Ambulance Service Operational Profile and Response Times Survey

Final Report

Nick Breen¹, Julie Woods¹, Gerard Bury¹, Andrew Murphy²
on behalf of the Ambulance Response Time Steering Committee

¹Department of General Practice
University College Dublin

²Department of General Practice
National University of Ireland, Galway

December 1997
Table of Contents

Introduction ........................................................................................................ 1
Background .......................................................................................................... 1
Aims and Methods .............................................................................................. 1
Structure of timing bands .................................................................................... 2

Results ................................................................................................................ 3
1) Operational profiles ....................................................................................... 3
2) Activation and Response times ...................................................................... 4

Discussion .......................................................................................................... 6

Recommendations ............................................................................................... 8
General ................................................................................................................ 8
Activation times .................................................................................................. 9
Response times ................................................................................................... 9

Table 1
Definitions and Timing Bands ........................................................................... 10

Tables 2-5
Ambulance Service Profile .................................................................................. 11

Table 6
Activation and Response Times .......................................................................... 13

Table 7
Response Times related to Distance
Travelled from Ambulance Base ....................................................................... 14

Appendix 1
Aims and Methods ............................................................................................. 15

Appendix 2
Data Collection Instrument ............................................................................... 16

Appendix 3
ORCON Standards (UK) .................................................................................... 17

Appendix 4
Participants in Seminars .................................................................................... 18
Introduction

Background

This research exercise was commissioned and carried out in the first half of 1997 on behalf of the National Ambulance Advisory Council (NAAC) and Department of Health. Summary anonymised findings were presented to the NAAC in June 1997 and in July, the Department of Health commissioned individual reports and seminars for each of the Ambulance Services involved.

Each seminar was arranged with the management team of the respective Health Board (Appendix 4). A detailed report on response times and an operational profile was submitted beforehand. The format involved a presentation of key data to the team by the UCD researchers followed by discussion.

The purpose of the report and seminar was to provide each Ambulance Service with an objective assessment of its response times and operational profile, for purposes of monitoring and planning its own performance. The research specifically avoided adverse comment, judgmental interpretation or direct comparisons of Services.

In addition, the research group undertook an extensive evaluation of the literature in relation to pre-hospital emergency care. The review aimed to identify high quality studies carried out on pre-hospital care strategies which may be relevant to the Irish healthcare system. This review is the subject of an additional report.

Aims and Methods

The aims and methods of the research are detailed in Appendix 1. The broad aims included:

- creating a baseline response times profile
- creating an operational profile of each Service
- establishing the feasibility of response times monitoring

The enthusiastic support of all management, control room and ambulance personnel who participated is gratefully acknowledged; without this commitment to gather information for evaluation, the study could not have been conducted.

The initial questionnaire to each Chief Ambulance Officer covered the organisational and structural resources of the Service. It included details of ambulance stations, vehicles, personnel, rotas, command and control procedures and estimated activity levels.
The census of activity was carried out prospectively in each Service for a one week period. The data collection instrument (Appendix 2) was agreed between the research team and senior ambulance personnel. It was introduced to all controllers who would gather data at a training visit to the Service one to two weeks prior to the census. The data included the control centre and station responding, the controller’s description of the call as urban or rural, the timings of all calls, the distance involved and limited information on the type of emergency. Data was gathered on emergency and urgent calls only. No clinical information on individual cases was gathered.

Census data collection was therefore carried out in a planned and consistent fashion throughout all control centres. While some variation in data recording is inevitable given the large number of ambulance personnel, controllers, systems and locations involved, we believe that data collection was sufficiently rigorous to allow effective analysis.

All data was compiled and analysed using Microsoft Excel.

**Structure of timing bands**

Table 1 outlines and summarises the timings used in this study, as originally defined by the Ambulance Services Review, 1993. ‘Activation time’ covers the period from receipt of the call to mobilisation of a fully crewed emergency ambulance. ‘Response time’ covers the period from mobilisation of the vehicle to its arrival at the scene of the emergency. Other periods are defined covering intervals of care and transport to hospital.

