

MERSEY REGIONAL AMBULANCE SERVICE NHS TRUST

Mersey Regional Ambulance Service NHS Trust and Merseyside Fire and Rescue Service Co-responder scheme evaluation

Introduction

Mersey Regional Ambulance Service NHS Trust and Merseyside Fire and Rescue Service joined together in partnership in 2004 to develop and pilot the first fulltime urban co-responder scheme in the country.

Following a series of meetings to discuss the initiative and to agree training requirements a memorandum of understanding was developed and subsequently signed by the Chief Executive and the Chief Fire Officer. The memorandum of understanding outlined the detail of the pilot programme which would be evaluated after 6 months. However following discussions with the Ambulance Service Union The Trust agreed to evaluate the pilot after 3 months of operation and enlisted the support of Professor John Ashton to assist in the evaluation process.

Selection, Training and Operating Procedures

It was agreed by both organisations that the selected Firefighters would be trained to a nationally recognised pre-hospital care standard developed by the Royal College of Surgeons of Edinburgh and if successful would be awarded the First person on Scene Certificate which is valid for a 3 year period. This is the same qualification that we award to our Volunteer First Responders. Firefighters would be deployed to a variety of category A life-threatening calls excluding psychiatric and obstetric emergencies. A full list of Advanced Medical Priority Dispatch codes can be found in the memorandum of understanding.

Mersey Fire and Rescue Service had decided to introduce a Co-responder scheme as part of their integrated risk management plan for 2004/5 and agreed that the Special Rescue Team would be ideally placed to participate in the co-responder pilot.

Operational procedures and communications were agreed with the Mersey Fire Service and procedures were introduced into the EMDC and Mersey Fire Service Command and Control centre.

A pager profile was established to cover the whole of the Merseyside area during the hours of 0800 to 2300 and a profile of a 5 mile radius of Storrington Avenue Fire Station between the hours of 2300 and 0800.

Calls would be offered to the SRT via pager during the hours of 0800 and 2300. During the hours of 2300 to 0800 calls would also be offered via pager but would also

be supported by a request from the EMDC would make direct contact with MFS C&C if they required the attendance of the team.

Analysis of activity

This evaluation report covers a 3 month period 5th November 2004 to 9th February 2005. All following information has been used to produce this report.

- Number of calls
- Number of calls attended
- Number of calls MFS arrived first on scene
- Number of calls by condition & by weeks (figure 2) & (Figures 3-15)
- Number of calls by hour of day (figure 16)
- Clinical findings of MFS (appendix A)
- Clinical findings of MRAS (appendix A)
- Treatment provided by MFS (appendix A)
- Treatment provided by MRAS (appendix A)
- Patient outcome

During the period MFS SRT responded to 179 category A life-threatening emergency calls. (figure 1)

There was a period of significantly less activity between the 22nd November to 25th December.

Of the 179 calls responded to by the SRT they were recalled on 149 of these before their arrival at scene. (figure 18)

Of the 30 where the SRT arrived on scene they were first on scene at 18 incidents. (figure 19)

72% of the 18 calls were for either breathing problems or chest pain with the remainder being fitting (3) and fall unconscious (1) and abdominal pain (1)

The majority of the 179 calls were received between the hours of 0800 and 2300

All the calls where the SRT arrived first on scene were between the hours of 0800 and 2300.

Clinical Findings

Of the 18 calls where the SRT arrived on scene first they commenced treatment on all 18 occasions. (appendix A)

This treatment varied from arresting haemorrhage, airway management, dressing wounds and providing oxygen therapy.

On the 18 occasions when the SRT arrived on scene before the ambulance the time spent on scene prior to the ambulance ranged from 0 minutes to 18 minutes with an average time waiting of 4 minutes.

The SRT were able to assess and recognise the presenting signs and symptoms of the patient and treat these accordingly in all 18 calls attended. This is evidenced by the diagnosis of the ambulance crew recorded on the PRF and the continuation of treatment commenced by the SRT by the ambulance crew.

