



## **Clinical Excellence within South Central Ambulance Service**

South Central Ambulance Service (SCAS) continues to remain very focused on achieving excellent clinical outcomes for all of our patients. Over the last few years, we have developed our capability to audit our clinical performance in a number of key areas of our emergency clinical practice. Since the introduction of national Clinical Performance Indicators, which have included clinical care bundles for the management of heart attack, acute asthma, acute stroke, diabetic emergencies, and cardiac arrest, we have maintained an impressive track record of continuous improvement in the standards of care that we deliver to our patients. One of the key areas that we have invested in has been our ability to capture the high quality clinical care that our staff deliver from their clinical records, and for the first time, our staff now have the ability to be able to track and monitor their own clinical performance to inform their own future clinical practice and development.

Within the last twelve months, Ambulance Services in England have for the first time been monitoring the clinical outcomes of patients who have sustained a cardio-respiratory arrest in the community and we have been collecting data on the number of our patients that have arrived at hospital with a restored pulse, and equally as importantly, but more challenging, we have been collecting data on the survival of these patients to hospital discharge. This latter measure is a marker for the quality of care the patient receives from the whole emergency care system, including specialist care delivered in hospitals.

Over the last six months we have recognised that we need to do further work to improve the quality of our clinical data, particularly in the area of survival to hospital discharge data, and we have been working closely with our acute hospital trusts to ensure that SCAS obtains this data in a timely manner. We have also modified the design of our clinical records to facilitate this data capture and have emphasised the importance of staff maintaining high quality clinical records. The position is improving and we are receiving more data, quicker from our acute hospital trust partners.

The latest data we have from the National Department of Health Dashboard, confirms that for the month of April 2012 36.8% of our patients who had sustained a cardiac arrest in the community in whom resuscitation has been attempted had a pulse on arrival at hospital and that 13% of all patients who had survived a cardiac arrest survived to hospital discharge. The proportion of patients who had 'witnessed' cardiac arrests, in which the underlying cardiac arrest rhythm was more favourable (ventricular fibrillation or ventricular tachycardia), is even higher, although the numbers of patients are small. The current overall cardiac survival to discharge rate is reported in the United Kingdom medical literature as approximately 7%.

It is important that the limitations of this data are understood as the absolute numbers of patients who have been treated in cardiac arrest month on month is small, but the data will become more robust with the passage of time as the size of the dataset increases. At this time, we have good evidence that the quality of care we currently deliver to our patients is good, but we are not complacent. We have had a number of initiatives in place to further improve the clinical care of patients in cardiac arrest, this includes our front line staff using up to date evidenced based cardiac resuscitation algorithms that are approved by the Resuscitation Council UK. All of our staff continues to receive regular refresher update training and performance review.

We are continuing to develop our community first responder's schemes in community areas to enhance the first link of the cardiac chain of survival, namely to try and ensure that basic life support and compressions are initiated as quickly as possible, and to facilitate access to early defibrillation. To complement the growth of our community first responder schemes, we are working with a number of charities to improve the distribution of semi-automatic defibrillators throughout the community at pre-determined locations based on probability of cardiac arrest risk, for example sports centres, shopping centres and railway transport hubs. We are also working on improving the visibility of these assets to our emergency control room staff in the event of reported cardiac arrest, again to improve access to early defibrillation by the public, prior to the arrival of our highly trained and experienced ambulance staff.

We will continue to monitor our clinical performance very closely and we are determined to achieve the best possible outcomes following cardiac arrest, and indeed for all emergencies that we manage in the community.

**John Black**  
**Medical Director**  
**SCAS**  
**September 2012**

## **The Ambulance Clinical Quality Indicators in more detail**

Providing a fast response in an emergency is vital – but it is only one part of the treatment process. In April 2011, a new method of measuring ambulance service performance was introduced. Ambulance Care Quality Indicators don't just reflect how long it took to travel from "A" to "B" they also show the standard of care delivered from the moment the patient dials 999 so we can better monitor all of the factors which go into providing the best service possible. We know the importance of listening to what people have to say when it comes to identifying possible improvements. That's why we publish the Ambulance Care Quality Indicators each month.

### **1) Indicator: Outcome from acute ST-elevation myocardial infarction (STEMI)**

STEMI is a type of heart attack. This is determined by an electrocardiogram (ECG) test. We know that a patient is more likely to recover if they receive early treatment.

**Performance:** There is no identified target for this but the desired outcome is for a high proportion of patients to have received early reperfusion (timely thrombolysis and primary angioplasty; delivery of care bundle) and all components of assessment have been consistent during the early months of the financial year. Our performance is 83% for Primary angioplasty and for delivery of the STEMI care bundle 40.64%.

**Action:** The Trust will continue to scrutinise all cases, and break each incident down into its constituent elements. Staff have been issued with advice to help with keeping on scene times to a minimum. Processes in the Emergency Operations Centre will be reviewed as part of the ongoing improvement in reducing on scene and journey times. SCAS is working closely with the South Central Cardiovascular Network to improve the pathways with the Acute Trusts for direct access to Hyperacute Stroke Units.

Work is currently being undertaken to understand which elements of the patient journey are likely to prevent the patient reaching a hyperacute stroke centre within 60 minutes. This involves looking at each incident to look at the initial call and how the incident has been prioritised within the Emergency Operations Centre (EOC) and then what resource has been sent.

- **STEMI (ST Elevation Myocardial Infarction) Call to Needle**

This clinical practice has been withdrawn with patient receiving primary angioplasty (PPCI), which is more effective for the patient. SCAS does not record data for this measure as the trust no longer undertakes thrombolysis.

All stocks of thrombolytic drugs have now been removed from the trust's vehicles with good access to heart attack centres across South Central the best practice is to deliver the patient direct to the catheter lab with as much pre-alert notice as possible reducing the call to balloon time.

