casualties and people involved in the Utøya response</td>
</tr>
<tr>
<td>19:33</td>
<td>The Ministry of Health and Care Services crisis team is summoned to a meeting at 09:00 on 23 July in the Directorate of Health's premises</td>
</tr>
<tr>
<td>19:43</td>
<td>S-ENRHA sends the first situation report to the Directorate of Health and the CEOs of the S-ENRHA Hospital Trusts</td>
</tr>
<tr>
<td>19:45</td>
<td>Acting head of emergency response at City of Oslo’s Agency for Fire and Rescue Services advises the County Governor that they have called in all staff and had a meeting with City of Oslo management</td>
</tr>
<tr>
<td>19:50</td>
<td>Situation awareness of Directorate of Health’s crisis team: 55 injured, 7 dead in the explosion, 2 critically injured, 8-10 (seriously) injured, at least 5 injured on Utøya, but reports of 50 injured; situation remains unclear. Heightened alert at Vestre Viken Health Trust, OUH and Aker hospital. Adequate treatment capacity. Adequate capacity at Oslo primary care centre, adequate capacity in the ambulance service.</td>
</tr>
<tr>
<td>19:51</td>
<td>The Ministry of Health and Care Services delegates responsibility for national coordination of the health service to the Directorate of Health. The Directorate of Health is tasked with sending situation reports to the Ministry of Health and Care Services. Anne Karin Lände Hasle has been in contact with the Police Security Service about security at City of Oslo primary care centre and OUH – awaiting clarification</td>
</tr>
<tr>
<td>20:00</td>
<td>Hole municipal crisis team has set up at Sundvolden Hotel</td>
</tr>
<tr>
<td>20:03</td>
<td>The Ministry of Health and Care Services receives a situation report from S-ENRHA: Red-level alert established at OUH, AUH and Vestre Viken Health Trust. OUH has operational responsibility and is coordinating the specialist health service response.</td>
</tr>
<tr>
<td>20:10</td>
<td>Acting CEO of S-ENRHA, Steinar Marthsinsen, informs the Chair of the Board of Directors, Frode Alhaug, about the situation</td>
</tr>
<tr>
<td>20:30</td>
<td>Status meeting of OUH emergency management: OUH received 10 patients from the government quarter and 5 from Utøya. More patients from Utøya are reported.</td>
</tr>
<tr>
<td>20:30</td>
<td>Hole municipality’s management arrives at Sundvolden Hotel and establishes the municipality’s crisis management</td>
</tr>
<tr>
<td>20:40</td>
<td>Senior duty doctor Karin Møller, Ringerike municipality, agrees with the police scene commander that patients without physical injuries requiring treatment are to be discharged from Ringerike Hospital and primary care centre via the psychiatric outpatients’ department to Sundvolden Hotel for registration</td>
</tr>
<tr>
<td>20:45</td>
<td>Anne Karin Lande Hasle and the State Secretary at the Ministry of Health and Care Services, Robin Kåss, meet with the Prime Minister and the most affected ministers/ags</td>
</tr>
<tr>
<td>21:00</td>
<td>S-ENRHA holds a phone meeting with the CEOs of the subordinate hospital trusts – status review</td>
</tr>
<tr>
<td>21:00</td>
<td>The Ministry of Health and Care Services receives 1st situation report from the Directorate of Health</td>
</tr>
<tr>
<td>21:00</td>
<td>The Directorate of Health begins the task of coordinating the relatives’ helpline phone numbers</td>
</tr>
<tr>
<td>21:15</td>
<td>County Medical Officer Petter Schou advises the County Governor about contact with acting CEO and head of emergency preparedness Andersgård at OUH, S-ENRHA technical director Peter Martin and the acting head of City of Oslo Department of Health and Social Welfare. There is ongoing contact with Director General Bjørn Inge Larsen, Director Lars E. Hanssen and Municipal Director of the City of Oslo Department for Seniors and Social Affairs.</td>
</tr>
<tr>
<td>21:15</td>
<td>Status report S-ENRHA: Since 20:00, OUH has received patients from Utøya, so far 8 seriously injured. Continued good capacity for receiving new patients. More are not expected from the government quarter. Good cooperation with Vestre Viken and AUH on capacity and allocation. Need for transfers continually assessed. Establish psychosocial team. Large number of calls from relatives and press. Extra phone lines provided by Sykehuspartner. Ringerike hospital received 35 patients, of which 6 gunshot injuries, otherwise many minor injuries. One patient at Drammen hospital for surgery. Reports of a further 2 patients. 2 patients at Askervier and Barrum hospital. AUH reports continuing good treatment capacity, enough blood and a psychosocial team in place. The hospitals have established increased security with security guards at entrances.</td>
</tr>
</tbody>
</table>
CHAPTER 6