88% of patients (16) were transported to hospital by the ambulance crew. Two patients were given treatment and advice and left at home by the ambulance crew.

Conclusion

The training and ongoing support provided by MRAS to MFS SRT has enabled the SRT to safely attend a range of category A life-threatening calls.

The Training has met the requirements of the Co-responders to provide intermediate first aid to a range of category A life threatening calls.

It is likely that patients have benefited from the early intervention of the treatment provided by SRT prior to the arrival of MRAS.

With an average waiting time of 4 minutes prior to the arrival of the ambulance some patients may have been at risk if the SRT had not been deployed.

There have been no adverse clinical incidents reported during the evaluation period.

Mobilisation time was delayed due to the current system of offering the call via the vodaphone paging system. On occasions this resulted in delays of up to 5 minutes before the SRT received the call on the pager.

Recommendations

To continue with the programme and provide a mobile data terminal for the SRT to reduce the relay in the team receiving the emergency call.

To explore opportunities to expand the scheme to other areas which would benefit from earlier intervention.

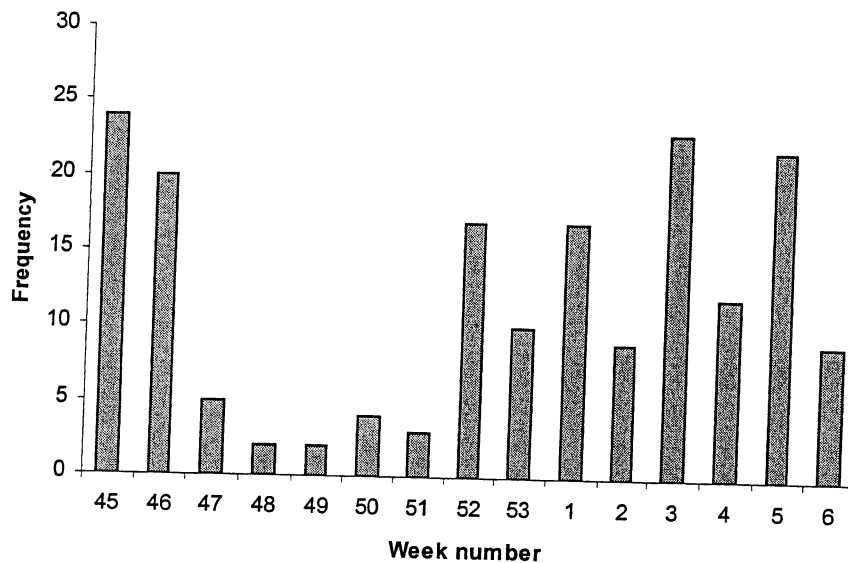
Develop a robust system of clinical audit and outcome data for the co-responders.

Evaluation of co-responder pilot: Analysis of calls mobilised

1. Characteristics of calls

A total of 179 calls were passed to the Merseyside Fire and Rescue Service Mobilising and Communication Centre over the period 5th November 2004 to 9th February 2005 (Week 45 to Week 6), an average (mean) of 12 calls per week. The number of calls was considerably lower between weeks 47 and 51.

Figure 1: Number of calls per week



The majority of calls (71%) were either for breathing problems or chest pains.

