



NORSK LUFTAMBULANSE
NORWEGIAN AIR AMBULANCE



Incident title: Sheppey Crossing Bridge

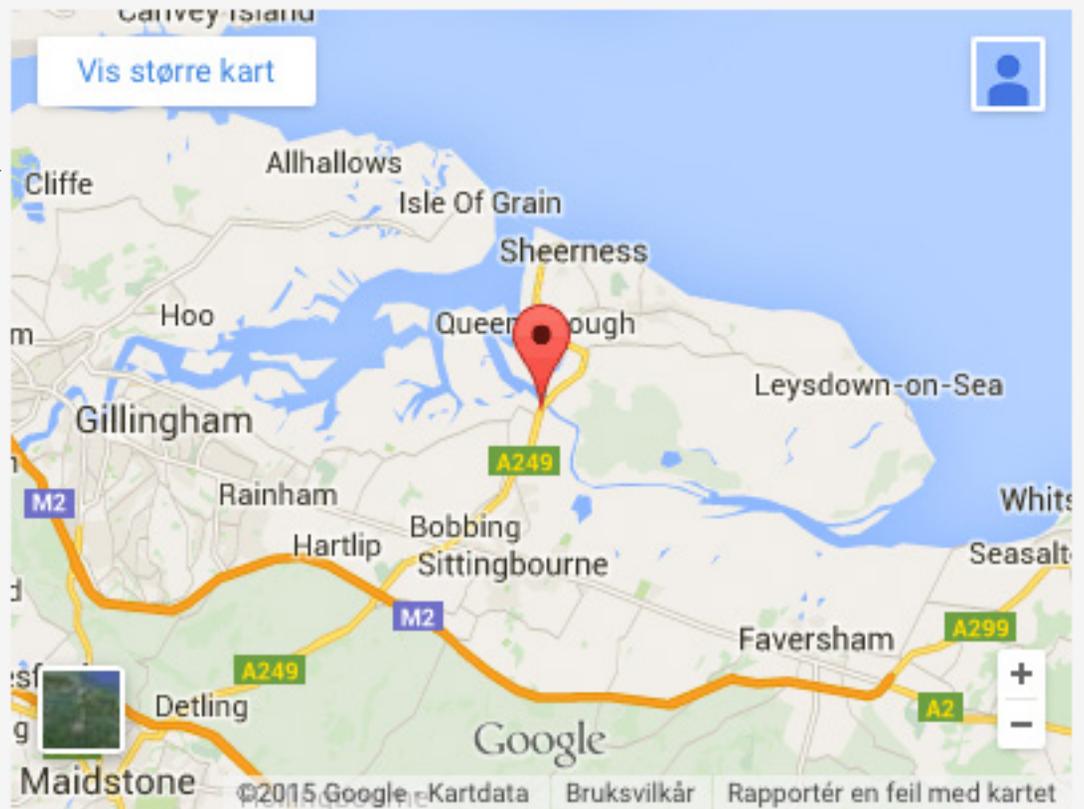
Reporter

Dr. Sophie Elizabeth Hardy

A&E core trainee
Medway Maritime Hospital, Medway
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Role in incident: Junior Doctor on
duty in A&E at time of Major
incident

Incident location



Summary

Country: United Kingdom

On 5th September 2013, a road traffic accident involving 150 cars and 200 people occurred on the Sheppey Crossing bridge in Kent. It occurred at 7:15 am under thick fog where visibility was reduced to 25 yards. Cars continued to impact each other for a further 10 minutes following the first collision and as the fog lifted, it was evident that the pile up involved cars extending across most of the 1270 metre long bridge. There were 69 casualties: 37 were taken to surrounding hospitals, 8 of them with serious injuries but no fatalities. 32 were directed to minor injuries by critical care paramedics on scene.

The crash was one of the worst seen on British roads and it has been hailed as a miracle that there were no deaths and very few serious injuries. Although declared a major incident, there was minimal disruption to the routine emergency and healthcare services. This was in a large part due to the effective triage by paramedic practitioners and critical care paramedics on scene and to appropriate use of ambulances and the patient distribution to various receiving hospitals.

