



NORSK LUFTAMBULANSE  
NORWEGIAN AIR AMBULANCE



# Incident title: Bus rollover in Skaidi, northern Norway

## Reporter

**Mrs. Hanne Rikstad Iversen**  
Chief physician  
Finnmarkssykehuset

**Role in incident:** HEMS doctor

## Incident location



## Summary

**Country:**  Norway

The incident happened in Norway, in the county Finnmark. Population: 75 207, area: 48 615,96 km<sup>2</sup>. Infrastructure to area: By road or air. Relatively good telecommunications network at accident site. Finnmark is characteristic for bad weather conditions such as snow shower and reduced visibility. The road traffic is often difficult during winter. This part of Norway is vulnerable concerning resources and long distances.

# EMS background

**1. Was an EMS coordinating centre (the centre responsible for dispatching and coordinating EMS units on-scene) available in the affected country/ies before the incident? \***

Yes

**2. Does a dialling number to Emergency Services exist? \***

Yes

**2-1. Is there a single and unique dialling number to EMS or one common dialling number for all Emergency Services (fire, police and EMS)? \***

A single and unique dialling number

**3. Can a major incident be declared directly by the person receiving an alert at the EMS coordinating centre? \***

No

**4. What is the background of staff in the every-day/normal staffing of EMS services? \***

Other / Unknown

**4-1. Please specify the background of other staff in the every-day/normal staffing of EMS services or leave blank if unknown.**

Nurses or ambulant workers.

**5. What other resources are routinely available to assist the EMS service in a normal setting? \***

- Fire brigade
- Police
- Voluntary organizations
- Coast guard
- Military

**5-1. Please specify which voluntary organizations are available to assist the EMS service in a normal setting \***

Red Cross and Norwegian People's Aid (Norsk Folkehjelp)

**5-2. Do the voluntary organizations require authorization from police or other authorities to participate in the response phase? \***

No

**6. Other resources that can be mobilized in a major incident \***

- Fire brigade
- Police
- Voluntary organizations
- Coast guard
- Military

**6-1. Please specify which voluntary organizations are available \*** Red Cross and Norwegian People's Aid (Norsk Folkehjelp)

**6-2. Please specify if the voluntary organizations available require authorization from police or other authorities to participate in the response phase \*** No

**7-1. Are there any regional hospital/s with trauma specialty that exists within the EMS catchment system that was affected by the major incident? \*** Yes

**7-1.1. Please state the number of regional hospital/s with trauma specialty within the EMS catchment system that was affected by the major incident \*** 1

**7-1.2. Is the number given above exact or estimated? \*** Exact

**7-2. Are there any regional hospital/s without trauma specialty that exists within the EMS catchment system that was affected by the major incident? \*** No

**7-3. Are there any local hospital/s without trauma specialty that exists within the EMS catchment system that was affected by the major incident? \*** Yes

**7-3.1. Please state the number of local hospitals without trauma specialty within the EMS catchment system that was affected by the major incident \*** 1

**7-3.2. Is the number given above exact or estimated? \*** Exact

**7-4. Are there any other type of hospital/s that exists within the EMS catchment system that was affected by the major incident? \*** No

**8-1. Is a pre-hospital on-scene triage system in use daily on a national level? \*** No

**8-2. Is a pre-hospital on-scene triage system in use daily on regional levels? \*** No

**9-1. Is a pre-hospital on-scene triage system for major incidents in use on a national level? \*** No

**9-2. Is a pre-hospital on-scene triage system for major incidents in use on regional levels? \*** No

**10. Does the pre-hospital on-scene triage system for major incidents include direct tagging/labelling of patients? \***

Unknown

**11. For those employees within the pre-hospital EMS system who are intended to work on-scene: is major incident training mandatory? \***

No

## Incident characteristics

**12. What was the mechanism/external factor that caused the incident? \***

- Transport accident
- Other / Unknown

**12-2. Please specify other mechanism/external factor that caused the incident:**

Slippery road.

