BUILDING COMMUNITY RESILIENCE TO DYNAMIC MASS CASUALTY INCIDENTS: A multi-agency white paper in support of the first care provider

The Committee for Tactical Emergency Casualty Care FirstCareProvider.Org The Koshka Foundation for Safe Schools

INTRODUCTION

The Committee for Tactical Emergency Casualty Care's (C-TECC) white paper, "Building Community Resilience to Dynamic Mass Casualty Incidents: A Multi-Agency White Paper in Support of the First Care Provider" is an important work that recognizes the general public's opportunity to reduce potentially preventable deaths following acts of interpersonal aggression and natural disasters by acting as medical first care providers.

Many of the significant advances in civilian trauma care have come from experiences gained while treating casualties during military conflict. The NTOA recognizes and commends the work of C-TECC in its efforts to adapt military medical care guidelines for use by civilian medical care providers.

The military's experience during combat operations demonstrated that it is possible to reduce potentially preventable deaths by training all soldiers to initiate basic medical care before the arrival of trained medical providers. In this white paper, C-TECC outlines how similar training for civilians may achieve similar success in communities and empower citizens to take an active role in their own survival.

Creating resiliency during times of immediate peril requires that the public abandon its roles as bystander, waiting for rescuers to arrive. Building on the proven success of citizen CPR in saving lives following cardiac arrest, it is important that we now embrace the need for training the public in the initial care of the injured. Citizen training in basic trauma care encourages people to intervene and care for persons with life-threatening injuries until the arrival of trained medical providers. When professional first responders arrive, first care providers can hand off care or assist them with ongoing care, as circumstances require.

The NTOA TEMS Section supports the efforts by C-TECC and others who are advocating for basic medical training for all citizens. By doing so, we reduce the time from injury to the delivery of potentially lifesaving care, and in doing so, become a stronger and more resilient nation.

- Dr. Kevin Gerold, TEMS Section Chair

Regular people are the most important people at a disaster scene, every time.

— Amanda Ripley, "The Unthinkable: Who Survives When Disaster Strikes, and Why"

Empowered and trained community members can serve a critical role as First Care Providers (FCP) during the initial moments after complex and dynamic disasters. These FCPs often have immediate access to severely injured victims and can provide time-sensitive, lifesaving interventions; the FCP is the first link in the trauma chain of survival. Public safety and first response agencies must acknowledge this operational reality and should lead the effort to integrate the FCP into "whole of community" crisis response plans built upon the tiered application of the civilian Tactical Emergency Casualty Care (TECC) medical guidelines. Utilizing TECC as the foundation for FCP training facilitates continuity of care not only for the patient but also the TECC-trained pre-hospital care provider taking over care of the injured.

BACKGROUND

Natural and manmade disasters are creating increasingly complex response challenges. The current U.S. emergency response model relies heavily upon the availability and expertise of highly trained public safety agencies. Too often, this leads the public and our leaders to assume that professional emergency medical care will be immediately available. Unfortunately, there are often delays in first responders accessing

victims, especially in complex high threat events (for example, the attacks in Norway, the Aurora shootings, the Westgate Mall attack). Initiatives such as the Rescue Task Force model and the 3-ECHO program are creating "warm zone/indirect threat care" operational paradigms for first responders and are an important first step in shortening the time from injury to first medical intervention. However, despite aggressive and expedient deployment of professional medical providers, there remains a time gap from point of injury to lifesaving intervention that only first care providers can address.1

The Committee for Tactical Emergency Casualty Care (C-TECC), a volunteer group of civilian operational medical subject matter experts, published its first guidelines discussing the FCP concept in 2011. The C-TECC process and guidelines were modeled off of the successful military Tactical Combat Casualty Care (TCCC) guidelines and modified to account for the unique aspects of civilian high threat response. In the military, TCCC was most successful at reducing mortality rates when deployed as part of a comprehensive casualty management system, such as the Ranger First Responder system. However, the vast differences between civilian and military operational response, the unique civilian patient populations, legal restrictions, and the differences in logistics and resources preclude TCCC from direct application into civilian operations. The TECC guidelines account for these unique aspects of civilian high threat response and allow local leaders to effectively implement "whole community" high threat casualty response programs.

There is strong historical precedent in the United States and internationally for the TECC FCP concept. The transition of cardiopulmonary resuscitation (CPR) from a hospital-based intervention to a whole community response paradigm is perhaps the most illustrative. Dr. James Elam demonstrated that ...despite aggressive and expedient deployment of professional medical providers, there remains a time gap from point of injury to lifesaving intervention that only first care providers can address.

CPR was scientifically sound in 1954. In 1957, Dr. Peter Safar described the ABCs of resuscitation, and in the 1960s national medical associations, including the American Red Cross, recognized CPR as the standard of care. In the 1970s, the CPR principles made their way to the public domain and in the past few years have evolved to "hands only" CPR for non-medical first providers.² Over the decades, these bystander care principles have been proven effective and have evolved to include automated external defibrillators and stroke recognition. Today there are millions of trained "bystanders" across our country who can initiate cardiac resuscitation within seconds, can recognize the need, access and apply an automatic external defibrillator, and can even perform a Cincinnati Stroke Scale on the patient and provide results to arriving emergency medical services personnel.