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)? * One common dialling number

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

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

- Basic Life Support by EMS professionals, non-physician
- Advanced Life Support by EMS professional, non-physician

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

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

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

The following organisations are members of the Kent voluntary sector emergency group: Kent search & rescue, Radio Amateurs Emergency Network (RAYNET), Royal National Lifeboat Institution (RNLI), Royal Society for the Protection of Cruelty to Animals (RSPCA), Skywatch civil air patrol, Age UK, British red cross, Churches together in England, Citizen's advice bureau, Cruse bereavment centre, Southeast 4 by 4 response, St John's ambulance, The compassionate friends, Salvation army, Samaritans, Women's institute, Women's Royal Voluntary Services (WRVS), Victim's support

5-2. Do the voluntary organizations require authorization from police or other authorities to participate in the Voluntary organisations are authorised & coordinated by the local authorities. They can be requested by any of the category 1 responders (eg. Police, fire, ambulance services)

response phase? *

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

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

6-1. Please specify which voluntary organizations are available *

as above

6-2. Please specify if the voluntary organizations available require authorization from police or other authorities to participate in the response phase *

as above

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? *

Yes

7-2.1. Please state the number of regional hospitals without trauma specialty within the EMS catchment system that was affected by the major incident *

2

7-2.2. Is the number given above exact or estimated? *

Exact

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 *

3

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? *	Yes
7-4.1. Please state the number of other type of hospitals within the EMS catchment system that was affected by the major incident *	2
7-4.2. Is the number given above exact or estimated? *	Exact
7-4.3. Please specify what other type of hospital/s exist within the EMS catchment system that was affected by the major incident. *	minor injuries units
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? *	Yes
9-1.1. Please specify which pre-hospital on-scene triage system/s for major incidents are in use on a national level: *	sieve and sort triage using the smart incident command system
9-2. Is a pre-hospital on-scene triage system for major incidents in use on regional levels? *	Yes
10. Does the pre-hospital on-scene triage system for major incidents include direct tagging/labelling of patients? *	Yes
11. For those employees within the pre-hospital EMS system who are intended to work on-scene: is major incident training mandatory? *	Yes

Incident characteristics

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

- Transport accident
- Extreme weather

12-1. Please specify the extreme weather that caused the incident *

Other type of extreme weather. Please specify: (heavy fog)

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

No

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

- Rural/countryside area
- Road

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

14-4. Did the EMS make use of boat transport to access patients for treatment at incident scene? *

No

14-5. Did the EMS access patients for treatment at incident scene on foot? *

No

14-6. Did the EMS make use of other means to access patients for treatment at incident scene? *

No

15-1. Did the EMS make use of wheeled vehicles to evacuate patients from the incident scene? *

Yes

15-1.1. Were there any delays in evacuating patients by wheeled vehicles? *

Yes

15-1.2. Please describe reasons for delay, which could include reasons such as: security issues, congested roads due

Minimal delay in evacuating patients by road (ambulance/ SRV) due to entrapment. The first patient was evacuated at 0850 (estimated) and the last patient was evacuated at

to traffic, weather conditions: *

11:05 (exact). The scene was cleared of all casualties in just under 4 hours. There was also delay in evacuating uninjured members of the public involved in the incident from the scene due to the need to marry each person present to their cars and to preserve the scene for police investigation and to organise safe transport from the scene. The accident occurred at 07:15 and the last uninjured members of public left the scene at 5pm (estimated).

15-2. Did the EMS make use of railway system to evacuate patients from the incident scene? *

No

15-3. Did the EMS make use of air transport to evacuate patients from the incident scene? *

No

15-4. Did the EMS make use of boat transport to evacuate patients from the incident scene? *

No

15-5. Did the EMS evacuate patients from the incident scene on foot? *

No

15-6. Did the EMS make use of other means to evacuate patients from the incident scene? *

No

16-1. Was there damage to electrical power that affected EMS response? *

No

16-2. Was there damage to telecommunication that affected EMS response? *

No

16-3. Was there damage to other modes of communications that affected EMS response? *

No

16-4. Was there damage to road that affected EMS response? *

No

16-5. Was there damage to rail that affected EMS response? *

No

16-6. Was there damage to the EMS or health structure that affected EMS response? *

