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Establishment of Trauma and Critical Care System in Post-Conflict and Low Resource Countries

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Abstract

Injury remains one of the leading causes of morbidity and mortality especially in Low and middle income countries (LMIC) and in post conflict areas around the world. There is an urgent call for the development of an efficient, not necessarily robust, trauma care system integrating coordinated prehospital emergency medical systems and health-care facilities tailored to existing resources. A first step in this process is the need for capacity and needs-assessment and substantial collaborative efforts at the local, national, and international levels in order to systematically plan, organize, and ultimately prevent or mitigate the devastating burden of trauma worldwide.

Keywords: Trauma system development; capacity assessment; needs assessment; Low and middle income countries; Post conflict countries.

Injury remains a leading cause of morbidity and mortality globally. According to the World Health Organization (WHO), injuries are responsible for approximately 4.4 million deaths each year with 90% of all injury related death occurring in low and middle income countries (LMIC).^{1,2,3} 3.16 million injury related death are attributed to unintentional injury while 1.25 million are violence related. More specifically, road traffic injuries, suicide and homicide contribute to one third, one seventh, and one tenth of deaths, respectively, while war and conflict result in approximately 1 out of 61 deaths annually.^{1,4}

Notably, most modern-day conflicts are now occurring in LMIC.⁵ Since the turn of the century, it is estimated that approximately four million people have died worldwide as a result of armed conflict.⁶ Between 2021–2024, the substantial increase in wars and conflicts resulted in significant

battle related injuries with an estimated 740,000 deaths due to armed conflicts.⁵ In a recent study of global conflict trends between 1946 and 2024 using data from the Uppsala Conflict Data Program, 61 conflicts affecting 36 countries were documented in 2024. The study also noted that there were more state-based battle-related deaths in 2022 than in any year since 1984 resulting in more than 204,000 deaths, with a similar increase in non-state conflicts resulting in 20,800 deaths.⁵ Overall, injuries and violence from all causes both intentional and unintentional are responsible for 8% of all death and 8% of all years lived with disabilities.¹

In a recent analysis utilizing the Global Burden of Disease Study 2021, covering 204 countries and territories, Lou et al. noted that while the absolute numbers of injury incidence, prevalence, deaths, and burden of injuries measured in disability adjusted life years (DALYs) increased from 1990 to 2021, the age-standardized rates declined across the board.³ However, this decline in aged adjusted mortality and DALY rate reduction was noted to be the least in regions with low socio-economic development. There was a clear difference in injury outcomes and variation in regional patterns when socio-demographic criteria were analyzed. Regions with low socio-demographic index (SDI) noted significantly higher mortality burden at 88.7 per 100,000 as compared to high SDI regions at 35.4 per 100,000. Similarly, the burden of injuries was significantly higher in low SDI regions with age standardized DALY rates at 4357.93 per 100,000 compared to 2263.82 per 100,000 in high SDI regions.³

Advanced Trauma Care in High Income Countries (HIC):

In the United States, lessons learned from the Vietnam and Korean Wars such as the importance of rapid patient transport from site of injury to definitive centers were adapted to civilian trauma and led to the formation of organized systems for trauma care.⁷ These systems prioritized injury prevention, enhanced prehospital care (including communication, medical direction, triage and transport), access to acute hospital care, and the provision of post injury rehabilitation. These systems rely on four pillars: leadership, system development, finance, and legislation. These four societal pillars in turn require public support which is based on two key factors: needs and resource assessment. The four pillars assure the legal authority for the designation of specialized trauma centers and the development of criteria for optimal care of the injured patient.⁷ They also allow for system evaluation, mandate training and continual medical

education, and most importantly emphasize quality improvement, quality assurance, and quality certification.

