



One Life

EVERY ACTION COUNTS

NATIONAL AMBULANCE SERVICE

ONE LIFE PROJECT

Improving patient outcomes from Out Of Hospital Cardiac Arrest

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THE ONE LIFE PROJECT IS BEING LED BY THE NATIONAL AMBULANCE SERVICE (NAS) AND AIMS TO INCREASE OUT OF HOSPITAL CARDIAC ARREST (OHCA) SURVIVAL RATES IN IRELAND.

THE PRIMARY FOCUS IS ON IMPROVING HOW OHCA IS RECOGNISED, TREATED AND HOW PATIENT OUTCOMES ARE MEASURED.

THIS ONE LIFE PROJECT DOCUMENT OUTLINES THE ENHANCED QUALITY OF CARE WE AIM TO DELIVER TO OUT OF HOSPITAL CARDIAC ARREST (OHCA) PATIENTS.

OVERVIEW

This project document outlines our intentions as a service to be at the forefront of innovative and of patient focused pre - hospital care. The National Ambulance Service recognises its ability to streamline and solidify positive initiatives in OHCA management.

This project is dependent on best practice delivery in a number of areas including the following:

- **NAS Community Interaction and Public Education**
- **National Emergency Operations Centre Call taking and dispatch**
- **Quality care delivered by emergency medical services at the scene.**
- **Quality data management and audit processes.**

The One Life logo represents the heart in the centre. It illustrates how the integration of each person's actions can affect change which will improve outcomes for patients and their families. It reminds us that 'saving lives' is at the core of the NAS service provision.



Over the past year, the NAS has engaged with both national and international resuscitation experts. Based on this engagement, we have examined each step of our existing processes for the management of a cardiac arrest, from 999/112 call to arrival at hospital.

We have developed a performance improvement plan that will ultimately improve outcomes for Out of Hospital Cardiac Arrest (OHCA) patients.

In the months ahead the Medical Directorate and our Education and Competency Assurance teams will develop programmes which will build awareness and knowledge to enable the implementation of the performance improvement plan within our control centres and ambulance stations throughout the country.

This project can only be successful with the dedication of every member of the NAS team from receipt of the emergency call by our call takers and the important instructions they give over the phone, to the management of the patient when our crews arrive on scene. Everyone has a role to play in the success of this project.

Our practitioners must continue to embrace the mindset that every VF cardiac arrest is going to survive, and if not, we ask ourselves is there anything we can do differently the next time? Expectations become reality. Not everyone in cardiac arrest will survive however, if there is a mindset that they will, behaviour will be altered to make it happen. We will all work a little harder and manage these calls a little better. Every time we manage a cardiac arrest, we should aim to improve how we work, both as individuals and as a team. Our expectations change, and in parallel, outcomes improve and more people survive.

Our goal is simple to treat effectively as many people in cardiac arrest as possible so that they are neurologically intact and ready to resume their role within their family and society. By working together, the implementation of this project will improve patient outcomes for each cardiac arrest call and dramatically increase our chances of saving that 'One Life'. We look forward to your continued support and thank you for your hard work to date.

DR CATHAL O'DONNELL

NAS MEDICAL DIRECTOR





The National Ambulance Service is continually striving to enhance the care we provide to each patient. Our crews attend in excess of 280,000 emergency calls each year.

National Ambulance Service staff enter people's lives in moments of chaos and bring a professional and caring response. This care begins as soon as the call is received in our control centre and is a total team effort from then on.

We never underestimate the impact we can have on a patient or family's life. This is never more important than when we respond to a cardiac arrest. This year the National Ambulance Service is launching The One Life Project.

The project is focused on systematically improving outcomes for patients who suffer an out of hospital cardiac arrest in Ireland. To achieve the best outcomes for these patients every aspect of our service must perform to the highest standards. The patient is at the heart of each decision we make. Every action counts.....

The One Life Project not only represents our commitment to improve standards of care it also represents our commitment to measure and publicly report on clinical outcomes of patients. By introducing and reporting on clinical outcomes we challenge ourselves to do better.

The same model of care used in the 'One Life Project' can be used to improve service delivery to the STEMI patient, stroke patient and Trauma patient in the future. Together we can make Ireland a world leader in pre - hospital care.

Each member of the National Ambulance Service can make a difference in this project. Thank you for your excellent work to date and continued dedication to the patient and the ambulance service.



MARTIN DUNNE

DIRECTOR NATIONAL AMBULANCE SERVICE



The One Life project has a number of key strands that, when brought together will result in improving outcomes for patients who have had an Out of Hospital Cardiac Arrest.

