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Emergency Medicine, Trauma & Surgical Care

Letter to Editor

The Business of Trauma Healthcare: The Growing Need for Resource Management

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Traumatic injury is the leading cause of death and disability for Americans in the first four decades of life. Unfortunately, this age demographic also represents some of the most productive members in the American workforce [1]. The need for specialized trauma care in the United States was first recognized by the American College of Surgeons. In 1922, Dr Charles Scudder, Chief of Surgery at Massachusetts General Hospital, established the Committee on Trauma which is the oldest standing committee of the ACS [2]. However, the inertia that facilitated the development of trauma hospitals was first provided by military operations. On April 1, 1941, the Birmingham Accident Hospital and Rehabilitation Centre opened its doors under the leadership of Professor William Gissane [3]. This facility is regarded as the world's first trauma hospital. This was followed in 1960 by establishment of the Shock Trauma Center in Baltimore, Maryland by Dr R Adams Cowley. The Cook County Trauma Center was subsequently founded in 1966 as one of the first trauma centers for civilians. In 1971, the designation of trauma centers was first established by the State Law in Illinois and in 1976, the first publication of the optimal resources for the care of the seriously injured patient was produced by the ACS.

Notwithstanding the obvious need for trauma centers, caring for the accidentally injured patient was shunned by civilian hospitals for years because of the costs associated with providing specialized care to trauma patients. This trend persisted despite the wealth of documentation demonstrating the impact of accidental injury on patients [4]. In 1966 the publication of the accidental death and disability: The Neglected Disease of Modern Society played a significant role in changing opinions and increasing national awareness of this growing problem. As a result, several funding sources were established to help fund trauma care. However, the inspiration to increase the number of trauma centers was short lived and from 1990 to 2005, the number of trauma centers in the United States decreased from an estimated 1,125 to 786 [5].

Interestingly, over the past several years this trend has reversed itself and in 2009, more than 200 additional trauma centers opened in the United States. The creation of new trauma centers has continued even as the Federal Government has begun to implement cost containment measures to slow down the ballooning cost of providing healthcare in America. Since 2012, there has been the addition of 117 Level I and II trauma centers nationally. Currently, there are 75 additional facilities seeking trauma center approvals with Texas, Alabama, Arizona and California leading the nation with the greatest number of new centers. It is noteworthy that amongst the growing number of adult level 1 trauma centers in the United States, only 83 are ACS verified [3,6-8].

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The unregulated proliferation of trauma centers threatens to compromise the ability of existing trauma facilities to provide high quality and cost effective healthcare. Previous report have demonstrated high volume trauma centers are inherently better equipped to handle more complex traumatic injuries given the numerous layers of specialists and ancillary personnel to deliver traumatic care [9,10]. Additionally, this dilution of trauma patient volumes has already jeopardized the ability of some level I centers to maintain their trauma volume requirement of 1,200 annual patient admissions [11]. Our results indicate that the average trauma volume ratio is approximately 1,500-2,000 admissions per Level I center. We believe any decline in this current trauma volume to center ratio may potentially compromise the ability of centers to develop research based treatment strategies. The unregulated proliferation of trauma centers will also result in duplication of services and poor resource management. This is further supported by evidence of the closing of several trauma facilities after attaining trauma center designation [12,13].

Furthermore, for level 1 trauma centers to develop research projects which evaluate the best management techniques, therapeutics or devices for patients presenting with specific traumatic diagnosis, sufficient patient volumes are needed. Although, in recent years, multi-center studies are highly encouraged, they require an increase in resources at each facility in the form of clinical research coordinators, research nurses and research scientists. This duplication of resources is not beneficial to an already financially strained system.

Although some institutions have sought designations and verifications based on potential financial rewards, the mission to deliver

trauma care requires a substantial financial investment and moral commitment to the community on the part of the system. High volume trauma centers like other high volume centers of excellence are better positioned to provide more efficient use of resources and achieve better clinical outcomes [9,10]. The unnecessary proliferation of multiple lower level trauma centers threatens to decrease volumes to Level 1 trauma centers. The ability of hospitals to achieve designation through the State has the potential to undermine the furtherance of national standards for trauma centers.

Collaboration with the ACS Committee on Trauma provides the guidance and support to improve the quality and performance of trauma programs. The recent addition of the TQIP program has further enhanced and strengthened the ability to compare a single program with other high performing centers. The TQIP program of the ACS COT has the potential to provide the most efficient mechanism to achieve healthcare savings, the implementation and standardization of the best practices and quality initiatives for the modern trauma community. We believe that the unification of the trauma center verification process is the most effective method to achieve national best practice standards for trauma hospitals.

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