**Review of Determinants for LFB Co-responding – Dec 2016**

Before the start of the LFB Co-responding trial, a bespoke set of patient determinants was agreed by both services. The list was based on RED1 determinants with a number excluded because: the skills required would be outside the IEC skill set, there would be a risk to co-responders or there would be limited patient benefit in their attendance. It was agreed that following the trial the determinants would be reviewed to reassess their appropriateness based on experience.

The understanding of the LFB was that patients in the RED category were immediately life-threatened and therefore had conditions that are most likely to result in cardiac arrest. LFB co-responders have been generally enthusiastic about the scheme, but when asked for feedback have raised concerns about the relatively high proportion of patients that they attend who are not life-threatened. There is a view that this issue is undermining the principles of the scheme. In addition there have been concerns about LFB staff attending distressing incidents where there is little potential for patients to benefit (such as hangings). There has also been some confusion when the LAS has requested a response from the LFB for an incident which they are already attending as part of their core business (e.g. fires).

On 18 Nov 2016 LAS and LFB managers met to review the determinants. Their decision making was further informed by having a year’s worth of pan-London patient outcome data giving the number of cardiac arrests that actually occur. This gave the probability of the being an actual cardiac arrest in any patient group. In addition, determinants that were not included in the original selection were assessed to determine whether any more determinants should be added.

Using this data and taking the feedback from the ongoing trial into account, the group recommended the changes attached.N.b. the data is based on the whole of London and not just the four trial boroughs.

The impact of these changes would be:

* The new group is a little more sensitive in that it would identify a few more cardiac arrests; 3,265 compared with 3,234 previously.
* The new group is more specific in that it would reduce the number of non-cardiac arrest calls from 6,878 to 5,027.
* The likelihood of a response being to a medical cardiac arrest would rise from 32.0% to 39.4%.
* It would reduce the number of distressing calls where is very little or no benefit from an LFB attendance, including suicide and traumatic cardiac arrest.

Approval for these changes is sought from both the LFB and LAS.