No

16-7. Was there other damage to infrastructure that affected EMS response? *

No

17. How many sites required separate EMS infrastructure (such as on-scene leadership and casualty clearing stations) in the response phase? *

1

17-1. Is the number given above exact or estimated? *	Exact
18-1. Was ongoing violence or risk of further violence a threat to rescuers on scene? *	No
18-2. Was fire a threat to rescuers on scene? *	Yes
18-2.2. Please specify the fire and how this affected the rescuers on scene *	there was the potential for cars to catch fire although none did
18-3. Was collapsing building/s a threat to rescuers on scene? *	No
18-4. Was climate a threat to rescuers on scene? *	Yes
18-4.2. Please specify the climate and how this affected the rescuers on scene *	High temperatures reaching 30°C put rescuers at risk of sunburn/ dehydration/ heatstroke
18-5. Was lack of electricity a threat to rescuers on scene? *	No
18-6. Was lack of water/food a threat to rescuers on scene? *	Yes
18-6.2. Please specify the lack of water/food and how this affected the rescuers on scene *	Working all day in harsh conditions put rescuers at risk of exhaustion. Water/food was provided through the local council and various charity organisations
18-7. Were other hazard/s a threat to rescuers on scene? *	No
19-1. Was on going violence or risk of further violence a threat to patients on scene? *	No
18-2. Was fire a threat to patients on scene? *	Yes
19-2.2. Please specify the fire and how this affected the patients on scene *	There was the potential for cars to catch fire. This was a particular danger to those trapped within their cars
19-3. Was collapsing building/s a threat to patients on scene? *	No
19-4. Was climate a threat to patients on scene? *	Yes
19-4.2. Please specify the climate and how this affected the patients on scene *	High temperatures reaching 30°C put the public left over on scene at risk of sunburn/ dehydration/ heatstroke
19-5. Was lack of electricity a threat to patients on scene? *	No

19-6. Was lack of lack of water/food a threat to patients on scene? * Yes

19-6.2. Please specify the lack of water/food and how this affected the patients on scene * Lingered all day in harsh conditions put the uninjured public who remained on scene at risk of exhaustion. Water/food was provided through the council and various charity organisations

19-7. Were other hazard/s a threat to patients on scene? * Yes

19-7.1. Please specify the hazards and how this affected the patients on scene * People who had left their vehicles were in danger of being hit as cars continued to collide for 10mins behind them

EMS response data

20-1. Did the first medical team to arrive on-scene assume the role of medical commander? * No

20-2. Did the first medical team to arrive on-scene begin to make an assessment of scene safety? * No

20-3. Did the first medical team to arrive on-scene communicate a situation report to EMS coordinating centre? * No

20-4. Did the first medical team to arrive on-scene request additional resources? * No

20-5. Did the first medical team to arrive on-scene initiate any safety related actions? * No

20-6. Did the first medical team to arrive on-scene delegate responsibility for other tasks on scene? * No

21. What time was summoning of additional medical staff to participate in the medical response initiated? 2013-09-05

Hour 08

Minutes 00

21-1. Additional medical staff who responded to the major incident was summoned by: * EMS coordinating centre

21-2. Medical pre-hospital resources used in the major incident response was coordinated by: *	On-scene medical commander
21-3. Who was responsible for briefing medical staff of the situation during the pre-hospital major incident medical response? *	On-scene medical commander
22-1. Was communication achieved between medical personnel at the incident? *	Yes
22-1.1. Please state at which time communication between medical personnel at the incident was initiated	2013-09-05
Hour	07
Minutes	45
22-1.2. This communication was managed by: *	On-scene medical commander
22-2. Was communication achieved between the different task forces involved (police, fire fighters, health, political leaders etc)? *	Yes, between all of the task forces
22-2.1 Please state at which time communication between all of the task forces was initiated	2013-09-05
Hour	07
Minutes	45
22-2.2. Please specify between whom it was achieved *	There were regular face to face meetings between agencies on scene and all agencies involved (police, fire, ambulance) were invited. There was poor inter-agency communication at the tactical and strategic levels
22-3. Was communication achieved between the scene and the EMS coordinating centre? *	No
22-3.4. Why was communication not achieved? *	It was achieved eventually, but initial communication was poor. The first manager to arrive in scene asked to switch to a dedicated talkgroup on 13/09/05 at 07:45 (estimated) but it stopped working 30 mins later. Most likely because it was switched to a different channel by the EMS coordinating centre without anyone being told. It took at least another 30 mins before communication was restored between medical personnel on scene
22-4. Was communication achieved between the scene and receiving hospital/s? *	No