The solution in the North American countries to mitigate the impact of trauma was the regionalization of care and the development of emergency medical systems, with various levels of trauma centers under effective trauma leadership. When evaluated, these trauma systems were indeed making a difference with noted 15-20% decrease in crude trauma mortality and greater than 50% decrease in medically preventable death.^{7,8,9} The 1999 landmark article by McKenzie et al showed that treatment in a trauma center versus a non-trauma centers was associated with fewer preventable deaths and possibly even disability.⁸ Formal categorization of trauma care facilities into various levels based on resources and capabilities allow for a network of definitive care facilities to provide a spectrum of care for all injured patients, depending on patient volume and severity of injuries. These two elements are the drivers of resource utilization. Trauma systems are thus defined by matching resource utilization with resource availability in terms of personnel, expertise, and equipment available for the optimal care of the patients.

In summary, trauma systems in HIC are based on dedicated injury surveillance and prevention programs, access to enhanced prehospital care with rapid transport to the nearest, most appropriate facility. The injured patient arrives in a timely fashion to a hospital where resources are available to meet not only the immediate resuscitation needs but also the operative and critical care needs. This is followed by aggressive rehabilitation programs to return the patient to society with the best outcomes achievable. Essential to the success of such a system are mandated continual medical education programs, a trauma registry, and persistent quality improvement programs.⁹

Trauma Centers vs. Trauma Systems in LMIC and Post Conflict Countries (PCC)

Only a certain number of individual facilities possess the capability required to provide all resources to all patients in all situations. The North American solution for this reality was the development of a trauma system of care instead of simply developing trauma centers. In contrast, low resource countries have historically placed a major emphasis on facility and trauma center development rather than system development.¹⁰ This emphasis leads to an exclusive system that prioritizes the provision of optimum care for the most severely injured patients, but not necessarily for all patients. This exclusive trauma system existed in the

past in North American countries, where inner city hospitals largely provided emergency services to the uninsured and most severely injured. Within an exclusive system, however, interconnectedness between major trauma centers and other non-trauma facilities that care for the less injured patient is lacking. The drawbacks of this approach can be detrimentally accentuated in mass casualty incidents (MCI) and conflict zones. Therefore, to decrease overall mortality and % critical mortality in an MCI, a coordinated and unified command is essential to triage patients over multiple medical facilities with eventual re-triage of patients with complex injuries to specialized centers while less severely injured patients remain in non-trauma centers. This improvement in MCI response is built on the concept of an inclusive trauma system response.

Over triage, acceptable even up to 50% in busy urban trauma centers, however, becomes unacceptable when resources overwhelm capabilities as in an MCI, a LMIC with sustained low resources, or in conflict zones, and directly results in increased % critical mortality.^{11,12,13} This is a key point to consider as related to the need for optimum care systems in LMIC especially since most modern conflicts worldwide, as noted above, with few exceptions, affect LMIC.⁵ In a Trauma and EMS inclusive system, trauma centers are one component of a comprehensive system which encompass all care along the continuum, from prehospital to rehabilitation. Such a system becomes even more essential to LMIC and their ability to improve trauma care and mitigate the potentially preventable morbidity and mortality associated with modern conflict.

Feasibility of Inclusive Trauma Systems in LMIC and PCC:

The disparity in outcomes between HIC and LMIC can be attributed to several factors including lack of resources, lack of access to medical and surgical care, unsafe conditions, rapid urbanization and exponential urban growth. There are two key modifiable issues in LMIC for effective and sustainable system development. First, the lack of trauma care dedicated leadership. Second, the absence of a mature administrative infrastructure for system development. These two elements form the umbrella for the system to function and thus addressing both may lead to improved organization and planning and ultimately improve the quality of care. Nonetheless, the question remains; can a robust inclusive system function in low resourced areas such as LMIC, conflict zones, or post conflict areas where resources and infrastructure support are scarce and or progressively degraded?¹⁴

To entertain such a question, one must first consider the feasibility and actual need of a robust trauma system. Trauma is variable in LMIC between and within countries in terms of incidence, external causes, and the level of development within each country - Urban versus Rural.¹⁵ Trauma care is also more complex in LMIC and PCC than HIC with variable economic stress and restrictions with variation in health care spending, especially in the public versus private sector. More importantly, there is a paucity in accurate data capture and analysis at the local and regional level, and a variable degree of public awareness, and thus a resultant less than wide-ranging support.^{16,17}