Chris Hartley-Sharpe Richard Tapp

London Ambulance Service London Fire Brigade

**London Fire Brigade Co-responder Determinant Review – November 2016**

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| --- | --- | --- | --- | --- | --- | --- |
| **DETERMINANT** | **DESCRIPTION** | **LAS Priority (NOT DH REPORTING)** | **NUMBER OF CALLS PER YEAR** | **NUMBER OF CARDIAC ARRESTS PER YEAR** | **PROBABILITY OF CARDIAC ARREST%** | **CONTINUE TO RESPOND?** |
| **6E0A** | Breathing Problems Echo override - known Asthmatic | **R1** | **11** | **0** | **0** | **NO** |
| **6E0** | Breathing Problems Echo override | **R1** | **10** | **0** | **0** | **NO** |
| **6E1** | Ineffective Breathing | **R1** | **328** | **14** | **4.3** | **NO** |
| **6E1A** | Known Asthmatic with Ineffective Breathing | **R1** | **157** | **8** | **5.1** | **NO** |
| **7D2** | Unconscious or Arrested Burns (scalds) | **R1** | **3** | **1** | **33.3** | **NO** |
| **7D2E** | Unconscious or Arrested Burns (scalds) - Explosion | **R1** | **1** | **0** | **0** | **NO** |
| **7D2F** | Unconscious or Arrested Burns Fire Involved | **R1** | **10** | **2** | **20** | **NO** |
| **7D2W** | Unconscious or Arrested Burns Fireworks Involved | **R1** | **0** | **0** | **0** | **NO** |
| **7E0** | Burns (scalds) Echo Override | **R1** | **0** | **0** | **0** | **NO** |
| **7E1** | Person on Fire | **R1** | **5** | **0** | **0** | **NO** |
| **7E0E** | Explosion Echo Override | **R1** | **0** | **0** | **0** | **NO** |
| **7E0F** | Burns Echo Override Fire Involved | **R1** | **0** | **0** | **0** | **NO** |
| **7E0W** | Burns Echo Override Fireworks Involved | **R1** | **0** | **0** | **0** | **NO** |
| **7E1E** | Person on Fire - Explosion | **R1** | **1** | **0** | **0** | **NO** |
| **7E1F** | Person on Fire - Fire involved | **R1** | **2** | **0** | **0** | **NO** |
| **7E1W** | Person on Fire - Firework involved | **R1** | **0** | **0** | **0** | **NO** |
| **8D1** | Co/Inhalation/Hazchem - Unconscious or Arrest | **R1** | **3** | **0** | **0** | **NO** |
| **8D1B** | Co/Inhalation/Hazchem - Unconscious or Arrest Biological | **R1** | **0** | **0** | **0** | **NO** |
| **8D1C** | Co/Inhalation/Hazchem - Unconscious or Arrest Chemical | **R1** | **1** | **0** | **0** | **NO** |
| **8D1G** | Co/Inhalation/Hazchem - Unconscious or Arrest Smell of Gas / Fumes | **R1** | **3** | **0** | **0** | **NO** |
| **8D1M** | Co/Inhalation/Hazchem - Unconscious or Arrest Carbon Monoxide | **R1** | **2** | **0** | **0** | **NO** |
| **8D1N** | Co/Inhalation/Hazchem - Unconscious or Arrest Nuclear | **R1** | **0** | **0** | **0** | **NO** |
| **8D1R** | Co/Inhalation/Hazchem - Unconscious or Arrest Radiological | **R1** | **0** | **0** | **0** | **NO** |
| **8D1S** | Co/Inhalation/Hazchem - Unconscious or Arrest Suicide attempt (carbon Monoxide) | **R1** | **1** | **0** | **0** | **NO** |
| **8D1U** | Co/Inhalation/Hazchem - Unconscious or Arrest Unknown | **R1** | **7** | **1** | **14.3** | **NO** |
| **9D0** | Cardiac/Respiratory Arrest/Death Delta Override | **R1** | **0** | **0** | **0** | **YES** |
| **9D1** | Respiratory Arrest - Ineffective Breathing | **R1** | **1315** | **473** | **36.0** | **YES** |
| **9D2** | Obvious or expected Death questionable | **R1** | **265** | **78** | **29.4** | **YES** |
| **9E0** | Cardiac/Respiratory Arrest/Death Echo Override | **R1** | **2** | **0** | **0** | **YES** |
| **9E1** | Cardiac Arrest - Not Breathing at all | **R1** | **4982** | **2286** | **45.9** | **YES** |
| 9E2 | Respiratory Arrest – Breathing Uncertain (Agonal) | R1 | **678** | **181** | **26.7** | **YES** |
| **9E3** | Respiratory Arrest - Hanging | **R1** | **101** | **42** | **41.6** | **NO** |
| **9E4** | Respiratory Arrest - Strangulation | **R1** | **6** | **2** | **33.3** | **YES** |
| **9E5** | Respiratory Arrest - Suffocation | **R1** | **2** | **0** | **0** | **YES** |
| **9E6** | Respiratory Arrest - Underwater | **R1** | **6** | **1** | **16.7** | **YES** |
| **11E0** | Choking Echo Override | **R1** | **4** | **0** | **0** | **NO** |
| **11E1** | Complete obstruction/Ineffective Breathing | **R1** | **88** | **20** | **22.7** | **YES** |
| **12D1** | Fitting and Not Breathing | **R1** | **27** | **8** | **29.6** | **YES** |
| **12D1E** | Fitting and Not Breathing - Fitting History | **R1** | **11** | **3** | **27.3** | **YES** |
| **14D1** | Drowning/Diving/SCUBA Accident - Unconscious or Arrest | **R1** | **22** | **6** | **27.3** | **YES** |
| **15E0E** | Electrocution - Echo Override | **R1** | **0** | **0** | **0** | **NO** |
| **15E0L** | Lightning Strike - Echo Override | **R1** | **0** | **0** | **0** | **NO** |
| **15D2E** | Electrocution - Not Disconnected from the Power | **R1** | **21** | **0** | **0** | **NO** |
| **15D2L** | Lightning Strike - Not Disconnected from the Power | **R1** | **0** | **0** | **0** | **NO** |
| **15E1E** | Ineffective or Not Breathing post Electrocution | **R1** | **1** | **1** | **100** | **NO** |
| **15E1L** | Ineffective or Not Breathing post Lightning Strike | **R1** | **0** | **0** | **0** | **NO** |
| **17D2** | Unconscious or Arrest post fall | **R1** | **1514** | **71** | **4.7** | **NO** |
| **17D2G** | Unconscious or Arrest post fall – still on the ground | **R1** | **128** | **5** | **3.9** | **NO** |
| **17D2J** | Unconscious or arrest post Jump | **R1** | **4** | **1** | **25.0** | **NO** |
| **30D1** | Unconscious or Arrest with Traumatic injuries | **R1** | **180** | **4** | **2.2** | **NO** |
| **31D1** | Unconscious  Agonal / Ineffective Breathing | **R1** | **427** | **96** | **22.5** | **YES** |
| **31E0** | Unconscious or Fainting (near) Echo Override | **R1** | **12** | **0** | **0** | **YES** |
| **31E1** | Unconscious or Fainting - Ineffective Breathing | **R1** | **449** | **111** | **24.7** | **YES** |