- **STEMI (ST Elevation Myocardial Infarction) Call to Balloon**

The trust has improved its performance against this measure throughout the year. The trust's performance is far exceeding the CQC target and above the national average for all ambulance trusts in England. The trust is now working with acute hospital trusts to reduce the Door to Balloon times.

The trust is currently working towards improving pre-alerts, especially out of hours, so as to help the acute trusts to reduce the door to balloon times. This is a joint target for ambulance and acute trusts to work in seamless partnership to achieve the reduction in call to balloon times. Call to door times has been improved significantly by education and feedback between the ambulance service and acute hospital trusts.

- **STEMI Care Bundle**(Proportion of cardiac patients who received all elements of the optimal care package)

Following analysis of its processes, and delivering improvement in its analgesia (pain relief) administration, SCAS has continued to improve in this area. There are discussions at the National Ambulance Directors of Clinical Care meetings around reviewing the care bundle for STEMI patients, in the light of new evidence which will further enhance the care of this group of patients.

The care bundle focuses on only two forms of analgesia, morphine and Entonox, where as SCAS has a much larger formulary of analgesia. This causes us to have a reduced score for analgesia administration as SCAS staff use a stepwise approach to the management of pain by using more appropriate medicines that reduce risk or by using a combination of analgesics managing pain more effectively.

The use of GTN, which is a vaso-dilator is being reviewed by the national ambulance Medical Directors group as there is evidence that it has no benefit to patients that do not have chest pain, even if they are having a STEMI. The trust is waiting for the evidence to be reviewed and will make any changes to practice if required.

## 2) Indicator: Outcome from cardiac arrest: return of spontaneous circulation (ROSC)

This indicator will measure how many patients who are in cardiac arrest have been helped to regain a pulse/heartbeat by the time they arrive at hospital. The aim of this indicator is to reduce the proportion of patients who die from out of hospital cardiac arrest. The return of spontaneous circulation is calculated for two patient groups: The overall rate measures the overall effectiveness of the urgent and emergency care system in managing care for all out of hospital cardiac arrest patients; the rate for the Utstein comparator group applies to a subset of all cardiac arrest patients and provides a more comparable measure of management of cardiac arrest for patients where timely and effective clinical care can particularly improve survival.

**ROSC for Utstein group** (Proportion of patients whose cardiac arrest was witnessed and arrived at hospital with a pulse)

**Performance:** There is no specified target for this indicator but SCAS is continuing work to improve performance in these areas. Our current performance for the Utstein group is 52.54%. Our overall ROSC performance is 31.13%. The higher the ROSC rate the better.

Due to the small sample size involved, SCAS will continue to review its performance. SCAS's overall ROSC rate is consistent with existing published UK survival rates and there are initiatives to improve the early intervention to greatly improve outcomes.

**Action:** SCAS are increasing the number of community responders that have an important role to improving the outcome for patients that have a cardiac arrest. The success that is seen in London can be attributed to the vast number of defibrillators that are placed in the offices and buildings which give very early access to defibrillation, significantly improving the outcome for the patient. Our Community Responders are trained and live within the community to provide the same such early defibrillation in towns and villages across South Central, working with the ambulance crew to increase the chance of achieving a Return of Spontaneous Circulation on arrival at hospital.

Defibrillators in the community project is also being expanded, placing defibrillators where large groups of people gather, such as shopping centres, cinemas or village shops, so early defibrillation can be achieved on the spot.

### 3) Indicator: Outcome from cardiac arrest to discharge indicator –

It is important to understand the effectiveness of the whole system in managing patients who suffer a cardiac arrest. That's why this indicator measures the rate of those who recover from cardiac arrest and are then discharged from hospital alive.

#### Survival to discharge for Utstein group

(Proportion of patients whose cardiac arrest was witnessed and survived to leave hospital alive)

#### Performance:

There is no identified target but the desired success is that the higher survival rate the better. SCAS will continue to review and improve its performance in this area, which remain at expected levels from published literature. SCAS is participating in a cluster randomised control trial using a mechanical chest compression device for patients in cardiac arrest that may further improve ROSC and survival to discharge from hospital. Obtaining timely mortality and survival data from acute hospitals continues to be challenging and is contributing to delays in reporting of survival to hospital discharge data.

A patient's survival to discharge from a cardiac arrest is very complex as it has a significant number of factors that need to be taken into account. The most obvious is what has caused the cardiac arrest in the first place. If the arrest is due to a chronic condition such as cancer then the likelihood of a successful resuscitation is very low for instance.

**Action:** SCAS has made significant effort to build relationships with acute trusts to obtain this information but is reliant on good will at the moment. Steps have been taken at Board level to formalise this process and these are starting to improve the flow of data.

### 4) Indicator: Outcome following stroke for ambulance patients

We know that prompt emergency treatment can reduce the risk of death and disability from a stroke. This is why people at the scene should act quickly. This indicator will require ambulance services to measure the time it takes from the 999 call to the point where a F.A.S.T-positive stroke patient arrives at a specialist stroke centre.

**Stroke care bundle** (Proportion of stroke patients who received all elements of the optimal care package)

**Performance:** There is no identified target but the desired outcome is for the highest percentage of FAST positive stroke patients to arrive at a hyperacute stroke centre within 60 mins. Our current performance is 52.34%. Our current performance for the indicator requiring the highest percentage possible of suspected stroke patients receiving a care bundle, is 60.65%.

SCAS has very good performance in the care of Stroke patients but re-enforces the need to maintain the level of care at any opportunity to avoid any drop in performance.

**Action:** Training has recently been given to ensure that stroke patients are cared for in line with best practice guidelines.