/ Learning for better emergency preparedness – The medical response to the terrorist incidents of 22 July 2011

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21:15 05:50 03:51 OUH issues phone number for blood donors on its website

21:30 06:05 04:06 OUH crisis management decides that other emergency cases should be routed to other hospitals in the Oslo area (see executive health service timeline)

21:30 06:05 04:06 Status meeting of OUH emergency management: More patients will be arriving from Utøya. Other emergency cases to be routed to other hospitals

22:00 06:35 04:36 S-ENRHA informs County Medical Officer Petter Schou of the status

22:15 06:50 04:51 OUH press briefing

22:30 07:05 05:06 Anne Karin Lande Hasle attends government crisis council meeting

22:34 07:09 05:10 S-ENRHA send new situation report to the Directorate of Health and CEOs of the subordinate hospital trusts based on phone meeting of 21:15

22:37 07:32 05:33 Status meeting of OUH emergency management: OUH has received 23 patients. Decides to reduce the hospital’s alert to yellow and demolishes a number of ambulances and staff. The hospital is assessed as being a potential target for any further attacks. OUH requests the Directorate of Health to forward the request for protection/security to the police.

23:00 07:35 05:36 S-ENRHA holds a phone meeting with the CEOs of the subordinate hospital trusts – status review

23:15 07:50 05:51 Status report S-ENRHA: OUH has received 23 patients – 10 from government quarter, 13 from Utøya. Awaiting 2 patients from Ringerike hospital. Otherwise, no more patients expected at OUH. Ringerike hospital received 35 patients, 2 transferred to OUH, 13–15 still hospitalised. The police reserve has been called up to provide security at Ullevål hospital and intermunicipal out-of-hours primary care centre wind down red-level alert

23:17 07:52 05:53 The police notify hospitals involved that all the deceased are to be taken to Department of Forensic Medical Services for post-mortem.

23:19 07:54 05:55 Robin Kåss informs the Minister of Health of the status

23:20 07:55 05:56 Ullevål hospital contacts Departmental Director Erik Normann of the Directorate of Health and insists on reinforced security at the trauma centre which is currently limited to two police officers. The issue is forwarded to the Directorate of Police via the Directorate of Health's liaison officer at the Directorate of Police, Helene C.

23:30 08:05 06:06 S-ENRHA sends a situation report to the subordinate hospital trusts. Status: OUH has received a total of 23 patients, 10 from government quarter, 13 from Utøya. Awaiting 2 patients from Ringerike hospital. Otherwise, no more patients expected at OUH. Ringerike hospital has received 35 patients, 2 transferred to OUH for further treatment. 13-15 patients are still hospitalised. It is planned to transfer 2 patients from Ringerike in the evening/night. No more patients are expected at OUH. Ringerike hospital has received 35 patients, 2 of them transferred to OUH for further treatment. 13-15 patients are still hospitalised. One patient admitted to and operated on at Drammen hospital reports 1 new patient. 6 patients at Asker and Bærum hospital. OUH, AUH and Vestre Viken reduce alert to yellow. Vestfold and Telemark Hospital winds down state of alert.

23:37 08:12 06:13 The Prime Minister, Robin Kåss and Bjørn Inge Larsen visit OUH Ullevål

23:41 08:16 06:17 The Directorate of Police takes the request for increased security at Utøya seriously and evaluates the use of the police reserve or the UP mobile police division

23:47 08:22 06:23 The Directorate of Health’s liaison officer at the Directorate of Police reports 72 dead at Utøya

23:57 08:32 06:32 The crisis management team at the Buskerud County Governor’s office reviews the situation. Situation awareness: 72 fatalities at Utøya, 35 casualties taken to Ringerike hospital. The response by the police and health service was good and the agencies have the necessary resources. County Governor Kirsti Kolve Grandahl is on holiday in Nordland county. A lack of available seats on flights means that she cannot return until Sunday 24 July.