**12-3. Is this incident coupled to another incident? \***

No

**13. What was the location of the incident scene? \***

- Rural/countryside area
- Road
- Other / Unknown

**13-1. Please specify other type of location of incident scene or leave blank if unknown:**

It occurred in Skaidi; a cottage area in mountainous inland approximately 45 minutes driving from the city of Hammerfest, which has a regional hospital.

**14-1. Did the EMS make use of wheeled vehicles to access patients for treatment at incident scene? \***

Yes

**14-1.1. Were there any delays in accessing patients by wheeled vehicles? \***

No

**14-2. Did the EMS make use of railway system to access patients for treatment at incident scene? \***

No

**14-3. Did the EMS make use of air transport to access patients for treatment at incident scene? \***

Yes

**14-3.1. Were there any delays in accessing patients by air? \***

No

<b>14-4. Did the EMS make use of boat transport to access patients for treatment at incident scene? *</b>	No
<b>14-5. Did the EMS access patients for treatment at incident scene on foot? *</b>	No
<b>14-6. Did the EMS make use of other means to access patients for treatment at incident scene? *</b>	No
<b>15-1. Did the EMS make use of wheeled vehicles to evacuate patients from the incident scene? *</b>	Yes
<b>15-1.1. Were there any delays in evacuating patients by wheeled vehicles? *</b>	No
<b>15-2. Did the EMS make use of railway system to evacuate patients from the incident scene? *</b>	No
<b>15-3. Did the EMS make use of air transport to evacuate patients from the incident scene? *</b>	No
<b>15-4. Did the EMS make use of boat transport to evacuate patients from the incident scene? *</b>	No
<b>15-5. Did the EMS evacuate patients from the incident scene on foot? *</b>	No
<b>15-6. Did the EMS make use of other means to evacuate patients from the incident scene? *</b>	Yes
<b>15-6.1. Please describe how patients were evacuated by other means? *</b>	A bus.
<b>15-6.2. Were there any delays in evacuating patients as specified in 15-6.1.? *</b>	No
<b>16-1. Was there damage to electrical power that affected EMS response? *</b>	No
<b>16-2. Was there damage to telecommunication that affected EMS response? *</b>	No
<b>16-3. Was there damage to other modes of communications that affected EMS response? *</b>	No
<b>16-4. Was there damage to road that affected EMS response? *</b>	No
<b>16-5. Was there damage to rail that affected EMS response? *</b>	No

<b>16-6. Was there damage to the EMS or health structure that affected EMS response? *</b>	No
<b>16-7. Was there other damage to infrastructure that affected EMS response? *</b>	No
<b>17. How many sites required separate EMS infrastructure (such as on-scene leadership and casualty clearing stations) in the response phase? *</b>	1
<b>17-1. Is the number given above exact or estimated? *</b>	Exact
<b>18-1. Was ongoing violence or risk of further violence a threat to rescuers on scene? *</b>	No
<b>18-2. Was fire a threat to rescuers on scene? *</b>	No
<b>18-3. Was collapsing building/s a threat to rescuers on scene? *</b>	No
<b>18-4. Was climate a threat to rescuers on scene? *</b>	No
<b>18-5. Was lack of electricity a threat to rescuers on scene? *</b>	No
<b>18-6. Was lack of water/food a threat to rescuers on scene? *</b>	No
<b>18-7. Were other hazard/s a threat to rescuers on scene? *</b>	Yes
<b>18-7.1. Please specify the other hazards and how these affected the rescuers on scene *</b>	Slippery roads made transportation difficult and reduced the speed.
<b>19-1. Was on going violence or risk of further violence a threat to patients on scene? *</b>	No
<b>18-2. Was fire a threat to patients on scene? *</b>	No
<b>19-3. Was collapsing building/s a threat to patients on scene? *</b>	No
<b>19-4. Was climate a threat to patients on scene? *</b>	Yes
<b>19-4.2. Please specify the climate and how this affected the patients on scene *</b>	It was minus 5 degrees so hypothermia was a realistic threat to the patients. The snow inside the bus was wet and they were sitting in it for quite a while.