Lou et al attributed the variations in injury burden between HIC and LMIC to disparities in health care infrastructure, socioeconomic development, and other key determinants in low resourced regions and appealed for enhanced international collaboration, equitable resource distribution, strengthened preventive measures, building resilient health systems, implementing comprehensive educational initiatives, advancing safety regulations, public health planning, and policy development.³

In post war areas or PCC, this variability is further accentuated by the level of destruction within each area, and the degree of infrastructure preserved post conflict. Health systems are too often significantly degraded during conflict. Response to trauma post conflict is therefore increasingly challenging due to multiple factors that constrain delivery of adequate care. These include limited access, insecurity due to targeted attacks on health care facilities and personnel, loss of medical staff, disruption of supply lines, increased frequency of complex injuries requiring timely and skilled surgical and critical care teams, and sustained MCI with resultant overwhelmed capacities.^{14,18}

All of these factors, whether in LMIC or in peri conflict settings, lead to difficulties in organizing and promoting trauma systems. Prioritization, therefore, becomes essential in assessing and knowing which resources must be matched with the need of the population. This is a priority as rapid urbanization, industrialization and rural development is rising exponentially in many LMIC with the corresponding exponential rise of the burden of trauma.¹⁷ This is further accentuated as noted above by the substantial global rise in conflicts and battle related injuries. There is therefore an urgent call in LMIC and PCC for the development of an efficient, not necessarily robust, trauma care system integrating coordinated prehospital emergency medical systems and healthcare facilities tailored to existing resources.¹⁶⁻¹⁹

Need and Capacity Assessment:

What is evidently critical to the feasibility of trauma systems in any setting, especially in LMIC and PCC, is the necessity for a need and capacity assessment.^{16,18-20} This could be at the prehospital, hospital, or post hospital stage. For example, an early study conducted in Monterrey, Mexico, by Carlos Arreola-Risa et al. aimed to assess where people are dying most frequently along the continuum. The authors found that the majority (more than 70%) of deaths occurred prehospital. While 21% of deaths occurred in the ED, and 7% in the hospital setting.^{21,22} This is an important assessment, especially when we contemplate the limited finances available for trauma system development in the LMIC. Therefore, if we analyze the estimated cost for the development of a trauma system at all levels, it is far more cost-efficient to develop an injury prevention program and a prehospital emergency care and transport system, than to put the efforts in the development of trauma centers with minimal expected survival outcome. The potential improvements in trauma systems must be considered in light of the applicable financial constraints and feasibility.

Another major impediment to trauma care system and research development in developing nations is inadequate or nonexistent injury data at all levels: pre-event, event, and post event. Governmental and nongovernmental initiatives and guidelines have been implemented for the past two decades to improve trauma care in LMIC and PCC. However, there were no adequate or meaningful data to validate the various advocated interventions partly because of the absence of a regionalized trauma system and/or inaccurate national trauma registries.^{16,17,23-25} It is evident that multiple innovative efforts are needed to enhance and sustain data collection in LMIC or restore preexistent injury data surveillance and collection infrastructure in PCC.^{14,17}

In the past decade, the Panamerican Trauma society (PTS) with assistance from the International Trauma System Development Program (ITSDP) at Virginia Commonwealth University (VCU) has been working to facilitate cost effective trauma system development in the regions of the Central and South Americas via innovative electronic health data management systems using local available resources.^{15,26} A modular registry was developed and implemented in countries including Ecuador, Colombia, Bolivia and Panama allowing for collection of reliable data and multiple analytical reports from these countries.^{26,27,28} Such data was used to address the core components of trauma system development including readiness, needs-assessment, and modified trauma training courses for nursing,

prehospital and hospital providers based on existing resources that incorporate core trauma system development concepts and strategies including data collection, quality improvement and team response.^{26,29-31}