Most control centres only possess systems to record elapsed times in whole minutes; therefore any record such as ‘2 minutes’ was taken to include elapsed times up to 2 minutes and 59 seconds.

Results are presented under the headings of activation and response times in anonymised table format comparing individual Services.

Performances in individual Services were also compared with UK ORCON standards which are summarised in Appendix 3. UK ORCON ‘response times’ differ from those defined by the NAAC in that they cover the period from receipt of call to arrival at the scene. The UK figures reflect different systems and resources and do not currently represent comparable targets for use in Ireland.
Results

1) Operational Profiles

Tables 2, 3, 4 and 5 summarise the operational profiles.

There are a total of eight Health Boards and nine Ambulance Services. Dublin Fire Brigade is contracted to provide an emergency ambulance service for most of Dublin city.

Outside the Eastern Health Board area, each Service is responsible for the provision of emergency care and routine patient transport for the entire Health Board region.

Informal arrangements exist between Services for the provision of emergency cover in areas which fall more appropriately within another Service’s geographical catchment area.

Four of the nine Services have regional Command & Control Centres. The remaining Services have between two and five county centres each.

Five Services have hospital-based control centres, of which there are a total of 13 in the country. Eight of these control centres operate as such only at night; the remaining five are 24-hour control centres.

The number of ambulance controllers in each Service ranges from four to 21. One Service does not have any ambulance controllers, all calls being routed through hospital switchboards. Four Services provide pre-arrival instructions if operational conditions allow.

Four of the Services use the telephone network as the primary means of ambulance activation. The remainder use radio communications as the primary means of activation.

There are a total of 86 ambulance stations in the country. Thirty-six of these (40%) provide 24-hour emergency cover. The remainder provide an on-duty service during the day and an on-call service at night. One station closes between midnight and 8am.

Approximately half of all stations are staffed by two ambulance-person crews. The remainder are staffed by crews of one ambulance person and one nurse. Five stations have a mixture of these types of crewing arrangements.

There are 192 front-line ambulances in the country with 67 reserve vehicles. With the exception of 11 DFB vehicles, all ambulances may be used for routine patient transport.
2) Response times

A total of 3,436 calls were carried out by all Services during the census; data on 3,357 was available for analysis. Of these 2,426 (72%) were emergency calls, usually from the 999 telephone service, and 925 (28%) were urgent calls, usually originating with a GP or request for inter-hospital transfer. The Services identified 2,581 (77%) as urban calls and 746 (22%) as rural; a higher proportion of urban calls were emergencies (80%) compared to rural calls (48%).

Table 6 presents the anonymised elapsed times for individual Services.

a) Activation times

Nationally, 41% of calls had been activated within three minutes of receipt (range 19%-78%); however, on average, 14% of calls took five minutes or longer to activate (5%-46%). Some Services had significantly poorer activation times than the norm; in most cases, structural and organisational factors accounted for the delays.

The main factors associated with slow activation times include:

- the use of ‘on-call’ staff where at least one crew member must be called from home before activation occurs

- the use of hospital nursing staff as ambulance crew-members: nurses are selected on the basis of availability, experience and/or training but delays are inevitable when ward duties are being undertaken by the nurses selected

- artificial factors such as crews not notifying their control centre of activation until some time after mobilisation; this was common in one Service but is compensated for by appropriately shorter response times

- control room systems which do not allow activation of a vehicle until all information is collected from a caller and the call is finished

b) Response times

Of all emergency calls, 60% had received a response within eight minutes of activation (range 30%-70%). In urban areas, 90% of calls had received a response at 14 minutes (range 73%-94%). In rural areas, 68% of calls had received a response at 26 minutes (range 45%-83%).