22-4.4. Why was communication not achieved? *

It is standard procedure for the EMS coordinating centre to communicate with receiving hospitals

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

No

22-5.4. Why was communication not achieved? *

Communication with the general public via the media was managed by the police. The on-scene commander communicated directly with members of the public who were at the scene

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

The first manager arrived at 07:35 & took command. A more senior manager arrived at 07:54 & assisted in decision making. The Silver manager arrived at 10:30 & took over command. The first EMS personnel on scene were paramedics and technicians and did not declare a major incident or take command. The first manager arrived on scene at 07:35 and was the 4/5th ambulance member to arrive. She was a bronze officer who had been trained in major incidents and she took command and declared a major incident at 07:45 (estimated). She made an assessment of scene safety as soon as she arrive and gave a situation report using the CHALET mnemonic at 07:45 (estimated). She did not directly request additional resources as declaring a major incident automatically alerts the operations centre to mobilise extra resources. She initiated safety related actions by liaising with police and fire officers on scene to clear the bridge of all walking wounded and non wounded members of the public. Following this, she delegated roles to other ambulance crew: primary triage officer, ambulance parking officer, bronze forward.

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

No

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

Yes

24-2.1. Was there any failures with the Tetra radio communication during the incident response? *

Yes

24-2.2. Please specify tetra radio failure *

the first manager to arrive in scene asked to switch to a dedicated talkgroup at 07:45 (estimated) but it stopped working 30 mins later. most likely because it was switched to a different channel by the EMS coordinating centre without anyone being told.

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

No

24-4. Were mobile phones used for

Yes

communication during the incident response? *

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

Yes

24-4.2. Please specify mobile phone failure *

Managers and tactical advisors were unable to contact each other due to lines being busy

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

Yes

24-5.1. Were there any land line telephone failures during the incident response? *

No

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

No

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

No

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

- Tetra radio
- Land line telephone

26-1. Incident time *

2013-09-05

Hour *

07

Minutes *

15

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

Exact

26-2. Emergency Medical Service (EMS) notification *

2013-09-05

Hour *

07

Minutes *

22

26-2.1. Is the time given above exact or estimated? *

Exact

26-3. First EMS arrival *

2013-09-05

Hour *

07

Minutes *

26

26-3.1. Is the time given above exact or estimated? *

Exact

26-4. Major incident declared *

2013-09-05

Hour *	07
Minutes *	45
26-4.1. Is the time given above exact or estimated? *	Estimated
26-5. Medical command established *	2013-09-05
Hour *	07
Minutes *	35
26-5.1. Is the time given above exact or estimated? *	Estimated
26-6. Time of first meeting between police / fire / medical command *	2013-09-05
Hour *	07
Minutes *	40
26-6.1. Is the time given above exact or estimated? *	Estimated
26-7. First patient evacuated by EMS (time of leaving incident scene) *	2013-09-05
Hour *	09
Minutes *	00
26-7.1. Is the time given above exact or estimated? *	Estimated
26-8. Last patient evacuated by EMS (time of leaving incident scene) *	2013-09-05
Hour *	11
Minutes *	05
26-8.1. Is the time given above exact or estimated? *	Exact
26-9. First patient arriving in hospital *	2013-09-05
Hour *	09
Minutes *	00
26-9.1. Is the time given above exact or estimated? *	Estimated
26-10. Last patient arriving in hospital *	2013-09-05
Hour *	11