Such strategies for LMIC are similar in concept to the Essential Trauma Care Guidelines (EsTC) strategies developed by WHO, the International Association for Trauma and Surgical Intensive Care (IATSIC), and ratified in by ITSDP/PTS with emphasis on feasible, cost-effective improvement in prehospital and facility based trauma care.^{17,24,25} The problem identified in LMIC is not necessarily attributed to lack of resources, but rather to lack of organization and planning of the trauma care services. Improving the care of the injured patient in countries with limited resources is potentially feasible.^{25,32} In a study by ITSDP/PTS evaluating the usefulness of the EsTC Guidelines in providing an internationally applicable and standardized template for the assessment of trauma care capabilities in the South American Region, 24 facilities in Southeastern Ecuador were evaluated using an assessment tool composed of 260 individual items related to human (availability, clinical knowledge, skills) and physical resources. The inspection included in-person site visits, review of local statistics, and administrative staff interviews. This approach allowed for the generation of findings-based recommendations for improved care as related to specific opportunities for improvement in prehospital trauma care (inadequate coordination, communication), education and training (low level of trauma and nursing courses such as ATLS[®]), facility based trauma care (limited physical resources and human resources), and quality assurance (lack of registry and injury specific quality improvement programs). The methods and results of this study, along with similar findings in Mexico and Colombia, regarding the effective use of the EsTC Guidelines for trauma care prompted the development of a PTS Trauma System committee and the rise of strong trauma leadership in the Latin American corridor to effectively advance care and lay the groundwork for sustainable improvements in surgical and trauma care capacity in low resource areas.^{19,26,32-34}

With additional and greater challenges noted in PCC, including degradation and damage of health care infrastructures, lack of security and loss of medical staff, WHO developed a comprehensive operational framework to mitigate the impact of such challenges. Informed by resolution WHA76.2 and adopted by the Seventy-sixth World Health Assembly in 2023, the WHO framework stressed the following priorities: strengthening the community response

to trauma; building capacities at the primary health care level for initial management; improving the timeliness and quality of care during patient transport; strengthening emergency, critical and operative care services; developing protocols and systems for early integration of rehabilitation services into trauma management; developing protocols and systems for pain management and palliative care throughout the trauma care pathway; developing and reinforcing national rapid response and surge capacities including emergency medical teams; strengthening information systems for emergency and trauma care; and establishing a quality improvement program for trauma care.^{14,32,35} Essential to the WHO operational framework, is the development of capacity assessment. As noted in a recent article by Garber et al, a call for trauma system preparedness in conflict-vulnerable settings would first and foremost require an assessment of present trauma systems capacities and deficiencies, followed by improvement in education, training, and system readiness based on collaborative efforts with health care providers and local governing bodies.^{20,36}

Apart from adequate assessment of needs and capacity, proper communication between prehospital and hospital systems, empowered trauma leaders who take ownership of their regional responsibilities, and establishing effective continual medical education programs are all essential pieces of the formula. Lastly, and perhaps most importantly the creation of continuous quality-of-care assessment protocols to ensure future improvement is paramount.

Conclusion:

The recommendations for a robust and comprehensive trauma system similar to the North American model may not be realistic or applicable in LMIC and PCC with limited or degraded resources. The impediments are multifactorial and include economic, geographic, cultural barriers. Such barriers manifest through a lack of empowered and mission-oriented leadership, adequate organization, planning, infrastructure, resource allocation, and public support. Nonetheless, effective trauma system development in LMIC and PCC is feasible. Various institutions and organization such as WHO, IATSIC, PTS, and VCU's ITSDP have proposed a different emphasis in LMIC prioritizing cost-effective improvements in prehospital and facility-based trauma care. Similarly, in PCC, the WHO and United Nations have advocated for a practical guide and framework aimed to improve resiliency and strengthen community response to trauma built around unique and tailored emergency, critical and operative care services

continuum integrating community, primary and prehospital care, acute hospital care, pain management and palliative care, and rehabilitation services.