Figure 2 Number of calls by condition

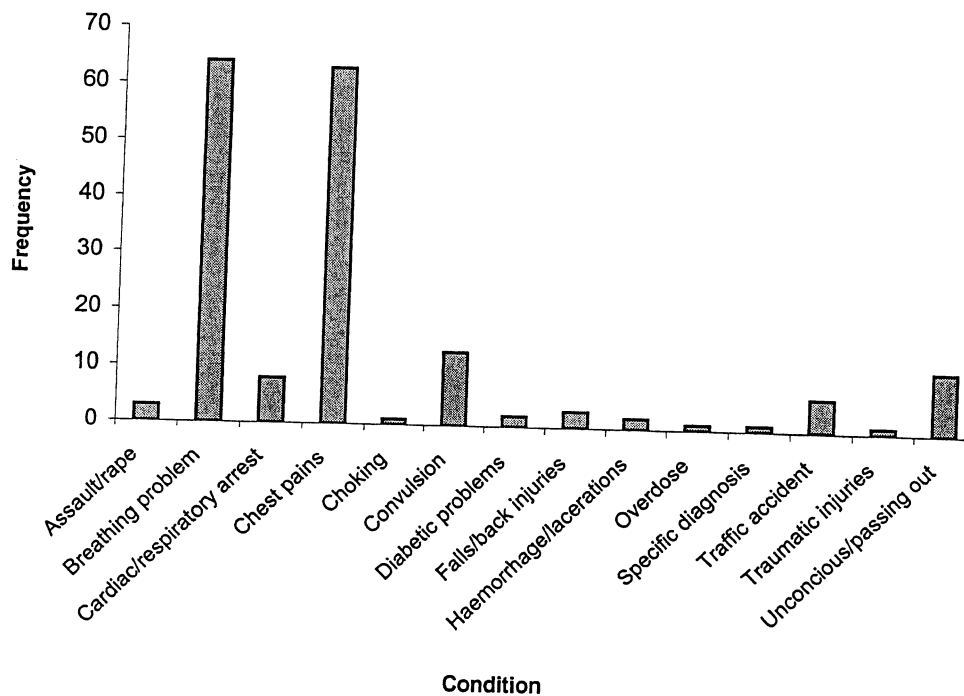


Figure 3. Breathing problems

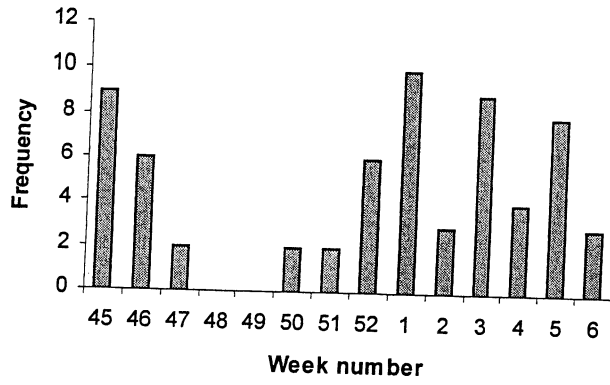


Figure 4: Assault / rape

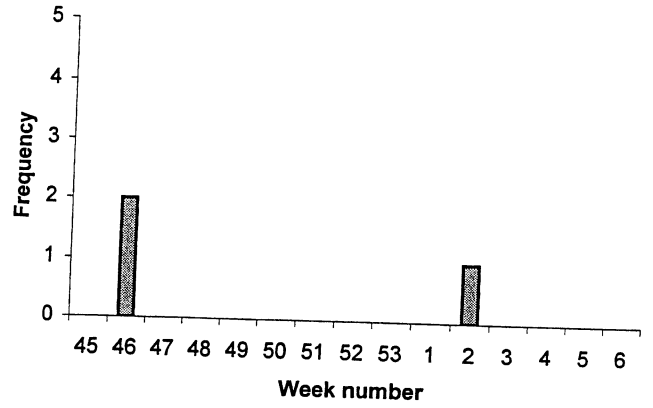


Figure 5: Cardiac / respiratory arrest

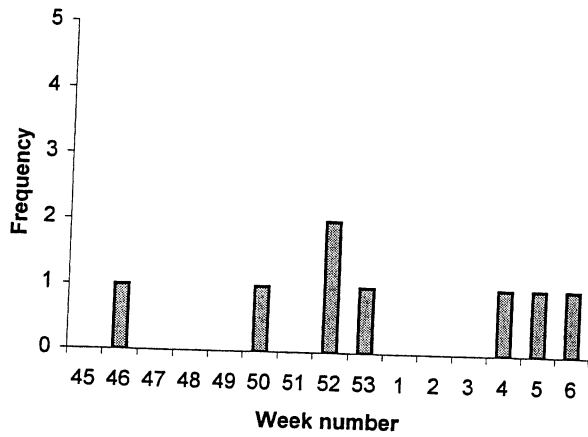


Figure 6: Chest pain