Minutes *	20
26-10.1. Is the time given above exact or estimated? *	Estimated
27. Please describe any delays in the timings mentioned in question 26	any delays were due to extrication of casualties from vehicles
28-1. Were lay persons with no field care education present? *	Yes
28-1.1. Please state number of persons/personnel *	99 or more
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? *	Yes
28-2.1. Please state number of persons/personnel *	60
28-2.2. Is the number given above exact or estimated? *	Estimated
28-3. Were EMS professionals who were not physicians, but with BLS competency present? *	Yes
28-3.1. Please state number of persons/personnel *	25
28-3.2. Is the number given above exact or estimated? *	Estimated
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
28-4.2. Is the number given above exact or estimated? *	Exact
28-5. Were on-scene physicians with ALS competency present? *	Yes
28-5.1. Please state number of persons/personnel *	1
28-5.2. Is the number given above exact or estimated? *	Exact
28-6. Were other type of	No

personnel/persons present at the incident scene? *

29-1. EMS transport: Where there any EMS vehicles present at scene during the early EMS response to the incident? * Yes

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. 15

Date 2013-09-05

Hour 07

Minutes 26

29-2. EMS transport: Where there any EMS helicopters present at scene during the early EMS response to the incident? * Yes

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. 2

29-3. EMS transport: Where there any EMS boats present at scene during the early EMS response to the incident? * No

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? * No

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? *	Yes
29-9.1. If possible, please specify the approximate numbers of other emergency vehicles available at the incident scene. Returning other emergency vehicles are to be counted only once. Please provide time of arrival for the first other emergency vehicle.	20
Date	2013-09-05
Hour	07
Minutes	25
29-10. Other emergency services: Where there any other emergency helicopters present at scene during the early EMS response to the incident? *	Yes
29-10.1. If possible, please specify the approximate numbers of other emergency helicopters available at the incident scene. Returning other emergency helicopters are to be counted only once. Please provide time of arrival for the first other emergency helicopter.	1
Date	2013-09-05
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? *	Yes
30-1.1. Please specify equipment *	HART team: Personal protective equipment and breathing apparatus as well as specific oxygen delivery systems

	which allow the treatment of up to 48 casualties at a time
30-1.2. If possible, please indicate the time point when equipment was ready for use at the scene	2013-09-05
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
30-5. Were support vehicles available on-scene? *	Yes
30-5.1. Please specify equipment *	HART, SRV (single response vehicle)
30-6. Was other type of equipment available on-scene enabling EMS to do their job? *	No
31. Number of hospitals receiving patients *	7 or more
32-1.1. Distance from incident scene where pre-hospital medical response was initiated to hospital I by air line in kilometers *	51-100
32-1.2. Type of hospital I *	Major hospital with trauma specialty
32-1.3. Were patients conveyed to this hospital by EMS? *	Yes
32-1.4. Were patients conveyed to this hospital by non-EMS? *	No
32-1.5. Were patients conveyed in the first hour after the incident? *	No
32-1.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-1.7. Were patients conveyed between 2 and 3 hours after the incident? *	Yes
32-1.8. Were patients conveyed between 3 and 4 hours after the incident? *	No
32-1.9. Were patients conveyed after 4 hours or more following the incident? *	No
32-1.10. Does a pre-existing patient distribution plan exist? *	No
32-1.11. Please explain any pre-existing	Patient distribution is a dynamic decision on the day & is

patient distribution plan/s and give any comments on decision making, delays etc. *	managed by the ambulance service's medical director based on injury, capacity, access & egress etc.
32-2.1. Distance from incident scene where pre-hospital medical response was initiated to hospital II by air line in kilometers *	11-30
32-2.2. Type of hospital II *	Major hospital without trauma specialty
32-2.3. Were patients conveyed to this hospital by EMS? *	Yes
32-2.3.2. Numbers of patients conveyed to this hospital by EMS *	14
32-2.4. Were patients conveyed to this hospital by non-EMS? *	No
32-2.5. Were patients conveyed in the first hour after the incident? *	No
32-2.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-2.7. Were patients conveyed between 2 and 3 hours after the incident? *	Yes
32-2.8. Were patients conveyed between 3 and 4 hours after the incident? *	Yes
32-2.9. Were patients conveyed after 4 hours or more following the incident? *	Yes
32-2.10. Pre-existing patient distribution plan *	No
32-2.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *	same as 32-1.11.
32-3.1. Distance from incident scene where pre-hospital medical response was initiated to hospital III by air line in kilometers *	11-30
32-3.2. Type of hospital III *	Major hospital without trauma specialty
32-3.3. Were patients conveyed to this hospital by EMS? *	Yes
32-3.3.2. Numbers of patients conveyed to this hospital by EMS *	11
32-3.4. Were patients conveyed to this hospital by non-EMS? *	No