Essential to the above, whether in LMIC or PCC, is the need for capacity and needs-assessment as a first step in the process. Finally, substantial collaborative efforts at the local, national, and international levels are necessary in order to systematically plan, organize, and ultimately prevent or mitigate the devastating burden of trauma worldwide.

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References:

1. Global Health Estimates 2021: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2021. Geneva, World Health Organization; 2024. [www.who.int.data.global-health-estimates](http://www.who.int/data/global-health-estimates). accessed 16 August 16, 2025.
2. Preventing injuries and violence: an overview. Geneva. World Health Organization. accessed 16 August 16, 2025 at www.who.int.
3. Lou J, Xiang Z, Zhu X, et al: (2025) Trends and levels of the global, regional, and national burden of injuries from 1990 to 2021: findings from the global burden of disease study 2021, *Annals of Medicine*, 57:1, 2025.
4. Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease 2021: Findings from the GBD 2021 Study. Seattle, WA: IHME, 2024.
5. Siri Aas Rustad (2025) Conflict Trends: A Global Overview, 1946–2024. PRIO Paper. Oslo: PRIO.
6. The Ploughshares Monitor. The 2009 Armed Conflicts Report. Summer 2009, volume 30, no.2. accessed 16 August 16, 2025.
7. American College of Surgeons. Committee on Trauma: Resources for the optimal care of the injured patient:1999. American College of Surgeons Web site. https://web2.facs.org/timssnet464/acspub/front-page.cfm?product_class=trauma. Accessed August 16, 2025. Google Scholar
8. MacKenzie EJ, Rivara FP, Jurkovich GJ, et al: (2006) A national evaluation of the effect of trauma-center care on mortality. *N Engl J Med* 354:366–378.
9. The United States Department of Health and Human Services Health Resources and Services Administration. Model trauma system planning and evaluation. Available at <http://www.hrsa.gov/trauma/model.htm>. Accessed August 16, 2025
10. Aboutanos M. Trauma and Emergencies in South Ecuador.



History, reality and perspective. *Panam J Trauma Crit Care Emerg Surg* 2014; 3(3):141-142

11. Frykberg, ER. Triage: principles and practice. *Scandinavian Journal of Surgery* 94: 272–278, 2005.

12. Frykberg, ER. Medical management of disasters and mass casualties from terrorist bombings: how can we cope? *J Trauma*. 2002; 53:201–212.

13. Aboutanos MB, Mora FE, Ivatury RR. Triage & disaster management. *Panamerican Journal of Trauma*. 2008;15(2):105-112.

14. World Health Organization. Regional Committee for the Eastern Mediterranean. Seventy-first session. EM/RC71/3-Rev.1. September 2024. <https://www.emro.who.int/about-who/rc71/documentation.html> accessed 16 August 16, 2025.

15. Aboutanos MB, Mora FE, Wolfe L, et al: Telemedicine Applications and Rural Trauma System Development in Latin America: Ecuador's Experience. *Journal of eHealth Technology and Application* 2007. Vol.5, No.2

16. Telemedicine applications and rural trauma system development in Latin America: Ecuador

17. Aboutanos MB, Mora F, Rodas E, et al: Ratification of IATRIC/WHO's guidelines for essential trauma care assessment in the South American region. *World J Surg*, 34 (2010), 2735-2744

18. Calles TE, Richards CT, Shaw P, et al: Trauma system development in low- and middle-income countries: a review. *J Surg Res*. 2015; 193:300e307

19. Latifi R, Ziemba M, Leppaniemi A, et al: Trauma system evaluation in developing countries: applicability of American College of Surgeons/Committee on Trauma (ACS/ COT) basic criteria. *World J Surg*. 2014; 38:1898-1904