NAS are committed to working with external agencies such as the Irish Heart Foundation and the Pre Hospital Emergency Care Council, Resulting in greater public awareness of the role they can play in the early recognition and treatment of the OHCA patient and increased Community First response.

This aim of this project is also to improve the quality and dignity of care delivered by pre - hospital practitioners from the treatment offered when the call is taken to treatment at the scene. The project aims to focus on teamwork and the best evidence in resuscitation care and a coordinated approach to the provision of evidence based post cardiac arrest care and transportation to appropriate facilities. The One Life Project will also continue to improve current data collection and audit processes in cardiac arrest cases, promote research and feedback quarterly results to all key stakeholders.

The National Ambulance Service has outstanding clinical leaders with a vision and drive for continuous process improvement and clinical excellence. We must all ask ourselves "How can I or the system improve?". Training and continuing education are important for us all to ensure we continue to bring expertise and professionalism to every out of hospital cardiac arrest.

DAVID HENNELLY

NAS CLINICAL DEVELOPMENT MANAGER



THE NATIONAL AMBULANCE SERVICE

The National Ambulance Service (NAS) serves a population of almost 4.6 million people in the Republic of Ireland, the service responds to over 300,000 ambulance calls each year. The NAS employs over 1,600 staff across 100 locations and has a fleet of approximately 500 vehicles. National Ambulance Service clinical staff are registered practitioners with the Pre-hospital Emergency Care Council (PHECC). There are currently three tiers of clinical practitioner employed in the NAS; Emergency Medical Technicians, Paramedics and Advanced Paramedics.

Responding to cardiac arrests

When an emergency ambulance call is received, the Call Taker within the National Emergency Operations Centre (NEOC) uses a medical priority dispatch system (MPDS) to triage the call to determine the clinical priority and the appropriate response required. A coded response system is used, based on international best practice.

Life threatening calls, such as a cardiac or respiratory arrest takes precedence over all other calls. The closest available resource is immediately dispatched, such as a NAS emergency ambulance, NAS rapid response vehicle, NAS Intermediate Care Vehicles, or a local Community First Responder (CFR) group or a Doctor. For a suspected cardiac arrest the NAS Call Taker will instruct the person making the call, how to perform CPR and how to use an automated external defibrillator (AED) where available to the person.



The clinical practice guidelines used by ambulance crews on scene have been developed by the Pre Hospital Emergency Care Council (PHECC) Medical Advisory Committee (1)

NATIONAL AMBULANCE SERVICE OHCAR

OUT OF HOSPITAL CARDIAC ARREST REGISTRY

The National Out-of-Hospital Cardiac Arrest Register (OHCAR) project was established in June 2007. Since inception, OHCAR has grown from a regional register in the North West to a nationwide Out of Hospital Cardiac Arrest register, incorporating OHCA data from statutory and voluntary services across Ireland.

It had been thought that cardiac arrest survival was only 1% in Ireland. The Out of hospital cardiac arrest registry OHCAR can confirm that over 6% of OHCA resuscitation attempts result in the patient being discharged alive from hospital.

The reason OHCAR can report this fact is because of data routinely collected by control staff and practitioners who are part of those resuscitation attempts. Routinely collected data enables OHCAR to provide a national profile of OHCA incidence, management and outcome, making Ireland one of only three European countries to have achieved national OHCA reporting.

OHCAR data has allowed the NAS to establish baseline data on:

- **How often and where OHCA occurs**
- **How OHCA is managed by the NAS**
- **The outcomes from OHCA.**



In order to produce accurate monthly outcome reports OHCAR needs:

- **A fully complete PCR and associated control data.** Control staff who handle the call and ambulance practitioners who attend the scene are the best placed and the best qualified people to provide a complete and accurate account of what happened.
- **Identification of EVERY OHCA** where resuscitation is attempted. When it comes to understanding the impact of the One Life Project, every case counts, whatever the outcome.
- **Simple and standardized data collection methods from control and from ambulance stations.**

The One Life Project aimed at reducing death from OHCA. Good quality data is essential so that the impact of One Life can be measured.

Siobhan Masterson
OHCAR Manager

The Resuscitation Academy is a collaborative project by the highest performing EMS services In the United States such as Seattle's Medic One and King County EMS. The goal of the Resuscitation Academy is to improve survival from cardiac arrest. Many of the processes that have resulted in their success can be replicated our service. The National Ambulance Service is utilising the seven key Mantras that the Resuscitation Academy have adopted to underpin our approach to OHCA management in Ireland.