32-3.5. Were patients conveyed in the first hour after the incident? *	No
32-3.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-3.7. Were patients conveyed between 2 and 3 hours after the incident? *	No
32-3.8. Were patients conveyed between 3 and 4 hours after the incident? *	Yes
32-3.9. Were patients conveyed after 4 hours or more following the incident? *	Yes
32-3.10. Pre-existing patient distribution plan *	No
32-3.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *	same as 32-1.11
32-4.1. Distance from incident scene where pre-hospital medical response was initiated to hospital IV by air line in kilometers *	31-50
32-4.2. Type of hospital IV *	Local hospital without trauma specialty
32-4.3. Were patients conveyed to this hospital by EMS? *	Yes
32-4.4. Were patients conveyed to this hospital by non-EMS? *	No
32-4.5. Were patients conveyed in the first hour after the incident? *	No
32-4.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-4.7. Were patients conveyed between 2 and 3 hours after the incident? *	No
32-4.8. Were patients conveyed between 3 and 4 hours after the incident? *	Yes
32-4.10. Pre-existing patient distribution plan *	No
32-4.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *	same as 32-1.11
32-5.1. Distance from incident scene where pre-hospital medical response was initiated to hospital V by air line in	11-30

kilometers *	
32-5.2. Type of hospital V *	Local hospital without trauma specialty
32-5.3. Were patients conveyed to this hospital by EMS? *	Yes
32-5.4. Were patients conveyed to this hospital by non-EMS? *	No
32-5.5. Were patients conveyed in the first hour after the incident? *	No
32-5.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-5.7. Were patients conveyed between 2 and 3 hours after the incident? *	No
32-5.8. Were patients conveyed between 3 and 4 hours after the incident? *	Yes
32-5.10. Pre-existing patient distribution plan *	No
32-5.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *	same as 32-1.11
32-6.1. Distance from incident scene where pre-hospital medical response was initiated to hospital VI by air line in kilometers *	11-30
32-6.2. Type of hospital VI *	Local hospital without trauma specialty
32-6.3. Were patients conveyed to this hospital by EMS? *	Yes
32-6.4. Were patients conveyed to this hospital by non-EMS? *	No
32-6.5. Were patients conveyed in the first hour after the incident? *	No
32-6.6. Were patients conveyed between 1 and 2 hours after the incident? *	No
32-6.7. Were patients conveyed between 2 and 3 hours after the incident? *	No
32-6.8. Were patients conveyed between 3 and 4 hours after the incident? *	Yes
32-6.9. Were patients conveyed after 4 hours or more following the incident? *	No
32-6.10. Pre-existing patient	No

distribution plan *

32-6.11. Please explain any pre-existing patient distribution plan/s and give any comments on decision making, delays etc. *

same as 32-1.11

32-7. Please use this space for the additional hospitals *

2 minor injuries units 6 km and 4km from incident scene received 6 and 26 casualties respectively

Patient characteristics

33-1. Were more people than those who were directly affected at risk from incident (e.g number of passengers on a train/ship)? *