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SATURDAY 23 JULY

00:01 08:36 The Directorate of Health issues its first statement on the incidents at helsedirektoratet.no

00:01 08:36 The crisis management team at the Buskerud County Governor’s office reviews the situation. Situation awareness: 72 fatalities at Utøya, 35 casualties taken to Ringerike hospital. The response by the police and health service was good and the agencies have the necessary resources. County Governor Kirsti Kolve Grandahl is on holiday in Nordland county. A lack of available seats on flights means that she cannot return until Sunday 24 July.

00:02 08:37 The Directorate of Health issues its first statement on the incidents at helsenoorge.no

00:22 08:57 The Directorate of Health sends the second situation report to the County Governors and regional health authorities, based on the status review of 21:00

01:10 09:45 The Directorate of Health’s liaison officer at the Directorate of Police reports that the police reserve has been called up to provide security at Utøvål hospital

01:17 09:52 Robin Kåss meets with Anne Karin Lande Hasle to discuss the status

01:20 09:55 Acting CEO of S-ENRHA, Steinar Martinsen, informs CEO Bente Mikkelsen about the situation

01:25 10:00 The Directorate of Health contacts MOH of Hole, Bernt Ivar Gaarder, to ensure that they have necessary resources for psychosocial follow-up. Gaarder reports that they have sufficient resources

02:00 10:35 The Directorate of Health's liaison officer at the Directorate of Police reports that the number of dead at Utøya has been adjusted upwards to 84

03:00 11:35 The crisis management team at the Buskerud County Governor’s office reviews the situation. Situation awareness: 72 fatalities at Utøya, 35 casualties taken to Ringerike hospital. The response by the police and health service was good and the agencies have the necessary resources. County Governor Kirsti Kolve Grandahl is on holiday in Nordland county. A lack of available seats on flights means that she cannot return until Sunday 24 July.