A different set of factors influence response times performance including:

- geographic distribution of ambulance stations

- availability of crewed vehicles to respond

- distance and travelling conditions
In rural areas, many calls have not received a response within 19 minutes of activation. Even in Services with many small rural ambulance stations, only half of all calls have received a response within 19 minutes of activation; the number and distribution of stations is not by itself associated with an improved response time.

Table 7 compares distance travelled to the scene with the total response time which includes the activation plus response times used in this study (i.e. the UK ORCON equivalent). A straight line relationship exists between the two. Within a five mile radius of an ambulance station, approximately 45% of emergency calls have had a response within eight minutes of receipt of the call. Within a six to ten mile radius of the station, around 5% of calls have had a response within eight minutes of the call. About a quarter of emergency calls more than 20 miles from the ambulance station have had a response within 26 minutes of receipt of the call.
Discussion

This study represents the first opportunity to nationally examine the influences on emergency ambulance responses in Ireland. While it is based on a snapshot of activity within the Services it nonetheless provides an integrated view of structural, organisational and operational information about the factors influencing response times. Within each Service, a more detailed and specific dataset has been assembled and discussed with the management team. Great variations exist between and within Services and this report confines itself to issues which affect all or most of them.

The National Ambulance Advisory Council has identified core principles underlying an effective, cost-efficient ambulance service as:

- the equal right of all citizens to prompt and appropriate care
- the availability of care within a time period in which it is likely to be effective
- the provision of high quality clinical care, through appropriate training and continuing education
- the need for flexible operational strategies to ensure that high quality care can be provided where and when it is most needed
- accountability for the quality and delivery of care

While these principles are laudable, the conclusions from this data are clear: in general, most emergency calls do not receive a response within a time frame which is likely to be of value to a patient with a life-threatening condition. Those calls originating more than five miles away from the nearest ambulance station have an extremely low probability of a response within an appropriate timeframe.

Time is crucial in dealing with medical emergencies such as cardiac arrest, airway obstruction, severe haemorrhage or severe chest or head injury. These conditions account for the majority of out-of-hospital sudden deaths or deaths from trauma. This study provides no insight into the process or outcome of pre-hospital emergency care provided to patients but significant time delays will, inevitably, adversely affect the value of such care.

How can these deficiencies be addressed? A simple solution might involve creating an ambulance base within five miles of every area of housing to continue the current type of response. This is not economically, medically or logistically viable and cannot be recommended.

The alternative is to develop the procedures and policies needed to make best use of the considerable resources already available. Further investments of funds, personnel and commitment by staff and management will be required but the outcome will be a service of considerably higher quality, efficacy and cost-efficiency. This report makes recommendations for how these changes can be put in train.
The 1996 UK Review of Ambulance Performance Standards carried out by the NHS Executive estimates that, within the UK:

- if 90% of life-threatening calls were answered within eight minutes, an additional 300,000 patients would receive care within this critical period

- ambulance responses to 90% of cardiac arrests within eight minutes would result in an additional 3,200 survivors, half of whom would be under the age of 70
Recommendations

General

1. Arbitrary response times targets are crude and probably ineffective as a sole means of ensuring the most appropriate use of limited resources. A combination of target bands and qualitative assessment of cases should be introduced to ensure that key emergencies receive an effective response. The suggested principles include:
   - all emergency and urgent calls will receive an ambulance response
   - life-threatening emergencies will receive care within eight minutes of the call being received
   - non-life threatening emergencies will receive a response within 15 minutes
   - urgent calls will receive a response within 20 minutes in urban areas and 30 minutes in rural areas

2. Work to define life-threatening, non-life threatening and urgent problems, together with sensitive and prospective identifying procedures should begin as soon as possible.

3. Response times monitoring should become a routine audit activity in each Service. Data on activation and response times should be tracked separately and increased accuracy of this data should be encouraged.

4. Response times data should be routinely compiled at national level to monitor trends. Publication of this data in annual reports from Ambulance Services should be considered.

5. Low emergency care workloads for some personnel and stations make adequate skills maintenance difficult. Consideration should be given to rotation of personnel or other procedures which would enable better retention of skills.