<b>19-5. Was lack of electricity a threat to patients on scene? *</b>	No
<b>19-6. Was lack of lack of water/food a threat to patients on scene? *</b>	No
<b>19-7. Were other hazard/s a threat to patients on scene? *</b>	No

## EMS response data

<b>20-1. Did the first medical team to arrive on-scene assume the role of medical commander? *</b>	Yes
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<b>20-1.1. If possible, please provide the time the first medical team to arrive on-scene assumed the role of medical commander</b>	2011-11-19
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<b>Hour</b>	00
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<b>Minutes</b>	45
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<b>20-1.2. Is the time given above exact or estimated? *</b>	Estimated
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<b>20-2. Did the first medical team to arrive on-scene begin to make an assessment of scene safety? *</b>	Unknown
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<b>20-3. Did the first medical team to arrive on-scene communicate a situation report to EMS coordinating centre? *</b>	Yes
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<b>20-3.1. Was this done according to a pre-existing system or mnemonic? (E.g. METHANE)? *</b>	No
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<b>20-4. Did the first medical team to arrive on-scene request additional resources? *</b>	Unknown
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<b>20-5. Did the first medical team to arrive on-scene initiate any safety related actions? *</b>	Unknown
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<b>20-6. Did the first medical team to arrive on-scene delegate responsibility for other tasks on scene? *</b>	Unknown
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<b>20-6.2. If possible, please provide the time the first medical team to arrive on-scene delegated the responsibility</b>	2011-11-19
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<b>Hour</b>	01
<b>Minutes</b>	10
<b>Minutes</b>	10
<b>20-7. What kind of medical personnel assumed the role of on-scene medical commander? *</b>	GP on call in the municipality assumed the role of on-scene-medical commander.
<b>21-2. Medical pre-hospital resources used in the major incident response was coordinated by: *</b>	EMS coordinating centre
<b>21-3. Who was responsible for briefing medical staff of the situation during the pre-hospital major incident medical response? *</b>	Other
<b>21-3.1. Please specify who else was responsible for briefing medical staff during the response *</b>	Private citizen
<b>22-1. Was communication achieved between medical personnel at the incident? *</b>	Yes
<b>22-1.1. Please state at which time communication between medical personnel at the incident was initiated</b>	2011-11-19
<b>Hour</b>	01
<b>Minutes</b>	10
<b>22-1.2. This communication was managed by: *</b>	<ul style="list-style-type: none"> <li>• First medical team to arrive on-scene</li> <li>• By other means</li> </ul>
<b>22-1.3. Please specify other means by which communication was achieved between medical personnel at the incident. *</b>	By the HEMS doctor who relayed information through the EMCC and en route through radio (VHF).
<b>22-2. Was communication achieved between the different task forces involved (police, fire fighters, health, political leaders etc)? *</b>	Yes, between some of the task forces
<b>22-2.1 Please state at which time communication between all of the task forces was initiated</b>	2011-11-19
<b>Hour</b>	01
<b>Minutes</b>	10
<b>22-2.3. Please specify between whom it was/was not achieved and between whom it should have been achieved *</b>	Health and the fire righters, and private citizen.The police arrived later.