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<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>03:45</td>
<td>The Directorate of Health's liaison officer at the Directorate of Police reports about repeated inquiries concerning whether the police system for disaster support and follow-up from Hjelp24 are inadequate.</td>
</tr>
<tr>
<td>04:45</td>
<td>The Directorate of Health's liaison officer in the Directorate of Police reports that only one relatives' helpline is operational: 81502800. Other phone numbers on the Directorate of Health's website must be removed.</td>
</tr>
<tr>
<td>04:50</td>
<td>The Minister of Health leaves Longyearbyen, Svalbard by plane.</td>
</tr>
<tr>
<td>05:00</td>
<td>Robin Kass meets with Minister of Justice Knut Storberget.</td>
</tr>
<tr>
<td>07:00</td>
<td>S-ENRHA crisis management holds a meeting.</td>
</tr>
<tr>
<td>07:20</td>
<td>S-ENRHA sends a new situation report to the Directorate of Health and the CEOs of the subordinate Hospital Trusts: Reports that, since the last situation report, one patient from Asker and Bærum hospital has been transferred to OUH. OUH has received a total of 26 severely injured patients. No deaths post-admission. No new patients after 01:00. Own relatives' helplines set up at OUH and Vestre Viken.</td>
</tr>
<tr>
<td>07:45</td>
<td>The Minister of Health lands at Gardermoen airport.</td>
</tr>
<tr>
<td>07:57</td>
<td>The crisis management at the Buskerud County Governor's office has alerted the municipalities in Buskerud to be in on stand-by to receive direct and indirect victims.</td>
</tr>
<tr>
<td>08:00</td>
<td>Anne Karin Lande Hasle attends government crisis council meeting. Insufficient resources for psychosocial follow-up of employees in the ministries involved. The Ministry of Health and Care Services undertakes to assist in finding further resources.</td>
</tr>
<tr>
<td>08:00</td>
<td>Meeting of the Directorate of Health's crisis committee. Situation awareness: A total of 84 persons are confirmed dead on Utøya and in Oslo. It is assumed there were between 550-750 people on Utøya. The Directorate of Health has received a preliminary, incomplete list of names. The Directorate of Health has asked S-ENRHA for a list of names of those registered in S-ENRHA hospitals. Adequate surgical capacity in the hospitals, 26 patients brought to OUH, 8 to Asker and Bærum hospital, 35 to Ringerike hospital, 2 to Akershus hospital. OUH at alert. A total of 90 persons treated at OUH outpatients' trauma clinic/City of Oslo out-of-hours primary care centre. All municipalities have set up crisis teams for psychosocial follow-up. The Directorate of Health’s guide on crisis support activities is posted on the web during the day.</td>
</tr>
<tr>
<td>08:10</td>
<td>The police/municipal health service in Hole request assistance from the Directorate of Health for dealing with lists of victims, missing persons and relatives, and assistance regarding questions from relatives. The Directorate of Health sends two employees to Sundvolden Hotel.</td>
</tr>
<tr>
<td>08:10</td>
<td>S-ENRHA contacts the executive directors of OUH and Vestre Viken Hospital Trust to prepare lists of names of casualties treated at the hospitals. The list of names is to be forwarded to the police.</td>
</tr>
<tr>
<td>08:10</td>
<td>Status meeting of OUH emergency management: OUH has received 27 patients. No new patients after 03:00. Treatment capacity remaining.</td>
</tr>
<tr>
<td>08:54</td>
<td>The Directorate of Health contacts S-ENRHA with a request that OUH only refers callers to the police’s relatives’ helpline number.</td>
</tr>
<tr>
<td>09:00</td>
<td>Meeting of the Ministry of Health and Care Services crisis team at the Directorate of Health’s premises in U2. The Minister of Health, Director General Bjørn Inge Larsen, Deputy Director General Bjørn Gulsvåg and Robin Kass attend parts of the meeting.</td>
</tr>
<tr>
<td>10:00</td>
<td>The Minister of Health meets the Prime Minister and representatives of the most affected ministries.</td>
</tr>
<tr>
<td>10:00</td>
<td>The Ministry of Health and Care Services issues information about the authorities’ handling of the incidents, and information to Ministry of Health and Care Services employees on the government's website.</td>
</tr>
<tr>
<td>10:00</td>
<td>The Directorate of Health has its first meeting with the Norwegian Resource Centre for Violence and Stress Studies (NKVTS) on guidelines for psychosocial follow-up of victims, the bereaved and responders.</td>
</tr>
<tr>
<td>10:00</td>
<td>OUH press briefing.</td>
</tr>
<tr>
<td>11:00</td>
<td>Extended crisis management at the Buskerud County Governor’s offices hold a meeting chaired by Deputy County Governor Runar Schau Carlsen.</td>
</tr>
<tr>
<td>11:00</td>
<td>The Directorate of Health has a telephone meeting with all regional health authorities.</td>
</tr>
<tr>
<td>11:00</td>
<td>Status meeting of OUH emergency management: 19 of the patients admitted to OUH have serious injuries. Relatives’ centre for the bereaved established at OUH Rikshospitalet. Forensic medical capacity being established.</td>
</tr>
<tr>
<td>12:00</td>
<td>The Directorate of Health has a telephone meeting with the County Governors. They are informed that a provisional letter of instruction will be sent to the County Governors for consultation by 14:00. The instructions will be to: 1. ensure that all municipalities have crisis teams in place and a published telephone number, 2. ensure that the municipalities are familiar with the Directorate of Health’s guide to crisis support management, 3. procure a list of phone numbers of affected municipalities, 4. provide daily reports to the Directorate of Health by 07:30.</td>
</tr>
<tr>
<td>12:00</td>
<td>OUH press briefing.</td>
</tr>
<tr>
<td>12:20</td>
<td>DNK winds down its own alert in respect of monitoring of Nødnett to normal level of alert.</td>
</tr>
<tr>
<td>12:30</td>
<td>The Minister of Health visits Sundvolden Hotel.</td>
</tr>
<tr>
<td>12:53</td>
<td>S-ENRHA sends a new situation report to the Directorate of Health and the CEOs of the subordinate Hospital Trusts. Since the last report: OUH is awaiting transfer of 4 patients from other hospitals. Ringerike hospital is planning the transfer of one patient to OUH/ Vestfold hospital, one to the University Hospital of North Norway and one to Stavanger University Hospital. Established relatives’ centres at Vestre Viken – Ringerike and Drammen hospitals, and OUH. A centre is set up at OUH Rikshospitalet in cooperation with the police, for relatives of the deceased who are to undergo forensic post-mortems. Stafjord hospital sent several ambulances to Oslo Utøya. These were replaced with ambulances from Sweden and the Red Cross. Sykehuspartner, the health service’s operational organisation and the regional procurement centre have been upstaffed over the last day.</td>
</tr>
</tbody>
</table>
### Sunday 24 July