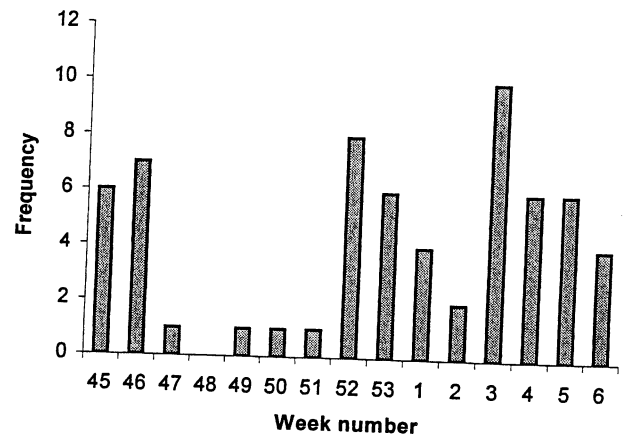


Figure 7. Choking

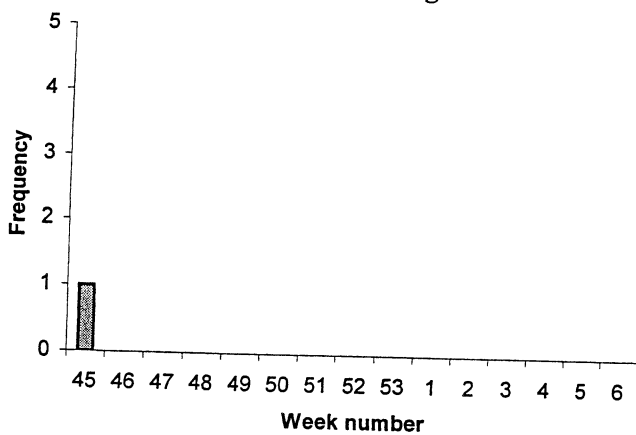


Figure 8. Convulsions / fitting

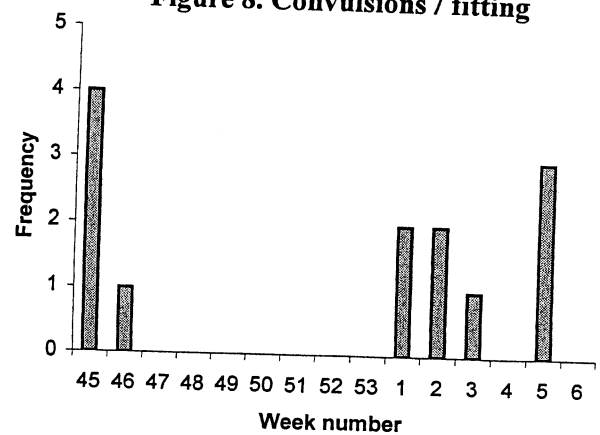


Figure 9: Diabetic problems

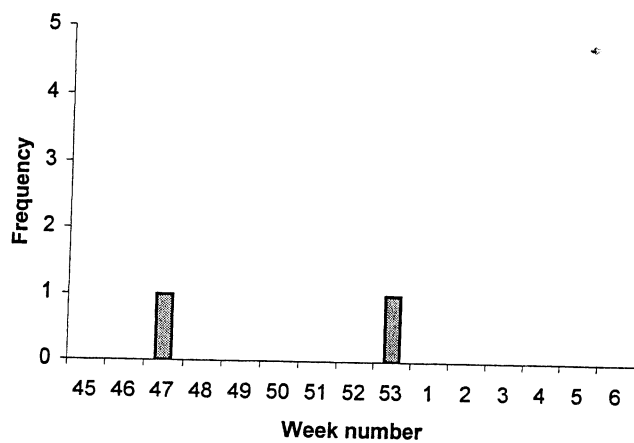


Figure 10: Falls / back injuries

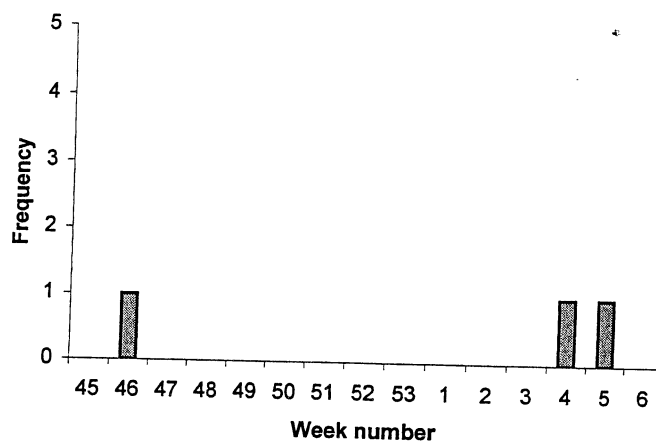