**22-3. Was communication achieved between the scene and the EMS coordinating centre? \*** Yes

**22-3.1 Please state at which time communication between the scene and EMS coordinating centre was initiated** 2011-11-19

**Hour** 01

**Minutes** 25

**22-3.2. This communication was managed by:\*** By other means

**22-3.3. Please specify other means by which communication was achieved between the scene and EMS coordinating centre. \*** HEMS doctor

**22-4. Was communication achieved between the scene and receiving hospital/s? \*** Yes

**22-4.1 Please state at which time communication between the scene and receiving hospital/s was initiated** 2011-11-19

**Hour** 01

**Minutes** 26

**22-4.2. This communication was managed by: \*** By other means

**22-4.3. Please specify other means by which communication was achieved between the scene and receiving hospital/s. \*** HEMS doctor

**22-5. Was communication achieved between medical response personnel and the general public? \*** Yes

**22-5.1 Please state at which time communication between medical response personnel and the general public was initiated.** 2011-11-19

**Hour** 01

**Minutes** 11

**22-5.2. This communication was managed by: \*** Other means

**22-5.3. Please specify other means by which communication was achieved between medical response personnel and the general public. \*** HEMS doctor and the private citizen on scene.

**23. Describe the structure of the medical incident command during the major incident \***

When I arrived, as a HEMS doctor, the ambulance and the doctor on guard was already there. The other doctor had the command on site. We decided that I should participate in the triage and evacuation of the patients. The fire fighters had a good understanding of the situation and help evacuating the patients out of the bus. One patient required anesthesia to be evacuated so the resources were spent right.

**24-1. Was VHF radio used for communication during the major incident response? \***

Yes

**24-1.1. Were there any failures with the VHF radio communication during the incident response? \***

No

**24-2. Was Tetra radio used for communication during the incident response? \***

No

**24-3. Were other type of radios used for communication during the incident response? \***

Unknown

**24-4. Were mobile phones used for communication during the incident response? \***

Yes

**24-4.1. Were there any mobile phone failures during the incident response? \***

No

**24-5. Was land line telephone used for communication during the incident response? \***

No

**24-6. Was communication to the public (such as television, social media) used during the incident response? \***

Unknown

**24-7. Were other means of communication used during the incident response? \***

Unknown

**25. Please state communication systems in use on a daily basis \***

- VHF radio
- Mobile phone
- Land line telephone
- Other means of communication

**26-1. Incident time \***

2011-11-19

**Hour \***

00

**Minutes \***

10

**26-1.1. Is the time given above exact or estimated? \***

Estimated

<b>26-2. Emergency Medical Service (EMS) notification *</b>	2011-11-19
<b>Hour *</b>	00
<b>Minutes *</b>	12
<b>26-2.1. Is the time given above exact or estimated? *</b>	Exact
<b>26-3. First EMS arrival *</b>	2011-11-19
<b>Hour *</b>	01
<b>Minutes *</b>	45
<b>26-3.1. Is the time given above exact or estimated? *</b>	Estimated
<b>26-4. Major incident declared *</b>	2011-11-19
<b>Hour *</b>	00
<b>Minutes *</b>	10
<b>26-4.1. Is the time given above exact or estimated? *</b>	Estimated
<b>26-5. Medical command established *</b>	2011-11-19
<b>Hour *</b>	01
<b>Minutes *</b>	45
<b>26-5.1. Is the time given above exact or estimated? *</b>	Estimated
<b>26-6. Time of first meeting between police / fire / medical command *</b>	2011-11-19
<b>Hour *</b>	01
<b>Minutes *</b>	45
<b>26-6.1. Is the time given above exact or estimated? *</b>	Estimated
<b>26-7. First patient evacuated by EMS (time of leaving incident scene) *</b>	2011-11-19
<b>Hour *</b>	01
<b>Minutes *</b>	32
<b>26-7.1. Is the time given above exact or estimated? *</b>	Exact
<b>26-8. Last patient evacuated by EMS (time</b>	2011-11-19

of leaving incident scene) \*

Hour \* 02

Minutes \* 45

26-8.1. Is the time given above exact or estimated? \* Estimated

26-9. First patient arriving in hospital \* 2011-11-19

Hour \* 02

Minutes \* 15

26-9.1. Is the time given above exact or estimated? \* Exact

26-10. Last patient arriving in hospital \* 2011-11-19

Hour \* 03

Minutes \* 30

26-10.1. Is the time given above exact or estimated? \* Estimated

27. Please describe any delays in the timings mentioned in question 26 I don't know the time in question 26-8 and 26-10

28-1. Were lay persons with no field care education present? \* Yes

28-1.1. Please state number of persons/personnel \* 2

28-1.2. Is the number given above exact or estimated? \* Estimated

28-2. Were non-EMS personnel with basic life support (BLS) competency present? \* Unknown

