



# An examination of the characteristics of callers and phone use, when contacting ambulance control in instances of cardiac arrest.



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## Introduction

The 'Chain of Survival' is the gold standard<sup>1</sup> in Out-of-Hospital Cardiac Arrest care. Telephone CPR (t-CPR) has become an important factor in this chain. The conditions for t-CPR must be optimal before it can be evaluated. The proximity of the caller to the patient and phone type, both contribute to the success of telephone CPR. Mobile phones allow hands-free use of the phone to communicate with the control centre and perform t-CPR simultaneously.

## Objectives

The aim of this study was to:

1. Identify the proportion of callers that were at the patient's side and who could potentially perform CPR
2. Categorise those callers not at the scene, also known as 3rd Party Callers
3. Identify the percentage of callers calling from mobile phones or landlines (in particular those at the patient's side)

## Methods

Control data for all cardiac arrest calls reported to the National Out-of-Hospital Cardiac Arrest Register (OHCAR) from the Midlands region for the period 2011-2012 was obtained. Each of the recordings was listened to in order to determine if the caller was actually beside the patient. This identified the proportion of cardiac arrests in which a caller is available to carry out telephone CPR. Further analysis examination identified whether the calls were made from either a landline or a mobile phone.

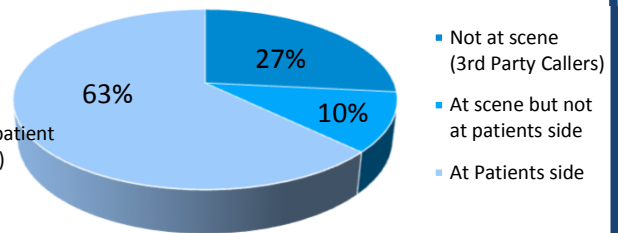
## Limitations

While the number of cases is small they are consistent with national cardiac arrest rates of approximately 39 per 100,000 persons<sup>2</sup>.

## Result 1 – Caller Location

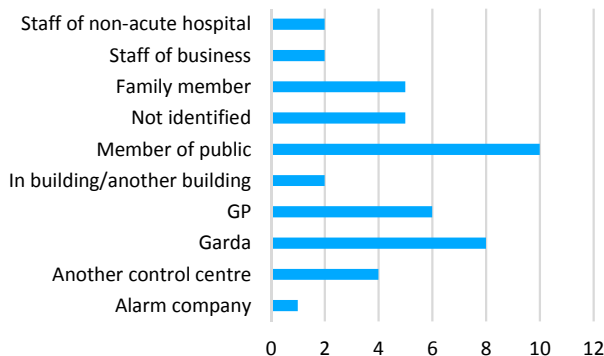
Of the 202 cases, the location of the caller could be identified in 84%. Of these 169:

- 63% of callers were at scene and could potentially give CPR
- 37% of callers were not in a position to give CPR, as they were not beside the patient
  - 27% of callers were not at the scene of the cardiac arrest (3<sup>rd</sup> Party Callers)
  - 10% were at the scene of the arrest but not at the patient's side.



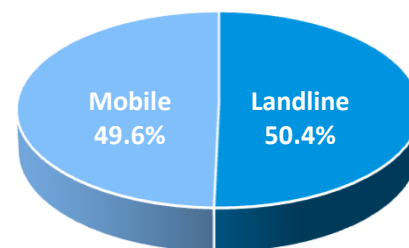
## Result 2 - Categories of 3<sup>rd</sup> Party Callers

To better understand why callers are not at scene (3<sup>rd</sup> Party Callers) at the time of placing the call to the ambulance service, they were categorised below. (n=45; 26.6% of 169)



## Result 3 – Phone Type usage

Of the 139 calls where the phone type was identifiable, there was no statistically significant difference in the use of mobile phones and landlines when contacting the Ambulance Service in cases of cardiac arrest. (Excluding 3<sup>rd</sup> Party Calls)



## Conclusion

This is the first information describing the types of callers to the emergency operator in the event of cardiac arrest in Ireland. The high rate of third party callers is a weakness in the 'chain of survival'. These callers reduce the quality of information available to the Ambulance Control Centre and may reduce the rate of t-CPR & bystander CPR.

There was a lower than expected rate of mobile phone use, 1.5 mobile phones per person aged over 15 years<sup>3</sup>, in Ireland. This may be explained by the age profile of the callers and the perceived reliability of mobile phones in cardiac arrests.

## Recommendations

A general campaign to encourage all callers to ring 999/112 while at the scene and where possible to use the mobile phone, is needed.

## References

1. 2010 American Heart Association, From Science to Survival: Strengthening the Chain of Survival in Every Community, Circulation. 2000;102:1-358-1-370
2. OHCAR, 5<sup>th</sup> Annual Report 2013 National Out-of-Hospital Cardiac Arrest Register, (2013)
3. <http://www.cso.ie/en/newsandevents/pressreleases/2012pressreleases/statisticalyearbookofireland2012/> (data from 2011)