

IMPROVING POST-COLLISION RESPONSE AND EMERGENCY CARE IN EUROPE

Case Study: Dublin Fire Brigade Ambulance Service and Fire-Based Emergency Medical Services

ETSC'S REVIVE PROJECT MAPS GOOD PRACTICES IN EMERGENCY MEDICAL SERVICES (EMS) AND FIRE AND RESCUE SERVICES (FRS) ACROSS THE EU28 AND RAISES THE PROFILE OF BOTH EMS AND FRS ON THE NATIONAL AND EUROPEAN POLITICAL AGENDAS.

The REVIVE project aims at improving post-collision response and emergency care provided by EMS and FRS in order to mitigate the consequences of road collisions. It contributes to promoting the need for a coordinated, EU-wide action on tackling serious road traffic injuries.

This case study looks at the Dublin Fire Brigade and the broader concept of Fire-Based Emergency Medical Services

FACTFILE

Dublin Fire Brigade Ambulance Service

- ✓ Dublin Fire Brigade operates a fully equipped and highly trained ambulance service for the city of Dublin
- ✓ Firefighters rotate regularly between Fire and Rescue work and Emergency Medical duties.
- ✓ The system allows for a combined and rapid response to emergencies



WHAT IS MEANT BY 'FIRE-BASED EMERGENCY MEDICAL SERVICES'?

The term fire-based EMS describes a system in which both emergency medical and fire and rescue services are provided by the fire/rescue organisation. Discussion continues about the merits of such systems and the benefits they can bring to the delivery of rapid and effective emergency response.

One of the most prominent examples of a fire-based EMS is Dublin Fire Brigade's (DFB) Ambulance Service in Ireland. The DFB operates a fully-integrated fire, rescue and emergency medical service in the Dublin area. It is

the largest full-time fire service in Ireland with around 1000 personnel and operates out of 14 fire stations, (12 full-time).

A fire service has been provided by Dublin Fire Brigade since 1862, but in 1898 the Dublin City Fire Brigade Ambulance Service was added, which has since evolved into what is now a fully equipped modern Emergency Medical Service, operated alongside the Fire Brigade. This provides an emergency ambulance service to the city and county of Dublin and deals with a growing number of incidents.¹

HOW DOES THE DUBLIN FIRE BRIGADE'S AMBULANCE SERVICE WORK?

Dublin Fire Brigade has a fleet of 12 ambulances, each staffed by two Firefighter-Paramedics. All ambulances are CEN compliant, single stretcher, Class B emergency vehicles.²



There are also two part-time advanced paramedic rapid response vehicles. The Firefighter-Advanced Paramedics are mainly deployed on fire engines and ambulances. They provide advanced life support and are able to administer a larger range of medications to patients, as well as perform more complex procedures.

Alongside these, they also have 21 frontline fire appliances with up to 125 firefighter paramedics/advanced paramedics available to respond on a daily basis. Operational firefighters rotate regularly between fire and rescue work and emergency ambulance duties.

WHAT LEVEL OF MEDICAL TRAINING IS PROVIDED TO THE FIREFIGHTERS?

Each firefighter is initially trained to paramedic level and registered as a practitioner with the Pre-Hospital Emergency Care Council in Ireland, known as PHECC.³

The Paramedic programme lasts for two years and is provided by the DFB-RCSI Training Institute, which is a partnership between the Dublin Fire Brigade and the Royal College of Surgeons in Ireland.⁴

As part of their initial training, new recruits undergo twelve weeks of classroom training before their first assessment, which, once passed, ensures they are entered onto the PHECC professional register as a paramedic undergraduate intern.

During the following undergraduate internship, recruits complete placements on an Emergency Ambulance and a First Response Fire Appliance and work alongside medical and nursing staff in Adult and Paediatric Emergency Departments, Coronary Care Units and Maternity Hospitals. They also carry out a placement on one of the Brigade's Advanced Paramedic rapid response vehicles and undertake an International Trauma Life Support course.

Following their final exams they complete a one year postgraduate internship prior to full paramedic registration. After successfully completing the programme, students are entered onto the PHECC professional register at paramedic level. As of 2019 there are 730 firefighters trained to paramedic level, 76 to advanced paramedic level and 25 emergency first responders.

¹ Dublin Fire Brigade Ambulance Service, <https://bit.ly/2LDtzaV>

² CEN 1789, <https://bit.ly/2GNVA8T>

³ Pre-Hospital Emergency Care Council of Ireland (PHECC), <https://www.phcc.ie/>

⁴ Quality and Qualifications Ireland

WHY EMBED EMS IN THE FIRE SERVICE?

Fire services and their resources are already organised so as to effectively cover a certain area. Having medical and fire and rescue services operating in tandem can therefore help maximise the likelihood of a quick and effective response to a collision.

General trends in recent years often point to a decline in the number of fires being attended by fire services. Consequently, it is argued that resources would be better allocated towards other, non-fire, incidents, such as medical incidents and road traffic collisions.

In the UK, national statistics showed that in 2016/2017 Fire and Rescue Services in England attended more non-fire incidents than fires for the first time. This was largely due to an increase in incidents in which the FRS co-responded with medical services.⁵

The same figures show that aside from medical incidents, road traffic collisions are the largest type of non-fire incidents attended by the FRS. The number of road traffic collisions being attended saw a seven per cent increase compared to five years previously.⁶ In the same five years, incidents in which the FRS assisted other agencies had tripled.