1 **“Measure** Improve, Measure, Improve



“Measure improve, measure, **improve...**” defines the essence of ongoing quality improvement. If you **don’t** measure something you **can’t** improve it. And once you measure it you will reveal things that need improving. And once you improve the system, measure it again to see if it has improved. And so on, and so on.

Measurement and improvement can apply to many elements of an EMS system. It refers to measuring cardiac arrest events and patient outcomes (*death, survival, neurological recovery*). But it also applies to components of the EMS system such as time metrics (*time for dispatch, time for response, time for scene arrival, time for patient arrival*), high- performance CPR metrics (*CPR density, depth of compression, full recoil, duration of pauses*), and call taker assisted CPR metrics (*recognition of agonal breathing, time to recognition of cardiac arrest, time to delivery of chest compression instructions*). Each component when performed at the highest level will improve patient outcomes.

2 “Rural Vs Urban settings have significantly differing needs”



The needs of a densely populated urban setting with close proximity to Emergency Medical Services is different to that of a rural setting with longer response times but with an active community response. No two systems are the same. What may be easy to accomplish in one system may be difficult or impossible in another. Geographic and demographic variables must also be considered when reporting on outcomes from OHCA.

3. It's Not Complicated, But It's Not Easy



The science behind the steps to improve survival is not difficult to understand and the programme requirements are fairly straight forward. But there may be logistical, cultural, political, resource, and a variety of other obstacles that challenge implementation. Change must start at a local level. It is the local staff, the local clinical leaders, training and operations managers that are best placed to bring about change.

4. Change occurs step by step



Health services by their nature are complex organizations and not likely to be transformed overnight. Simple steps can often make big differences. If each of us focus on our area of responsibility change will occur, from receipt of the call for help to the submission of post cardiac arrest OHCAR data. Take the first step, gain some success and confidence, and then move on to the next.

5. Performance - Not Just Protocol



What counts during a resuscitation is the actual performance of the call takers, dispatchers and practitioners. Our guidelines stress the importance of maintaining high quality chest compressions during each cardiac arrest. However we must continue to train frequently and review our performance through feedback and reflective practice.

6. Everyone in VF Survives?



The relevant question to ask is: Why did this patient in VF not survive? Look at the system factors that may have contributed to the patient not surviving. Was there a delay in responding? Was there a delay in call taker recognition of cardiac arrest (due to information provided by the call maker)? Were telephone CPR instructions provided? Was there bystander CPR? Were there excessive pauses in chest compression? Was there a delay in defibrillation?

A proactive mindset will alter behaviour. The crew will work a little harder and not give up. They will assume the patient will make it to the hospital alive. Another aspect to this mantra is that crews will begin to scrutinize cases more closely, particularly those in which survival did not occur.

7. It Takes a System to save ONE LIFE...

Though it may be individuals who perform CPR, attach the defibrillator, secure the airway, and administer medications, it is a system that makes it all possible. The system is comprised of numerous stages from community interaction to statutory emergency services and hospitals – which include Call Takers, Dispatchers, Community First Responders, EMTs, Paramedics, Advanced Paramedics, Education and Competency Assurance, Operations and fleet Managers, Ambulance Service Medical Directorate, hospital Nurses, Doctors, and support staff. The complex web and interaction of all these agencies and staff comprise the system.

It takes an excellent system to save One Life. The implementation of the One Life Project will enable each NAS staff member can contribute towards building an excellent system.

- The One Life Project has been broken down into a number of key work-streams with 80 specific goals contained within a Performance Improvement Plan.

This project is dependent on best practice delivery in a number of areas including the following:

NAS Community Interaction and Public Education.

Resulting in greater public awareness of the role they can play in the early recognition and treatment of the OHCA patient and increased Community First response.

National Emergency Operations Centre Call taking and dispatch.

Ensuring continued rapid recognition of the OHCA patient, appropriate dispatch of resources and clear post dispatch instructions.

Best practice quality care delivered by emergency medical services at the scene.

Ensuring continued high standards of clinical care to the OHCA patient and refined post cardiac care in line with existing clinical practice guidelines and patients needs.

Quality data management and audit processes.

Continued support of Out of Hospital Cardiac Arrest registry (OHCAR) data, ensuring a robust system for processing information, future research and improved feedback to all key stakeholders.





“The NAS vision is to provide excellent ambulance services to patients and the public through the highest levels of clinical and professional proficiency contributing to the improved health and wellbeing.”

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