Figure 11: Haemorrhage/lacerations

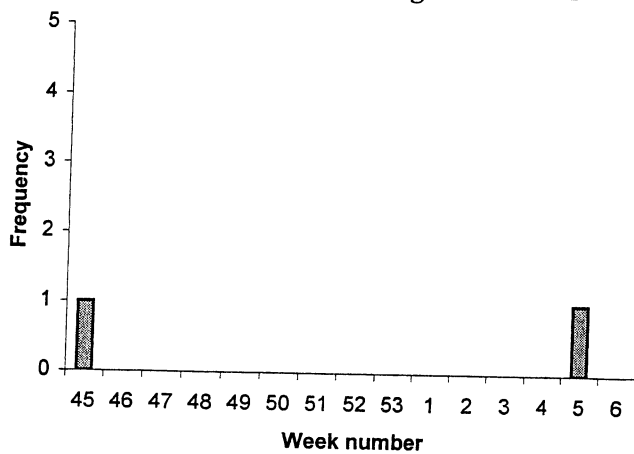


Figure 12: Overdose/ingestion/poisoning

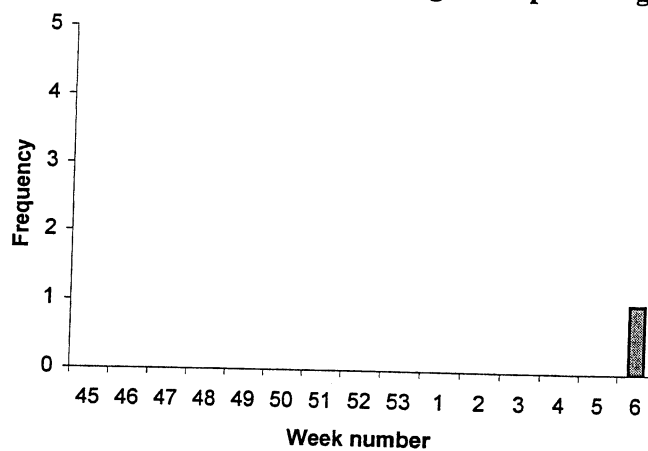


Figure 13: Traffic accidents

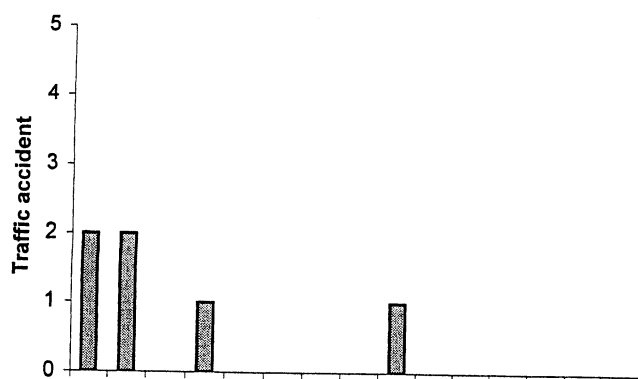


Figure 14: Traumatic injuries

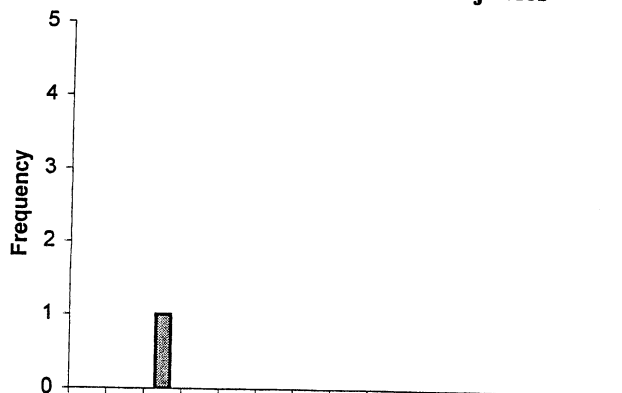