At the same time, in many countries, ambulance services are increasingly overstretched. Using fire services, provided they have the appropriate training, to help alleviate the pressure on ambulance services is one possible solution. A UK study into the feasibility of fire-based EMS found that they could deliver a positive financial and economic return on investment.⁷

HOW CAN FIRE-BASED EMS IMPROVE PATIENT OUTCOMES?

A large number of emergency calls are of a medical nature, in particular relating to traumatic injury. In many cases, these require both a medical response and physical rescue of some form. This is especially true in the case of a road collision. Therefore, having an emergency service which can provide both aspects can be very useful.

Many of those who die before reaching a hospital after a major incident do so due to easily treatable causes.⁸ Even basic levels of trauma training can help improve patient outcomes. The ability to transport a patient is also a clear advantage as it avoids the need to wait for another service.

Firefighter paramedics are able to provide medical treatment and organise any extrication as soon as possible, instead of having to wait for another service branch to arrive. This is especially critical in situations that involve serious trauma, like a road collision. Simultaneous dispatch is an essential component of fire-based EMS, ensuring the timely arrival at a road traffic collision of fire/rescue and EMS resources.



Fire-based EMS services are also capable of rapidly deploying large numbers to a scene in the case of a major incident, allowing treatment and extrication to begin as quickly as possible and a more resilient response to major incidents.

There are also organisational benefits such as a reduced need for downtime between operations for ambulance crew as fire crews can be rotated into ambulance service. It can also be easier to identify potential areas for improvements in patient outcomes, as there is only one emergency response system, rather than separate branches.

However, expanding fire-based EMS can be costly, in particular for delivering the extra training required for firefighters. It can also be difficult to find the time for this training, especially for active firefighters.

⁵ UK National Statistics: Fire and rescue incident statistics: England, April 2016 to March 2017, <https://bit.ly/2fvxZ5y>

⁶ UK National Statistics: Fire and rescue incident statistics: England, year ending March 2018, <https://bit.ly/2HiRAAK>

⁷ New Economy (2017), Emergency Medical Response by Fire and Rescue Services: Financial and Economic modelling of Impact, p4. <https://bit.ly/321m4yE>

⁸ UK Parliament - All-Party Parliamentary Group on Homeland Security (2013), Improving Efficiency, Interoperability and Resilience of our Blue Light Services, p28. <https://bit.ly/2Nz09eq>

WHAT OTHER EXAMPLES ARE THERE OF COOPERATION BETWEEN FIRE AND EMERGENCY MEDICAL SERVICES?

As demonstrated by the long history of the Dublin Fire Brigade Ambulance Service, the concept of combined emergency services is not a new one. There are numerous examples across Europe of fire and rescue services and ambulance services cooperating to various degrees, although totally integrated services such as Dublin's are not commonplace. This is often because there is no statutory public ambulance service, and as a result, the fire service provides the primary emergency medical services response.

In Luxembourg, all public rescue services, including fire and rescue, ambulance and urgent medical services (SAMU - Services d'Aide Médicale Urgente) have been gathered under the Luxembourg Fire and Rescue Corps (Corps grand-ducal d'incendie et de secours – CGDIS) since July 2018. CGDIS employs emergency doctors and nurses and all professional firefighters are trained in both emergency medical care and fire and rescue techniques.⁹

In Germany, local fire departments may also provide emergency medical services. Similarly, in France local fire departments are capable of responding to medical emergencies, although they will usually be supported in more serious cases by the SAMU/SMUR services.

In the UK, the idea of merging fire and rescue with other emergency services has been discussed.¹⁰ Often this has been in relation to potential terrorist and other major incidents.¹¹ In some British overseas territories, which are naturally smaller and more densely populated, combined services have been organised.¹²

In Malta, the Civil Protection and Emergency Ambulance services cooperate closely to help decrease response times and deliver initial emergency care through the closest dispatch source.

Various examples of combined emergency services also exist in the United States, Australia, Canada, Hong Kong and Japan.¹³ In some locations an agreement is drawn up between fire and ambulance services under which the fire service will attend ambulance call outs in certain (often rural) regions.¹⁴

Fire-based EMS will not be suitable in all places. For example, in a densely populated area, such as Dublin, a combined service operates over a fairly small geographical area with fire stations and medical facilities in close proximity. Such a system may not be as practical in a less-densely populated area.

Likewise, decisions about the level of cooperation and integration between fire and rescue and ambulance services will always depend on the local or national situation of the country in question. For many reasons, it may not be possible, or indeed desirable, to combine multiple emergency service branches.

However, at a time when the structure of emergency services continues to be debated across Europe, Dublin Fire Brigade serves as an excellent example of how a fire-based emergency medical service can operate and succeed.

⁹ Government of Luxembourg, Grand-Ducal Fire and Rescue Corps: a single corps, a single number. <https://bit.ly/2U99kmW>

¹⁰ Facing the Future: Findings from the review of efficiencies and operations in fire and rescue authorities in England (2013), <https://bit.ly/2JRJsZq>

¹¹ UK Parliament - All-Party Parliamentary Group on Homeland Security (2013), Improving Efficiency, Interoperability and Resilience of our Blue Light Services, p18. <https://bit.ly/2Nz09eq>

¹² Guernsey Fire and Rescue Service (2015), Potential for Combination of Ambulance and Fire Services in Guernsey, <https://bit.ly/2Yf0JzD>

¹³ Grant Thornton (2014), Fire and Rescue Collaboration, p8. <https://bit.ly/2U6Z03J>

¹⁴ UK Parliament - All-Party Parliamentary Group on Homeland Security (2013), Improving Efficiency, Interoperability and Resilience of our Blue Light Services, p28. <https://bit.ly/2Nz09eq>