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>07:20</td>
<td>S-ENRHA sends a new situation report to the Directorate of Health and the CEOs of the subordinate Hospital Trusts. Reports that OUH is treating 31 patients, of whom 20 are critically injured. One patient is sent to Stavanger University Hospital. Daily conference calls on intensive-care capacity in the region.</td>
</tr>
<tr>
<td>09:00</td>
<td>Meeting of crisis management team at S-ENRHA</td>
</tr>
<tr>
<td>10:00</td>
<td>Crisis management at the Buskerud County Governor’s office confirms that all Buskerud municipalities have published phone numbers of their websites that victims can use as required. The phone numbers are also published on the County Governor’s website.</td>
</tr>
<tr>
<td>10:30</td>
<td>Status meeting of OUH emergency management: 18 severely injured patients. One died during the night.</td>
</tr>
<tr>
<td>11:00</td>
<td>Meeting of the Directorate of Health’s crisis committee: Situation awareness: 92 deaths, 4 missing. OUH reports 18 seriously/critically injured, and 20 less serious injuries, Vestre Viken, Drammen hospital, 1 critically injured. All municipalities have established contact phone numbers. Phone lists for municipal crisis teams are sent to the National Criminal Investigation Service.</td>
</tr>
<tr>
<td>11:00</td>
<td>The Minister of Health attends the commemoration service at Oslo Cathedral</td>
</tr>
<tr>
<td>12:00</td>
<td>OUH implements green-level alert</td>
</tr>
<tr>
<td>13:00</td>
<td>Meeting in the Directorate of Health concerning a national liaison forum for follow-up of victims</td>
</tr>
<tr>
<td>14:00</td>
<td>The Royal Family visits OUH Ullevål</td>
</tr>
<tr>
<td>14:00</td>
<td>The Ministry of Health and Care Services receives 2nd situation report from the Directorate of Health</td>
</tr>
<tr>
<td>15:00</td>
<td>S-ENRHA holds status meeting with the CEOs of the subordinate Hospital Trusts</td>
</tr>
<tr>
<td>16:00</td>
<td>The Minister of Health and Director General Bjørn Inge Larsen attend a meeting of the government crisis council</td>
</tr>
<tr>
<td></td>
<td>The MOH of Ringerike contacts the County Medical Officer of Buskerud and requests assistance in managing/organising debriefing of responders. The County Medical Officer of Buskerud contacts the Directorate of Health about this. The Directorate of Health decides to send the former MOH of Bærum and Akershus CMO, Anders Smith, to assist.</td>
</tr>
<tr>
<td></td>
<td>The Directorate of Health invites NGOs, and public and private sector expert bodies to join a national liaison forum to coordinate and safeguard collaboration in psychosocial response to the incidents.</td>
</tr>
<tr>
<td></td>
<td>The Directorate of Health publishes its guide to psychosocial crisis support activities on the internet</td>
</tr>
</tbody>
</table>

### Monday 25 July

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:15</td>
<td>S-ENRHA sends a new situation report to the Directorate of Health and the CEOs of the subordinate Hospital Trusts. Status: OUH received a total of 32 patients. 3 have been discharged. One died after admission. 18 of 28 currently hospitalised patients are severely/critically injured. Vestre Viken has 2 patients, no life-threatening injuries. Østfold Hospital has received 4 patients, 3 from Ringerike, 1 from OUH. AUH received 5 emergency patients for gastrointestinal surgery and orthopaedic treatment, and an intensive-care patient from the OUH admissions region. Sykehuspartner assists the Department of Forensic Medical Services by increasing IT capacity.</td>
</tr>
<tr>
<td>08:30</td>
<td>Meeting of crisis management team at S-ENRHA</td>
</tr>
<tr>
<td>09:00</td>
<td>Atle Brynestad takes over as acting CEO of S-ENRHA and head of crisis management</td>
</tr>
<tr>
<td>09:00</td>
<td>Meeting of the Directorate of Health’s crisis committee: Situation awareness: 86 dead on Utøya and in Oslo, including one at OUH, 18-19 patients seriously/critically injured at OUH</td>
</tr>
<tr>
<td>09:00</td>
<td>The Ministry of Health and Care Services moves into interim premises with the Directorate of Health in U2</td>
</tr>
<tr>
<td>09:08</td>
<td>The Ministry of Health and Care Services receives 3rd situation report from the Directorate of Health</td>
</tr>
<tr>
<td>14:00</td>
<td>The Minister of Health attends a press conference with the Minister of Education &amp; Research and the Minister of Children, Equality &amp; Social Inclusion concerning children and informing them about the terrorist attacks</td>
</tr>
</tbody>
</table>
22:00 Anne Karin Lande Hasle attends government crisis council meeting which determines that the crisis is over. The crisis council is replaced by a reconstruction council headed by the Ministry of Government Administration, Reform and Church Affairs