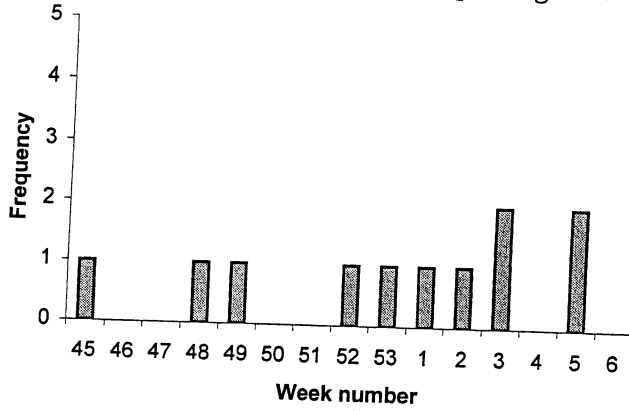


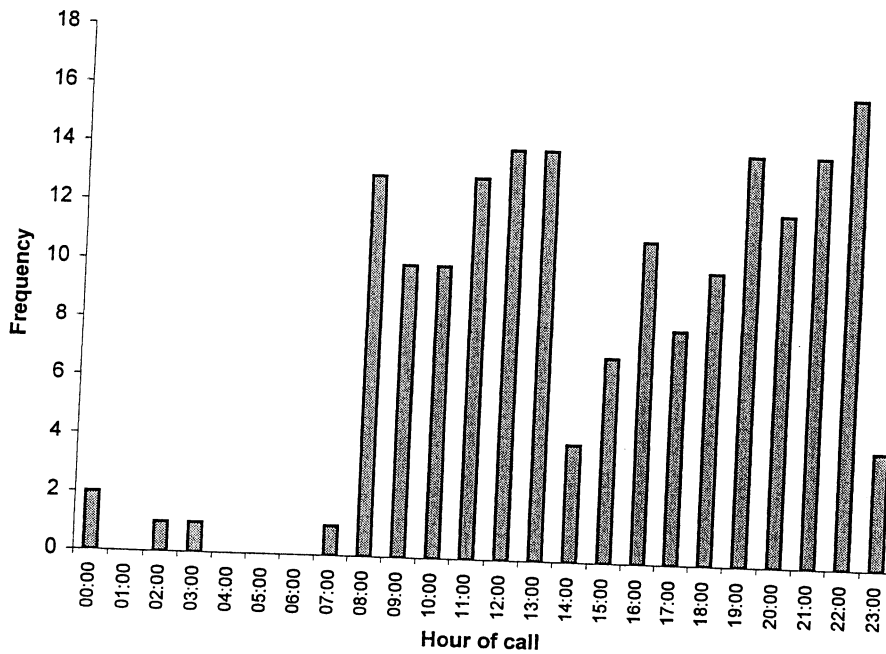
Figure 15: Unconscious / passing out.



Timing of calls

The majority of calls occurred between 08:00 and 22:00, with a drop in calls in the early afternoon between 14:00 and 15:00, and again in late evening/early morning between 23:00 and 07:00.