Yes

33-1.2. What was the estimated number of people at risk from the incident? *

200-299

33-1.3. Please explain how the above number of population at risk was reached *

>200 people were involved in the accident and were triaged on scene

34-1. Gender: Were any males affected? *

Yes

34-1. Number of males affected *

50

34-1.3. Is the number given above exact or estimated? *

Estimated

34-2. Gender: Were any females affected? *

Yes

34-2.2. Number of females affected *

50

34-2.3. Is the number given above exact or estimated? *

Estimated

34-3. Were there any unidentified/missing victims? *

No

34-3.3. Is the number given above exact or estimated? *

Exact

35-1. Were there any neonates (0-30 days) requiring attention of EMS? *

Unknown

35-2. Were there any infants (1 month-2 years) requiring attention of EMS? *

Unknown

35-3. Were there any young children (2-

Unknown

6 years) requiring attention of EMS? *	
35-4. Were there any children (6-12 years) requiring attention of EMS? *	Unknown
35-5. Were there any adolescent (12-18 years) requiring attention of EMS? *	Unknown
36-1. Were there any dead on-scene/ dead before any medical care was provided? *	No
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? *	Sieve and sort triage using the Smart Incident Command System
41-1. Were there any patients in category red = immediate? *	No
41-2. Were there any patients in category yellow = urgent? *	Yes
41-2.2. Number of patients in category yellow *	6
41-2.3. Is the number given above exact or estimated? *	Estimated
41-2.4. Please provide the data source from which these numbers originate *	This was the first report to the EMS coordinating centre at 8.30 (Source: ambulance service medical director)
41-3. Were there any patients in category green = minor/delayed? *	Yes
41-3.2. Number of patients in category green *	75
41-3.3. Is the number given above exact	Estimated

or estimated? *

41-3.4. Please provide the data source from which these numbers originate *

This was the first estimate of possible numbers of walking wounded reported to the head of Emergency Preparedness, Resilience and response at 10:56, but the first assessment at 8.30 gave a report of "multiple & many" walking wounded.

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

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 health care facility, but not admitted to hospital *

Yes

42-1.2. Number of patients with minor injuries *

61

42-1.3. Is the number given above exact or estimated? *

Estimated

42-1.4. Please provide the data source from which these numbers originate *

69 casualties were seen over 6 acute hospitals and 2 minor injuries units. The medical director of the ambulance service reported that there were 8 P2 category (yellow)

43. Was there any over-or undertriage? *

Unknown

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

69

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 *

from the medical director of the ambulance service

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

7

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

Estimated

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

The fact that patients were taken to the major trauma centre implied that their injuries were the most severe and they were therefore likely to have been admitted. The only hospital data I have is from the 2 trauma units.

44-3.3. Please provide the data source from which these numbers originate *

The more seriously injured patients at the major trauma centre are most likely to have been admitted. The only hospital data I have is from the 2 trauma units.

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

Yes

45-1.2. Number of patients with blunt trauma * 69

45-1.3. Is the number given above exact or estimated? * Estimated

45-1.4. Please provide the data source from which these numbers originate * Of the 57 casualties for whom I have patient data for (source from the patient record from the 2 trauma units and written correspondence to the 2 minor injuries units) all sustained either fractures of bones or soft tissue injuries. I was not able to obtain patient details from the other 4 hospitals but there have been no reports from the media of any other types of injuries

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? * No

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? * No

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? * No

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? *

The EMS response

47-4.1. What was the problem encountered? *

1. communication failure both within the EMS response team in the initial stages and also interagency failures in communication at a tactical and strategic level. 2. The time of arrival of various managers to their designated posts was prolonged which delayed crucial decisions being made 3. failure to set up a strategic coordination group

47-4.2. How did responders attempt to address the problem? *

debriefs were held both within the EMS response services and between agencies. The major incident protocols are being altered to more clearly define people's roles and they are being made aware of this through further training on major incidents and their protocols

47-4.3. How would you recommend addressing / avoiding a similar problem at a future major incident? *

as above, but also to divide up the large area covered by the EMS response service so that on-call managers cover a smaller area and can arrive at their designated posts in good time

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? *

- The EMS response
- Characteristics of the patients

48-4.1. What element of the response went particularly well? *

The coordination of the EMS response on scene with excellent triage by highly skilled paramedics. This stopped many of the patients with minor injuries from going to hospitals and overwhelming the local A&E departments.

48-4.2. What recommendations would make for the response to future major incidents? *

automatic deployment of specialist paramedics to scenes of major incidents in preference to large numbers of less skilled ones

48-5.1. What element of the response went particularly well? *

There were very few seriously injured patients

48-5.2. What recommendations would you make for the response to future major incident responses? *

as above regarding effective triage to prevent overwhelming the local hospitals with minor injuries