20. Garber K, Dicker, Guo WA, et al: Preparing for the “unthinkable”: A call for trauma system preparedness in conflict-vulnerable settings. *Surgery*. 2025;181. May 2025, 109308. <https://doi.org/10.1016/j.surg.2025.109308>. Accessed August 16, 2025

21. Blair KJ, Paladino L, Shaw PL, et al: Surgical and trauma care in low- and middle-income countries: a review of capacity assessments. *Journal of surgical research*. 2017 (2010) 139-151

22. Arreola-Risa C, Mock C, Vega FR, et al: (2006) Evaluating trauma care capabilities in Mexico with the World Health Organization's guidelines for essential trauma care publication. *Rev Panam Salud Pub* 19:94–103

23. Arreola-Risa C, Mock CN, Padilla D, et al: Trauma care systems in urban Latin America: the priorities should be prehospital and emergency room management. *J Trauma*. 1995 Sep; 39(3):457-62. doi: 10.1097/00005373-199509000-00011.PMID: 7473909

24. C. Mock C, Arreola-Risa C, Quansah R. Strengthening care for

injured persons in less developed countries: A case study of Ghana and Mexico. *Injury Control and Safety Promotion*. 2003; 10:45-51

25. [5] Joshipura M, Mock C, Goosen J, et al: Essential trauma Care: strengthening trauma systems round the world. *Injury*. 2004; 35:841-845

26. Ivatury RR, Aboutanos M. Panamerican Trauma Society: The first three decades. *J Trauma Acute Care Surg*. 82(5):966-973, 2017 doi: 10.1097/TA.0000000000001393.

27. Ordonez CA, Rubiano J, Badiel M, et al: Epidemiology of Trauma in Two Primary Care Hospitals in Southwestern Colombia. Preliminary Report of the Pan American Trauma Society's International Trauma Registry. *Panam J Trauma Crit Care Emerg Surg*. 2014;3(1):11–15.

28. Boeck MA, Blair KJ, Foianini JE, et al: Implementation of a hospital-based Trauma registry in Santa Cruz de la Sierra, Bolivia: Methodology, Preliminary Results, and lessons learned. *Panamerican Journal of Trauma, Critical Care & Emergency Surgery* 5(2): 101- 112, 2016

29. Mata LV, Mora FE, Quiodettis M, et al: Panamerican Trauma Society Basic Trauma Education Course Administration in Resource-limited Areas. 5(2): 83-87, 2016

30. Aboutanos MB, Mora FE, Nicholson B, et al: Trauma Course for an Aerial Medical Transport System in the Amazon Rainforest of Ecuador. *Panamerican Journal of Trauma, Critical Care, & Emergency Surgery*. 1(1):1-5, 2012

31. Aboutanos MB, Rodas EB, Aboutanos SZ, et al: Trauma education and care in the jungles of Ecuador, where there is no advanced trauma life support. *J Trauma* 62(3):714-9, 2007

32. World Health Organization. Essential trauma care project: checklists for surveys of trauma care capabilities. Geneva, Switzerland: WHO; 2004.

33. Sarmiento D, Himmler A, Chango O, et al: The successful implementation of a trauma and acute care surgery model in Ecuador. *World J Surg* 44(6):1736-1744, 2020 . doi: 10.1007/s00268-020-05435-z.

34. Ordóñez C. A. The trauma and emergency surgeon. Past, present and Future. *Rev Colomb Cir* 33: 17-26, 2018

35. World Health Organization. Integrated emergency, critical and operative care for universal health coverage and protection from health emergencies. Seventy-sixth World Health Assembly (WHA76.2) 30 May 2023. https://apps.who.int/gb/cbwaha/pdf_files/WHA76/A76_R2-en.pdf. Accessed Aug 16, 2025.

36. Kievelitz U, Schaefer T, Leonhardt M, et al: ‘Practical Guide to Multilateral Needs Assessments in Post- Conflict Situations’, a joint project of the United Nations Development Program, the World Bank, and United Nations Development Group, New York. 2004