6. Clinical audit of the process and outcome of care by the Ambulance Services is essential. The appointment of Medical Advisors and In-Service Instructors will facilitate this but it is vital that a baseline review of clinical care be carried out, similar to that undertaken for response times.

7. All emergency and urgent calls should be handled by qualified controllers using standardised dispatch and data recording procedures.

8. All emergency vehicles should be crewed by EMT qualified ambulance personnel.

9. A dedicated emergency service should be created within each Ambulance Service
Activation times

10. 'On-call' crewing arrangements should be dispensed with for dedicated emergency ambulances.

11. Command and control procedures should introduce prioritised dispatching systems. Although all calls must receive a response, these systems should reliably identify life-threatening emergencies and ensure they receive an appropriate response within an effective time period. In most life-threatening emergencies this means a combined activation and response time of eight minutes.

Response times

12. Inter-Service procedural arrangements should be explored including:

- common communications, dispatch and data recording procedures
- use of vehicles from one Service which are passing through or awaiting patients in another Service's area
- introduction of Geographic Information Systems/Automatic Vehicle Location (GIS/AVL) systems common to all Services

13. Some evidence exists that 'predictive dispatching', using epidemiological or small-area analysis, will identify the areas or times at which emergency ambulances are required. Response times can then be considerably reduced. The potential for this methodology to be used in Ireland should be explored.

14. Both the Ambulance Review of 1993 and the NAAC have identified equity of access to emergency care as core principles. Given that ambulance response times in some areas may exceed the maximum eight minute period, the use of first responders should be introduced for key life-threatening emergencies. A pilot programme should be established exploring the use of trained lay first responders (such as those with appropriate CPR or first aid training) and professionals such as general practitioners, Public Health Nurses or police.
Table 1: Definitions and Timing Bands

Activation Time
Ambulance activation time is the time elapsed from the receipt of an emergency call at the ambulance Command and Control Centre to the departure of the emergency ambulance from the ambulance base.

Response Time
Ambulance response time is the time elapsed from the departure of the emergency ambulance from the ambulance base to its arrival at the scene.


Statistical analysis has been provided for each ambulance service and control centre for the following:
- Activation rates at two and three minutes
- Activation rates at five minutes or greater
- Response rates for all calls and for emergency calls at eight minutes
- Response rates for urban emergencies at eight and fourteen minutes
- Response rates for rural emergencies at nineteen and twenty six minutes
- Response rates at eight minutes for certain potential critical incidents
- Activation rates for 'on duty' and 'on call' crews
- Response rates for 'on duty' and 'on call' crews

The above response time calculations have also been made for a breakdown of calls related to distance travelled by the ambulance from the dispatch centre to the incident. Each of these area classifications, A1 to A5, represents an increase in distance of five miles from the ambulance base.

<table>
<thead>
<tr>
<th>Call received at base</th>
<th>Amb departs from base</th>
<th>Amb arrives at scene</th>
<th>Amb departs scene</th>
<th>Amb arrives at hospital</th>
</tr>
</thead>
</table>

**Key to abbreviations:**
- **CR/CRA** time from call receipt to activation of call = activation time
- **RTR** time from call receipt to arrival of ambulance
- **RTA** time from call activation to arrival of ambulance = response time
- **OS** on-scene time
- **OSH** time from arrival at scene to arrival at hospital
- **DSH** time from departure from scene to arrival at hospital
- **TCDR** total call duration from receipt of call
- **TCDA** total call duration from activation of call
**Tables 2-5 : Ambulance Service Profile**

**Table 2 : Control Centres**

<table>
<thead>
<tr>
<th>Control Centres</th>
<th>24hr</th>
<th>Day Time</th>
<th>Night Time</th>
<th>Ambulance Supervisors</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEHB</td>
<td>1</td>
<td>R</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>NWB</td>
<td>4</td>
<td>R</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>WHB</td>
<td>3</td>
<td>C</td>
<td>1 (NT)</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>MNWB</td>
<td>2</td>
<td>A</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>SHB</td>
<td>2</td>
<td>C</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>SFBB</td>
<td>2</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>MHB</td>
<td>5</td>
<td>C</td>
<td>5 (24hr)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BRB</td>
<td>1</td>
<td>R</td>
<td>0</td>
<td>0</td>
<td>4 per shift</td>
</tr>
</tbody>
</table>

* Ambulance supervisors, not designated ambulance controllers.

