

I. Executive summary

Injury is one of the leading causes of mortality and morbidity worldwide. The burden that injuries place upon societies is particularly large in countries with limited resources. The mission of the Department of Injuries and Violence Prevention at the World Health Organization (WHO) is not only to prevent injuries and violence but also to mitigate their consequences and enhance the quality of life of people with disabilities. The department recognizes that the prehospital care of people who have been injured is an important aspect of this goal, so a working group of experts was convened to draft a document outlining key concepts for developing prehospital trauma care systems. The document that follows embodies this vision. It is designed to promote the core values of simplicity, sustainability, practicality, efficiency and flexibility. The recommendations it contains are intended to be used by individuals and groups working at policy-development and implementation levels.

Premise

Some might argue that the measures proposed in this document are too basic. However, there is scant evidence that more advanced and costly approaches to prehospital care are inherently superior to less expensive but effective treatments. Considerable good may be accomplished by ensuring that severely injured people receive simple but life-sustaining care within minutes of injury. At the heart of this document is the notion that selected bystanders, community volunteers and other citizens with minimal training, working in concert with professional health-care providers and the formal medical care structures, can provide effective and sustainable prehospital trauma care, regardless of a nation's level of resources.

Core components

Every effective prehospital care system must have certain core administrative and programmatic elements. When available, a country or region's existing emergency medical service should be utilized and strengthened, with input from community leaders and members of the population that it serves. Various structural models of prehospital care systems exist. The one chosen for a particular locale should take into account local factors and resources. At the national level, a lead agency should be designated to

promote prehospital trauma care. In some countries, this role may be adopted by the ministry of health, while in others it may reside in the ministry of the interior, the transportation ministry or elsewhere. Because prehospital trauma care involves public safety as well as public health, intersectoral cooperation is essential.

Regardless of how simple or sophisticated a given prehospital trauma care system might be, certain elements are essential in order to decrease preventable morbidity and mortality. These elements include, at a minimum, prompt communication and activation of the system, the prompt response of the system, and the assessment, treatment and transport of injured people to formal health-care facilities, when necessary. Whenever and wherever possible, existing clinics, hospitals, and health services should be utilized to ensure efficient mobilization of health-care resources. This is as true in remote or rural areas as in more urban areas.

First responder care

Where no prehospital trauma care system exists, the first and most basic tier of a system can be established by teaching interested community members basic first aid techniques. These first responders can be taught to recognize an emergency, call for help and provide treatment until formally trained health-care personnel arrive to give additional care. It may be possible to identify particularly motivated or well-placed workers, such as public servants, taxi drivers, or community leaders, and train them to provide a more comprehensive level of prehospital care. In addition to learning a more extensive range of first-aid skills, this group could be taught the basic principles of safe rescue and transport. With this level of training, a kit of simple equipment and supplies and access to a suitable vehicle, these individuals can provide an acceptable level of trauma care while transporting an injured person to an appropriate health-care facility.

Basic prehospital trauma care

The second tier of care can be provided at the community level by those who have been trained in the principles of basic prehospital trauma care (also known as basic life support). These providers should have extensive formal training in prehospital care, scene management, rescue, stabilization and the transport of injured people. Those who provide this basic care form the backbone of formal prehospital trauma care systems, where these presently exist.

Advanced prehospital trauma care

If local considerations and imperatives dictate and if sufficient resources can be secured, a third, significantly more sophisticated, tier of prehospital care may be added: advanced prehospital trauma care (also known as advanced life support). The decision to provide this level of care should not, however, be made at the expense of the more basic elements of prehospital care described above.

Examples of third-tier care interventions include the establishment of complex regional call management centres and highly integrated communications networks as well as the provision of advanced invasive techniques. On a system level, advanced prehospital interventions include call management centres, the development of integrated wireless communication networks and the purchase and maintenance of a fleet of sophisticated ground ambulances or air ambulances. Broadly termed “advanced life support”, clinical services like these generally require the skills of a professional prehospital care provider – either a physician or a non-physician paramedic with hundreds, or even thousands, of hours of training.

Despite the high costs of advanced life support interventions, there is little evidence that advanced prehospital interventions benefit more than a small subset of the most critically ill or injured victims. If adopted without regard for cost, advanced life support programme techniques can inadvertently harm prehospital systems by diverting precious resources from less glamorous but clearly effective interventions that benefit far more people. For this reason, we urge planners to use caution when considering whether to adopt advanced life support options and to base their decisions on a clear understanding of the costs of implementation versus the anticipated benefits.

Core administrative elements

In addition to implementing basic systems of care, certain administrative elements must be in place to ensure that a prehospital care system is both effective and sustainable. For example, each episode of care should be documented, not only because it is important to monitor the processes and outcomes of care, but also because incident records provide important insights into the nature and location of community hazards and how many injuries might be prevented.

Legal and ethical considerations

Finally, for prehospital trauma care systems to function effectively, certain ethical and legal principles must be established and followed. Bystanders must feel both empowered to act and confident they will not suffer adverse consequences, such as legal liability, as a result of aiding someone who has been injured. Most of the legal and ethical concepts that underlie the provision of prehospital care are universally respected, regardless of a country’s religious, ethical and cultural traditions.

A call to action

The global burden of injury, which is already a major cause of death and disability worldwide, is growing. If steps are not taken, the rapid increase in the availability of motor vehicles in developing countries will dramatically increase the human toll of injuries during the next decades. This must not be allowed to happen.

Policy-makers can prevent many injuries in their own country and reduce the human and economic toll of those that occur by implementing basic prehospital care systems.

Governments can enhance their health-care capacity and improve access to care for a wide range of emergency problems and conditions by closely linking these systems to the existing public health and health-care infrastructures in their countries. In the pages that follow, we describe a simple but effective approach that can be taken to achieve this goal.