28-3. Were EMS professionals who were not physicians, but with BLS competency present? \* Yes

28-3.1. Please state number of persons/personnel \* 6

28-3.2. Is the number given above exact or estimated? \* Exact

28-4. Were EMS professionals who were not physicians, but with Advanced Life Support (ALS) competency present? \* Yes

28-4.1. Please state number of persons/personnel \* 3

<b>28-4.2. Is the number given above exact or estimated? *</b>	Exact
<b>28-5. Were on-scene physicians with ALS competency present? *</b>	Yes
<b>28-5.1. Please state number of persons/personnel *</b>	2
<b>28-5.2. Is the number given above exact or estimated? *</b>	Exact
<b>28-6. Were other type of personnel/persons present at the incident scene? *</b>	Yes
<b>28-6.1. Please specify other *</b>	Crew from HEMS
<b>28-6.2. Please state number of persons/personnel *</b>	2
<b>28-6.3. Is the number given above exact or estimated? *</b>	Exact
<b>29-1. EMS transport: Where there any EMS vehicles present at scene during the early EMS response to the incident? *</b>	Yes
<b>29-1.1. If possible, please specify the approximate numbers of EMS vehicles available at the incident scene. Returning EMS vehicles are to be counted only once. Please provide time of arrival for the first EMS vehicle.</b>	1
<b>Date</b>	2011-11-19
<b>Hour</b>	00
<b>Minutes</b>	45
<b>29-2. EMS transport: Where there any EMS helicopters present at scene during the early EMS response to the incident? *</b>	Yes
<b>29-2.1. If possible, please specify the approximate numbers of EMS helicopters available at the incident scene. Returning EMS helicopters are to be counted only once. Please provide time of arrival for the first EMS helicopter.</b>	1
<b>Date</b>	2011-11-19
<b>Hour</b>	01
<b>Minutes</b>	10
<b>29-3. EMS transport: Where there any</b>	No

**EMS boats present at scene during the early EMS response to the incident? \***

**29-4. EMS transport: Where there other EMS transportation units present at scene during the early EMS response to the incident? \*** No

**29-5. Civilian transport: Where there any civilian vehicles present at scene during the early EMS response to the incident? \*** Unknown

**29-6. Civilian transport: Where there any civilian helicopters present at scene during the early EMS response to the incident? \*** No

**29-7. Civilian transport: Where there any civilian boats present at scene during the early EMS response to the incident? \*** No

**29-8. Civilian transport: Where there other civilian transportation units present at scene during the early EMS response to the incident? \*** No

**29-9. Other emergency services: Where there any other emergency vehicles present at scene during the early EMS response to the incident? \*** No

**29-10. Other emergency services: Where there any other emergency helicopters present at scene during the early EMS response to the incident? \*** No

**29-11. Other emergency services: Where there any other emergency boats present at scene during the early EMS response to the incident? \*** No

**29-12. Other emergency services: Where there any other means of transport present at scene during the early EMS response to the incident? \*** No

