Emergency Dispatch to Match
Saving Lives by Prioritising the Most Serious Incidents
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1. Save More Lives

**Aim**: Save more lives (100 additional lives per year by 2020)

**Measures**: ROSC (Return of Spontaneous Circulation), Ambulance Response Times, Number of Crew On Scene

**Changes**: More focussed basket of Purple incidents, Dispatch 3 pairs of hands to these calls

![Image](image1.png)

2. The Need for Change

The Scottish Ambulance Service (SAS) has a duty to respond to emergency calls, utilising the best resource and crew skill mix to match the patient needs. The most seriously unwell patients are those that are in or have a high suspicion of deterioration into cardiac arrest. Until recently, the service utilised a performance framework that has its origins in the 1970s and was based on very limited published evidence. The primary focus was reaching patients as quickly as possible, manifested in the 75% in 8 minutes target. Pre-hospital care is vastly different today. Speed of response is important, especially for those with Immediately Life Threatening (ILT) conditions, but this is now supported by modern clinical knowledge and experience, along with advanced equipment available to patients.

The old framework triaged calls into 3 categories, A, B and C. Category A calls contained up to a third of all patients and was based on previous common consensus. It was increasingly difficult to identify and respond appropriately to those at risk of cardiac arrest due to the volume of these calls.

In February 2016, the Scottish Government approved a comprehensive review of all MPDS (Medical Priority Dispatch System) codes, the triage system used when a member of the public calls the 999 emergency number. This was an evidence based review using retrospective electronic data gathered from almost half a million calls in 2015. The idea was to re-new the categories used to determine the response for each of the 32 main Chief Complaints and 1254 MPDS codes, moving from Category A, B & C to the New Clinical Response Model (NCRM) categories of Purple, Red, Amber, Yellow and Green.

**Team**: Neil Sinclair (Consultant Paramedic), Stephanie Jones (Clinical Hub Manager), Dr Jim Ward (Medical Director), David Kinnaird (Project Manager), Richard Combe (Senior Information Analyst & Information Governance Officer), Lynda Watters (Systems Development & Training Manager)

3. Change Ideas

1. Reduce Proportion of Incidents Designated as Highest Priority

2. Dispatch at least 3 Pairs of Hands to Purple Incidents

![Image](image2.png)

4. Dispatch Code Review

**New Clinical Code Review Model**

- Reviewed 500,000 Patient Records
- Checked against 1254 AMPDS Codes

A one year trial of this new model was started in Nov16 with 28 of the 1254 codes in the Purple basket. All patients should benefit from the new model, but a particular focus is the group of patients with >10% risk of cardiac arrest, coded as Purple.

![Image](image3.png)

5. Is Change an Improvement?

**Run Chart - Number & % ROSC (All Rythms)**

**CUSUM Chart Number of ROSC (All Rythms)**

**Distributions**

6. Data Analysis Demonstrates Lives Have Been Saved

**XmR Control Chart % ROSC (All Rythms)**

**Response Time Distributions**

Faster overall response to Purple incidents

7. Lessons Learned and Next Steps

The data demonstrates a clear improvement in ROSC after the introduction of the New Clinical Response model. This equates to...

- 10 additional people surviving to hospital each month

**Next Steps**

1. The Outcome Metric is really an output, so link to hospital data to see 30 day survival rates (better reflection of outcome)
2. Continue to review the codes allocated to Purple response
3. Full data analysis and review at the end of the trial in November 2016, reporting back to the Scottish Government...

- ROSC data (Output)
- Response Times and Number of Crew in Attendance (Process)
- Impact on Time to Definitive Care for Red, Amber, Yellow and Green incidents and Patient/Staff Experience (Balancing)

References:

www.scottishambulance.com