**Table 3 : Ambulance Stations**

<table>
<thead>
<tr>
<th>Ambulance Stations</th>
<th>24hr</th>
<th>Day Time</th>
<th>Night Time</th>
<th>BRB</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEHB</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NWB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHB</td>
<td>9</td>
<td>3</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>SHB</td>
<td>18</td>
<td>2</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>MHB</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DFB</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

** Lifford and Stranolar operate as one station.

**Key to abbreviations :**

R / C = Regional / County. 24hr = Full 'on duty' cover 24hrs. DT = Day Time. NT = Night Time.

Mx = 'on duty' day time, 'on call' night time.
### Table 4: Ambulance Crews

<table>
<thead>
<tr>
<th>Ambulance Crew</th>
<th>2P</th>
<th>N</th>
<th>F/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEHB</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WHB</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>WWB</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SHB</td>
<td>2</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>EFB</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>MHB</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>DFB</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 5: A & E Ambulances

<table>
<thead>
<tr>
<th>Ambulance Crew</th>
<th>2P</th>
<th>N</th>
<th>F/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEHB</td>
<td>11</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>WHB</td>
<td>23</td>
<td>13</td>
<td>36</td>
</tr>
<tr>
<td>SHB</td>
<td>25</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>MHB</td>
<td>13</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>DFB</td>
<td>11</td>
<td>?</td>
<td>11+</td>
</tr>
</tbody>
</table>

**Key to abbreviations:**

- 2P = 2 ambulance person crew.  
- N = Nurse and ambulance person crew.  
- F/L = Front line ambulance. 
- (A & E only) = Emergency and Urgent calls only.
Table 6: Activation and Response Times* for each Ambulance Service (anonymised)

<table>
<thead>
<tr>
<th>ACTIVATION TIMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Times calculated from Activation of Call</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONSE TIMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Times calculated from Activation of Call</td>
</tr>
</tbody>
</table>
Table 7: Total Response Times related to Distance Travelled from Ambulance Station

<table>
<thead>
<tr>
<th>Distance Categories</th>
<th>A5</th>
<th>A4</th>
<th>A3</th>
<th>A2</th>
<th>A1</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>E ≤ 26m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E ≤ 19m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E ≤ 14m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E ≤ 8m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E &amp; U ≤ 8m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Response Times for A1 - A5 Areas - National Figures

- Percentage of Calls Responded to within Time Categories

* Response Times calculated from receipt of call

Key to Abbreviations:
- AC: All Calls (Emergency & Urgent)
- A1: 0 - 5 miles from ambulance base
- A2: 6 - 10 miles from ambulance base
- A3: 11 - 15 miles from ambulance base
- A4: 16 - 20 miles from ambulance base
- A5: > 20 miles from ambulance base
- E & U: Emergency and Urgent calls
- E: Emergency Calls Only
- m: Minutes
Appendix 1: Aims and Methods

Study Aims

- Construction of an accurate baseline of response times to emergency calls.
- Identification of factors contributing to response times.
- Identification of factors contributing to delays.
- Identification of regional variations between services.
- Description of call volume and dispersal within regions.
- Descriptions of variations in day versus night cover.
- Describing the contribution of local knowledge to operational issues.
- Description of all local control and crewing arrangements.
- Examine data in the NAAC Fleet Management and Command & Control surveys.
- Identification of areas outside a 30 minute mean response time.
- A review of all relevant literature on response times.
- Identification and prioritisation of options for optimising response times.