The high profile Boston Marathon bombing focused the attention of national policy makers on what many in the first response community have always known: Bystanders will be present, bystanders will act, and by doing so, bystanders can effectively assist the emergency response to these incidents to save lives. The keys to successfully transforming bystanders into effective



first care providers are a combination of community education and training, first responder integration, and the development of standard operating procedures that address scene security, communication, education and commitment to a tiered whole of community response paradigm.³

THE FIRST CARE PROVIDER

The first care provider represents the first link in the trauma chain of survival from point of wounding through definitive care.^{3,4} A First Care Provider-empowered system offers a universal, flexible bystander-initiated trauma protocol. This shared language, based on the principles of TECC, empowers the FCP and the arriving medical/rescue assets to integrate effectively and work off of the "same sheet of music." Like many of the recent advances in trauma care, the FCP concept harkens back to a time of more robust civilian resilience. The impetus for more robust FCP programs is born from the increasing frequency of incidents where geographic or operational barriers prevent timely professional first responder access to victims.

The successful transformation of bystanders into effective first care providers requires a commitment from national policy makers, first response agencies and local community leaders to collectively provide opportunities for training and education. Several national organizations have recently made recommendations regarding "bystander" interventions. Many of these efforts have contributed to the national dialogue, but have only provided limited medical recommendations that focus solely on external bleeding control.⁵ Anchoring on the military data from the past 15 years, these recent bystander initiatives presume that the wounding, fatality, and population patterns in civilian active violence and mass casualty events are the same as combat operations.6 This flawed conclusion

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presumes that first responders should "just do what the military does." Despite the increased use of military-style weapons and tactics in civilian events, the principles of evidence-based medicine preclude the *en bloc* application of military TCCC to the civilian setting. At its most basic, the military medical response paradigm fails to account for simple differences in civilian mass casualty incidents including civilian demographics, special populations, wounding patterns (as with the predominance of gunshot wounds over explosives), lack of ballistic armor protection, availability of resources and financial restrictions. Policy and operational experts must approach the challenge of creating a successful FCP program with a more nuanced and sophisticated mindset founded on the principles of high reliability organizations (HROs) - in particular, a reluctance to simplify, a deference to expertise and a commitment to resilience.

RECOMMENDATIONS AND FUTURE DIRECTION

There are four key requirements to the development and implementation of a successful community first care provider program: administrative leadership and operational policy development, pre-positioning of public access trauma kits, first responder training and training of first care providers. 1. Administrative leadership and operational policy development

Successful FCP integration requires grassroots initiatives and national public policy leadership. Leaders must evolve past the complete reliance on traditional 9-1-1 response and overcome the widespread reluctance to introduce policies that empower medical action in the broader population. Implementation of public policies that incentivize FCP program adoption and standardization encourages both government and private sector action. Non-medical leadership is critical to creating an effective whole of community system that reduces potentially preventable trauma mortality.7

Public access to readily available medical equipment should be part of a multi-pronged approach to community safety. Civilian experts and medical evidence, rather than military recommendations, should guide equipment selection.

2. Public access trauma kits

Many government buildings and public access businesses in the United States are grossly underprepared to support FCP interventions for traumatic injuries during targeted violence events. The deployment of public access trauma kits serves two critical roles. First, they provide a visual cue to prompt first care providers to take action. Second, if properly equipped, they can provide critical material to support lifesaving interventions for more than just hemorrhage control. Public access to readily available medical equipment should be part of a multi-pronged approach to community safety. Civilian experts and medical

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evidence, rather than military recommendations, should guide equipment selection. Signage indicating location of trauma equipment should be clear and easily understood, mirroring efforts currently undertaken for fire control devices, automatic external defibrillators and emergency exit planning.

3. First responder training

The training of professional first responders currently focuses on unified command, operational coordination and direct lifesaving interventions. Additionally, this training traditionally marginalizes the bystanders and uninjured persons on scene. This must change. First responders must be familiar with the capabilities of the FCP and their operational plans must incorporate these available providers as force multipliers in the response. The new model must train first responders to identify the FCP, conduct a rapid threat assessment, appropriately gauge the FCP skill level, provide clear assignments to the FCP and utilize the FCP as a force multiplier.

4. First care provider training

The first care provider model empowers community members to take lifesaving actions. Data from across the globe demonstrates that training individuals empowers action and improves survival from medical and traumatic emergencies.^{8, 9, 10} Trained first care providers demonstrate a willingness to operate independently, are able to recognize critical injuries and can properly allocate resources for maximum benefit to those involved.11 FCP training should provide a targeted, yet comprehensive approach to address the major causes of potentially preventable death as detailed in the C-TECC first care provider guidelines.

External hemorrhage control is a critical skill for many traumatic injuries, but it is not a panacea. Recent events reveal that access to the wounded, recognition of significant injury and rapid evacuation to medical care are at least equally as important as immediate hemorrhage control. Education on all of the preventable causes of death¹² in penetrating and blast trauma should be the ultimate goal and can be accomplished with a limited time investment. In addition to reducing mortality through application of TECC, this training will improve resilience by empowering individuals to take action in times of crisis. FCP programs should also provide education on:

• Basic airway management, casualty movement and psychological comfort care of the wounded



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• Improved communication between the bystander/first care provider and the 9-1-1 emergency dispatch system

• Strategies to mitigate physical and psychological risks

• Basic methods to interact and integrate with first response agencies, including how to signal for help and direct responders to casualties

CONCLUSION

First care providers are the initial link in the high threat trauma chain of survival. The FCP decreases the time between injury and potentially lifesaving medical care. Professional first responders in the United States are highly trained and are the cornerstone of high threat disaster response; however, there exists a very real operational gap between existing doctrine, public expectations and operational capabilities. The evolving threat matrix and escalating complexity of mass violence incidents will overwhelm most professional response agencies and demands initiation of a community-based response network. First care providers are critical to mitigating this risk and should be trained in the tenets of the

TECC guidelines similar to their first response agencies. The TECC first care provider model will produce an educated populace that can serve as critical force multipliers during mass casualty incidents and provide a seamless transition of care for traumatic injury during routine operations.

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