Figure 16: Number of calls by hour of call



2. Responses to calls

A vehicle was mobilised for each of the 179 calls received by the Centre. Thirty of these arrived on the scene; the remaining 149 were recalled before arriving. Of the 30 vehicles arriving on the scene, 18 (60%) were the first to arrive.

Figure 18: Proportion of vehicles allocated that arrived on scene.

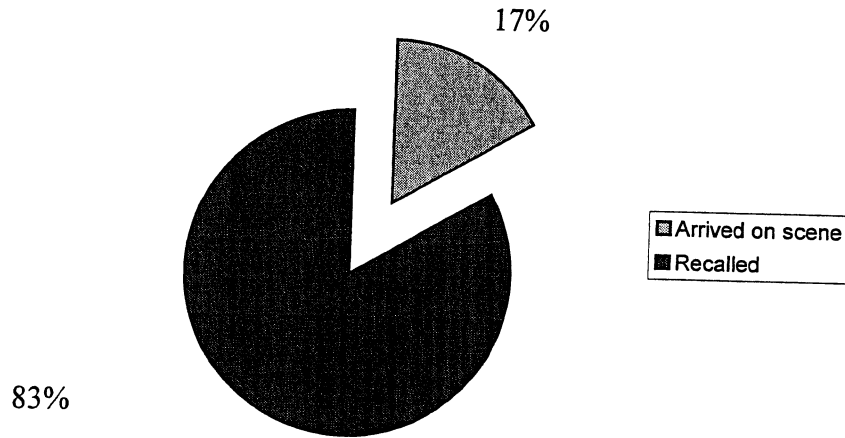
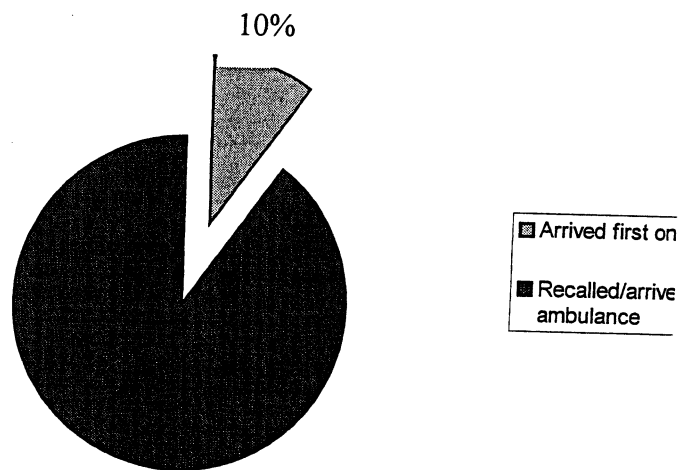