Steering Group

- NAAC
- Department of Health
- UCD

Methods

Questionnaire to each Service:

- structures
- control arrangements
- vehicles, stations,
- staffing
- preparatory visits

Census survey for one week:

- standardised instrument
- all emergency and urgent calls
- clinical information on certain calls

Strengths:

- direct data collection
- systematic approach
- co-operation++

Weakness:

- variability in data recording
- limited data
- no clinical data
Appendix 2: Data Collection Instrument
Ambulance Response Times

Please fill in all times as accurately as possible.

Day: ____________________  Date: ____________________  Start Time: ____________________  Controller: ____________________

<table>
<thead>
<tr>
<th>Call No.</th>
<th>Time Call Received</th>
<th>Time Call Activated</th>
<th>Vehicle ID</th>
<th>Time Arrive Scene</th>
<th>Time Depart Scene</th>
<th>Time Arrive Hospital</th>
<th>Time Depart Hospital</th>
<th>Time Arrive Base</th>
<th>Time Clear</th>
<th>Crew Duty Call</th>
<th>Location U R Area I.D.</th>
<th>Call Type</th>
<th>Incident Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you have any questions, please contact Julie Woods or Nick Breen at 4730893/4/5.
Appendix 3: ORCON Standards (UK)

Current ORCON Standards
50% of ALL CALLS to be answered within 8 minutes ie up to 8 minutes and zero seconds
95% of all urban emergency calls to be answered within 14 minutes
95% of all rural emergency calls to be answered within 19 minutes

Suggested new standards (priority-based dispatch of calls)
90% of all Category A calls to be answered within 8 minutes
Category B calls to attain current ORCON Standards

Definitions
Response time is defined as the elapsed time from receipt of an emergency call to the time of patient rendezvous of a vehicle and two man fully trained crew
Category A defined as immediately life threatening cases
Category B defined as Serious cases
Urban defined as an area where the population density covered is greater than 2.5 persons per acre.
Rural defined as an area where the population density covered is less than 2.5 persons per acre.

Urban and Rural definitions from Dept. of Health Statistical Bulletin (UK) 1996/1997
Appendix 4: Participants in Seminars

MHB 18/9/97
Mr. Denis Doherty, CEO
Mr. Ger Sweeney, CAO
AS Supervisors
Chief Nursing Officers, MHB

SEHB 19/9/97
Mr. Martin Hynes, Programme Manager and A/CEO
Mr. Richard Dooley, Hospital Care Manager
Mr. Mark Doyle, Medical Advisor
Mr. Loughlin Nolan, CAO

SHB 19/9/97
Mr. Pat Madden, Programme Manager
Mr. Peter Curley, CAO
Mr. Brian Abbott, In-Service Instructor,
AS Supervisors

EHB 1 25/9/97
Mr. Martin Gallagher, Acting Programme Manager
Mr. Joe Byrne, CAO

EHB 2 28/10/97
Mr. PJ Fitzpatrick CEO
Mr. Seamus O’Brien, Programme Manager
Mr. Joe Byrne, CAO

DFB 24/10/97
Mr. Tony Gillick, CFO
Mr. Eamon O’Boyle, Deputy CFO
Assistant CFO x 4

NWHB 29/10/97
Mr. Manus Ward, A/CEO
Mr. Pat Harvey, Programme Manager, Acute Hospital Services
Mr. Francis Rodgers, SEO Hospital Care Office
Mr. Fergal Hickey, Medical Advisor
AS Supervisors
WHB 31/10/97
Dr. Sean Conroy, Programme Manager, Hospital Services
Mr. Joe Foy, CAO
AS Supervisors/In-service Instructor

NEHB 18/11/97
Dr. Ambrose McLoughlin, Programme Manager
Mr. Paddy Conaty, CAO

MWHB 21/11/97
Mr. Paul Robinson A/CEO
Mr. Barney Callaghan, CAO
Mr. Mark Dixon, In-Service Instructor
AS Supervisors