**30-1. Was there any equipment available on-scene to provide care for patients exposed to hazardous materials? \*** No

**30-2. Was there any search and rescue equipment available on-scene? \*** No

**30-3. Was there any alpine/rescue equipment available on-scene? \*** No

**30-4. Was equipment from the coast guard available on-scene? \*** No

<b>30-5. Were support vehicles available on-scene? *</b>	No
<b>30-6. Was other type of equipment available on-scene enabling EMS to do their job? *</b>	Yes
<b>30-6.1. Please specify equipment *</b>	Light portable stretchers and rugs to facilitate evacuation and prevent against hypothermia.
<b>30-6.2. If possible, please indicate the time point when equipment was ready for use at the scene</b>	2011-11-19
<b>Hour</b>	01
<b>Minutes</b>	10
<b>31. Number of hospitals receiving patients *</b>	2
<b>32-1.1. Distance from incident scene where pre-hospital medical response was initiated to hospital I by air line in kilometers *</b>	301-500
<b>32-1.2. Type of hospital I *</b>	Local hospital without trauma specialty
<b>32-1.3. Were patients conveyed to this hospital by EMS? *</b>	Yes
<b>32-1.4. Were patients conveyed to this hospital by non-EMS? *</b>	Yes
<b>32-1.5. Were patients conveyed in the first hour after the incident? *</b>	No
<b>32-1.6. Were patients conveyed between 1 and 2 hours after the incident? *</b>	Yes
<b>32-1.7. Were patients conveyed between 2 and 3 hours after the incident? *</b>	Yes
<b>32-1.8. Were patients conveyed between 3 and 4 hours after the incident? *</b>	No
<b>32-1.9. Were patients conveyed after 4 hours or more following the incident? *</b>	No
<b>32-1.10. Does a pre-existing patient distribution plan exist? *</b>	Yes
<b>32-1.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *</b>	Unstable trauma patient is supposed to go to the nearest hospital, trauma patients with head injury who is stable shall go to hospital with trauma specialty directly.
<b>32-2.1. Distance from incident scene where pre-hospital medical response was initiated to hospital II by air line in kilometers *</b>	>500
<b>32-2.2. Type of hospital II *</b>	Major hospital with trauma specialty

<b>32-2.3. Were patients conveyed to this hospital by EMS? *</b>	Yes
<b>32-2.4. Were patients conveyed to this hospital by non-EMS? *</b>	No
<b>32-2.5. Were patients conveyed in the first hour after the incident? *</b>	No
<b>32-2.6. Were patients conveyed between 1 and 2 hours after the incident? *</b>	Yes
<b>32-2.7. Were patients conveyed between 2 and 3 hours after the incident? *</b>	No
<b>32-2.8. Were patients conveyed between 3 and 4 hours after the incident? *</b>	No
<b>32-2.9. Were patients conveyed after 4 hours or more following the incident? *</b>	No
<b>32-2.10. Pre-existing patient distribution plan *</b>	Yes
<b>32-2.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *</b>	Unstable trauma patient is supposed to go to the nearest hospital, trauma patients with head injury who is stable shall go to hospital with trauma specialty directly.

## Patient characteristics

<b>33-1. Were more people than those who were directly affected at risk from incident (e.g number of passengers on a train/ship)? *</b>	No
<b>34-1. Gender: Were any males affected? *</b>	Yes
<b>34-1.2. Number of males affected *</b>	23
<b>34-1.3. Is the number given above exact or estimated? *</b>	Exact
<b>34-2. Gender: Were any females affected? *</b>	No
<b>34-3. Were there any unidentified/missing victims? *</b>	No
<b>35-1. Were there any neonates (0-30 days) requiring attention of EMS? *</b>	No
<b>35-2. Were there any infants (1 month-2</b>	No

years) requiring attention of EMS? \*

35-3. Were there any young children (2-6 years) requiring attention of EMS? \*

No

35-4. Were there any children (6-12 years) requiring attention of EMS? \*

No

35-5. Were there any adolescent (12-18 years) requiring attention of EMS? \*

No

36-1. Were there any dead on-scene/ dead before any medical care was provided? \*

Yes

37-1. Were there any dead before arrival at hospital (initial treatment started, but dead before transport to hospital)? \*

No

38-1. Were there any dead upon arrival at hospital? \*

No

39-1. Were there any deaths of those admitted to the hospital within 30 days of the event? \*