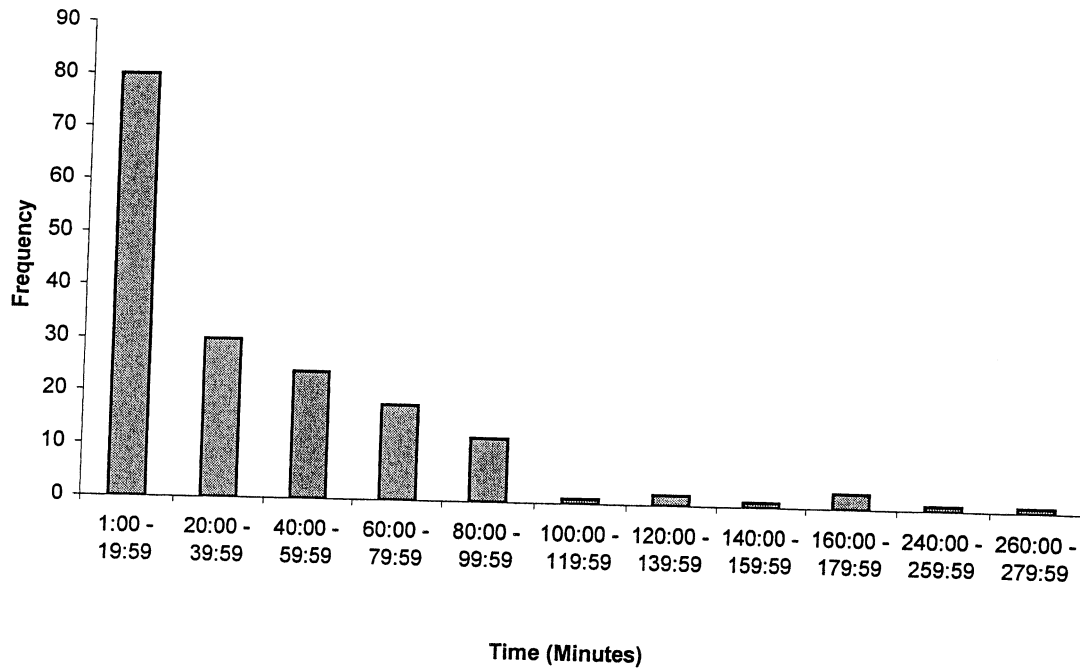
Figure 19: Proportion of vehicles allocated that were first to arrive on the scene.



The average time taken from initial registration of an incident to a vehicle arriving on the scene ranged from 3 minutes 27 seconds to 15 minutes 34 seconds, with an average (mean) duration of 8 minutes 9 seconds.

Across all calls, vehicles were allocated for a total of 106 hours and 22 minutes. The average allocation time for all vehicles was 36:53 minutes. The average time for those vehicles that arrived on the scene was 39:05 minutes.

Figure 20: Length of time between vehicle allocation and vehicle stand down, the number of vehicles in each time category



Date	E Number	Chief Complaint	Time on scene before amb	Condition recognised by CR	Treatment by CR	Treatment by Ambulance crew	Transported
06/11/2004	2965949	Fitting	5 minutes	Yes	Oxygen	Oxygen	Yes
09/11/2004	2968277	DIB	7 minutes	Yes	Oxygen	Oxygen & Salbutamol	Yes
10/11/2004	2969172	DIB	1 minute	Yes	Oxygen	Oxygen	Yes
11/11/2004	2970625	DIB/Chest pain	4 minutes	Yes	Oxygen	Oxygen and advanced care	Yes
15/11/2004	2973966	Abdominal pain	0 minutes	Yes	Oxygen	Cannulated and advanced care	Yes
18/12/2004	3006141	DIB	2 minutes	Yes	Oxygen	Oxygen	Yes
27/12/2004	3015538	DIB	3 minutes	Yes	Oxygen	Oxygen & Salbutamol	Yes
01/01/2005	3021649	DIB/Chest pain	4 minutes	Yes	Oxygen	Oxygen continued	Yes
02/01/2005	3022672	Fitting	2 minutes	Yes	Oxygen	Oxygen & advanced care	Yes
03/01/2005	3023611	DIB	NR	Yes	Oxygen	Oxygen & Salbutamol	Yes
03/01/2005	3023358	Chest pain	1 minute	Yes	Oxygen	Oxygen & advanced care	Yes
12/01/2005	3031989	Fitting	3 minutes	Yes	Oxygen	Oxygen & advanced care	Yes
16/01/2005	3036133	DIB	3 minutes	Yes	None specific	RNC by crew	No
22/01/2005	3021603	Chest pain	8 minutes	Yes	Oxygen	RNC by crew	No
27/01/2005	3046765	DIB/Chest pain	18 minutes	Yes	Oxygen	Oxygen	Yes
27/01/2005	3046845	Fall unconscious	2 minutes	Yes	Arrest haemorrhage	routine care	Yes
04/02/2005	3053987	DIB	5 minutes	Yes	Oxygen	Continued by crew	Yes
09/02/2005	3058775	Chest pain	1 minute	Yes	Oxygen	Oxygen & Salbutamol	Yes
						routine care	Yes