**TUESDAY 26 JULY**

07:20 S-ENRHA sends a new situation report to the Directorate of Health and the CEOs of the subordinate Hospital Trusts: OUH has 25 patients, 18 of them in ICU/post-operative unit, one patient in Ringereike hospital Over the weekend, AUH has admitted 10-12 women in labour from OUH to save on anaesthesiology resources. Vestre Viken Hospital Trust debriefs those involved from the municipal health services, hospitals and Red Cross volunteers.

08:30 Meeting of crisis management team at S-ENRHA

09:00 Meeting of the Directorate of Health’s crisis committee: Situation awareness: Total of 76 fatalities, 68 from Utøya, 8 in Oslo. Summary lists are available of the injured, deceased and missing, and which municipalities are directly affected by the crisis.

11:00 Routing of orthopaedic emergency cases to AUH is terminated. Routing of gastrointestinal surgery emergency cases is maintained.

12:30 Meeting between S-ENRHA and technical director at OUH. OUH asks S-ENRHA to help them restrict visiting somewhat, out of concern for patients and relatives, but also due to the workload on the hospital.

Two employees in the Directorate of Health prepare for debriefing of employees in the Ministry of Health and Care Services

Anders Smith takes over coordination of psychosocial follow-up of responders at Sundvolden Hotel

The Directorate of Health establishes an interdisciplinary project group to prepare a visit to Utøya for survivors and relatives

**WEDNESDAY 27 JULY**

07:00 Status report S-ENRHA: OUH has 25 patients, of whom 17 in ICU/post-operative unit. Vestre Viken has no patients from the incident. AUH receives 10 gastrointestinal surgery patients and one int patient from OUH catchment area. Psychiatrists from AUH assist OUH in working with directly affected patients and their relatives. Vestre Viken has debriefed health personnel from municipal health service and hospitals, as well as some journalists and staff at Sundvolden Hotel. Debriefing performed under guidance of Atle Dyregrov from the Center for Crisis Psychology. OUH working on follow-up of its own employees.

09:00 Meeting of the Directorate of Health’s crisis committee

**THURSDAY 28 JULY**

07:00 Status report S-ENRHA: OUH has 23 patients, 17 of them in ICU/post-operative unit. Emergency gastrointestinal patients are still being routed to AUH, which has 12 gastrointestinal surgery patients and 4 other emergency patients, and one neonate from the OUH catchment area.

09:20 Meeting of the Directorate of Health’s crisis committee. The Directorate of Health has received information that residents of some municipalities are finding it difficult to contact the public-sector health services and/or GPs. This is discussed with the County Governors in a phone meeting at 11:15. A letter of instruction is forwarded to the County Governors concerning follow-up of the municipal crisis teams and extended responsibility for the psychosocial follow-up work.

14:00 Routing of gastrointestinal surgery patients from the OUH catchment area to AUH is terminated

The Directorate of Health provides input to the Government concerning individuals with health-related crisis response backgrounds for the 22 July Commission.

The Directorate of Health has established national projects for psychosocial follow-up in 3 entities: National Cooperation Committee (30-40 members), Expert Group (approx. 20 members) and a Working Committee (representatives from NKVTS, the Norwegian Labour Party, Center for Crisis Psychology and the Directorate of Health) (approx. 6-8 members)

**FRIDAY 29 JULY**

07:00 Status report S-ENRHA: OUH has 23 patients, 18 of them in ICU/post-operative unit. AUH has a total of 21 guest patients from the OUH catchment area

09:30 Meeting of the Directorate of Health’s crisis committee

12:00 Crisis management at S-ENRHA is wound down

**WEDNESDAY 3 AUGUST**

Police close the relatives’ helpline

**FRIDAY 5 AUGUST**

OUH alert is wound down

**TUESDAY 11 OCTOBER**

Last patient discharged from OUH to Sunnaas Rehabilitation Hospital
Learning for better emergency preparedness

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