

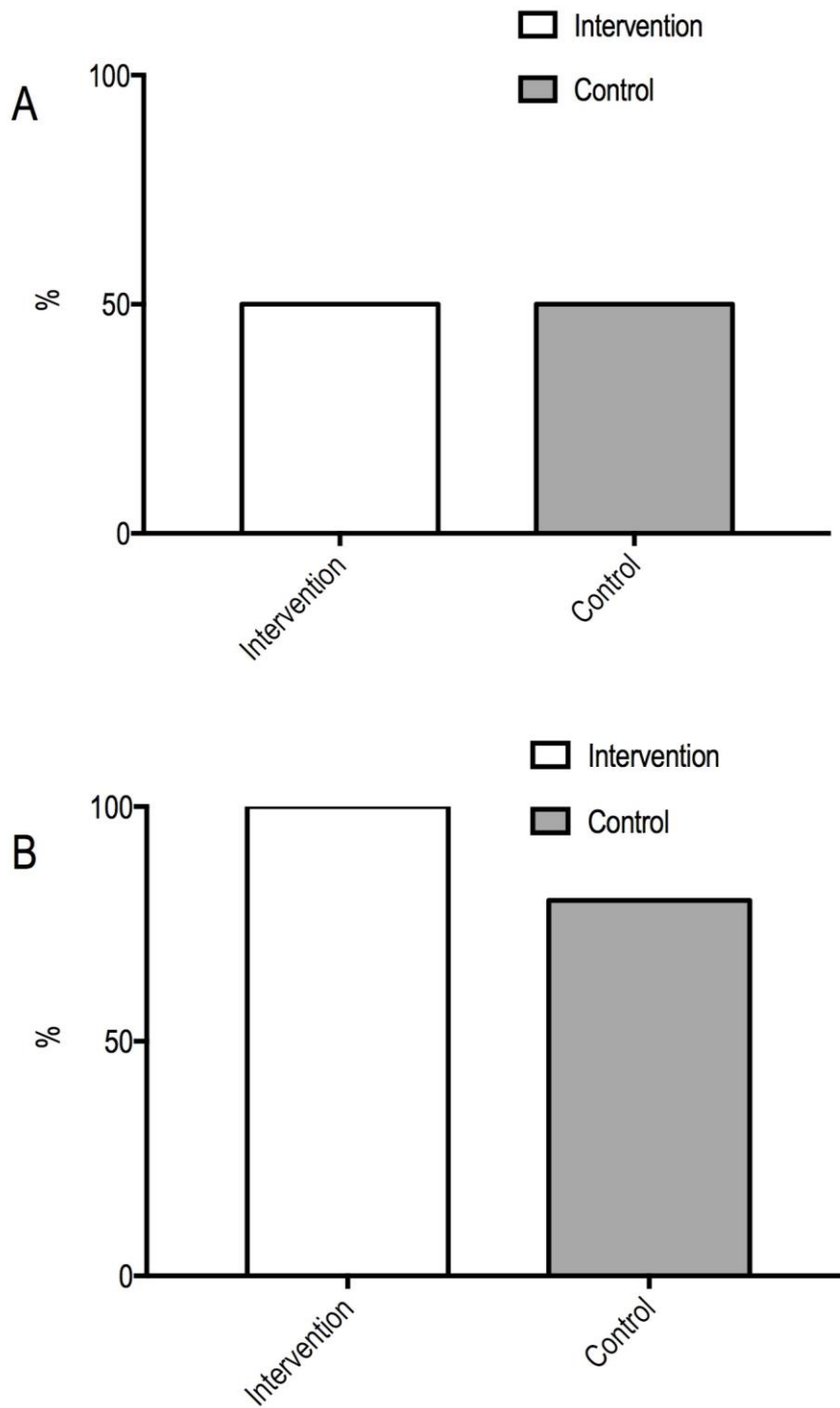
### **System Characteristics**

The LAS is the largest free emergency medical ambulance service in the world operating from 69 ambulance stations. It is a publicly funded National Health Service (NHS) organization serving 8.2 million people and covering an area of 1,579 km<sup>2</sup>. Patients are conveyed to 1 of 35 emergency departments, or in the event of cardiac arrest with ST-elevation, conveyed emergently to a cardiac arrest centre (CAC) with access to 24/7 interventional cardiology facilities.<sup>1,2</sup> St Thomas' Hospital is one of seven designated CACs and has been a cardiac arrest receiving centre since 2011. A formal management protocol facilitates the delivery of post-cardiac arrest STE patients or those with a high suspicion of on-going infarction direct to the catheterization laboratory. Post-resuscitation care is delivered by a multidisciplinary team comprising cardiology, acute medicine, critical care and anaesthetics services experienced in OHCA management, in accordance with recognised treatment bundles.<sup>3,4</sup> This pathway of care was extended to post-cardiac arrest patients without ST-elevation on the ECG for the purposes of the pilot.

## References

1. Fothergill, R. T. *et al.* Increases in survival from out-of-hospital cardiac arrest: A five year study. *Resuscitation* **84**, 1089–1092 (2013).
2. Fothergill, R. T., Watson, L. R., Viridi, G. K., Moore, F. P. & Whitbread, M. Survival of resuscitated cardiac arrest patients with ST-elevation myocardial infarction (STEMI) conveyed directly to a Heart Attack Centre by ambulance clinicians. *Resuscitation* **85**, 96–98 (2014).
3. Nolan, J. P. *et al.* Part 1: Executive summary: 2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Resuscitation* **95**, e1–31 (2015).
4. Nolan, J. P. & Cariou, A. Post-resuscitation care: ERC–ESICM guidelines 2015. *Intensive Care Med* **41**, 2204–2206 (2015).

Figure



Good neurological status in both arms **(A)** As a percentage of all patients **(B)** As a percentage of survivors.

**Table**

<b>Location of first arrival</b>	<b>Total</b>	<b>Intervention</b>	<b>Control</b>
St Thomas' Hospital ED*	8/36	0/18	8/18
St Thomas Hospital Cath Lab*	22/36	18/18	4/18
St Mary's Hospital ED	1/36	0/18	1/18
Royal London ED	1/36	0/18	1/18
Royal Free Hospital ED *	1/36	0/18	1/18
King's College Hospital ED *	1/36	0/18	1/18
Chelsea and Westminster ED	1/36	0/18	1/18
Did not reach hospital	1/36	0/18	1/18

Choice of hospital following out-of-hospital cardiac arrest, displayed as a summary of all the patients and as the two separate study arms, n/N. \*Denotes a hospital with a cardiac arrest centre. Abbreviation: ED emergency department.