No

39-2. Is data collection of thirty day mortality of those admitted to hospital considered complete? \*

Yes

40. Was a pre-hospital triage system used? \*

Yes

40-1. Who performed the pre-hospital on-scene triage? \*

EMS personnel

40-2. Which triage system was used? \*

Triage system as shown [here](#) (click on link)

41-1. Were there any patients in category red = immediate? \*

Yes

41-2. Were there any patients in category yellow = urgent? \*

Yes

41-3. Were there any patients in category green = minor/delayed? \*

Yes

41-4. Were there any patients in category black = deceased? \*

Yes

41-4.1. Were there six or more patients in category black? \*

No

41-5. Were there any patients in other categories than those mentioned above? \*

No

42-1. Were there patients with minor injuries? Here defines as: patients attended by EMS or medical staff at a primary

No

health care facility, but not admitted to hospital \*

43. Was there any over-or undertriage? \* Unknown

44-1. Did more than six patients seek care at a hospital? \* Yes

44-1.1. What was the total number of patients seeking care at a hospital? \* 22

44-1.2. Is the number given above exact or estimated? \* Exact

44-1.3. Please provide the data source from which these numbers originate \* Hospital records

44-2.1. What was the total number of patients admitted to hospital? \* 22

44-2.2. Is the number given above exact or estimated? \* Exact

44-2.3. Please provide the data source from which these numbers originate \* Hospital records

44-3.1. How many of the admitted patients were discharged within 24 hours? \* 18

44-3.2. Is the number given above exact or estimated? \* Estimated

44-3.3. Please provide the data source from which these numbers originate \* The receiving local hospital in Hammerfest and the university hospital in Tromsø.

45-1. Did any patients sustain blunt trauma? \* Yes

45-2. Did any patients sustain penetrating trauma? \* No

45-3. Did any patients sustain burns? \* No

45-4. Did any patients sustain drowning? \* No

45-5. Did any patients sustain asphyxiation? \* No

45-6. Did any patients sustain hypothermia? \* Yes

45-7. Did any patients sustain intoxication/poisoning? \* No

45-8. Did any patients sustain infectious disease? \* No

45-9. Did any patients sustain acute psychiatric symptoms? \* Yes

**45-10. Did any patients sustain nuclear or radiological injury? \*** No

**45-11. Did any patients sustain biological injury? \*** No

**45-12. Did any patients sustain chemical injury? \*** No

**45-13. Did any patients sustain other type of injury? \*** No

**46-1. Were any patients admitted to critical care area? \*** Yes

## Key lessons

**47. During the pre-hospital emergency medical response to this major incident, were there any particular problems that may be improved in future major incidents? \*** Yes

**47-1. In what area/s did the problem/s occur? \*** Issues related to pre-incident situation in the country/region

**47-1.1. Pre-incident data: What was the problem encountered? \*** the EMS coordinating centre didn't use their doctor and didn't call in more personnel. This resulted in reduced capacity.

**47-1.2. Pre-incident data: How did responders attempt to address the problem? \*** The HEMS doctor called the receiving hospital directly to give information about the situation and patients.

**47-1.3. Pre-incident data: How would you recommend addressing / avoiding a similar problem at a future major incident? \*** Learning from incidents and be able to take criticism as an opportunity to perform better.

**48. During the pre-hospital emergency medical response to this major incident, were there any particular successes that may enhance the response to future major incidents? \*** Yes

**48-1. In what area/s did the success/es occur? \*** Other

**48-6. Other: Please specify other successes that were encountered and may enhance the response to future major incidents? \*** The first ambulance on-scene had the same triage system as the HEMS. This was pure luck and reduced time spent on-scene. The municipal doctor arrived at the scene before me (HEMS) and was the leading doctor in field. We agreed that I participated in triage,

evacuation and treatment of patients. After this incident occurred a national standard for triage has been implemented.

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