

# Head Trauma: Challenges in the Americas

Jose I Suarez

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Traumatic injuries are a common public health problem all over the world. Available data suggest that about 3.8 million people die from a traumatic injury each year, which is 32% more deaths from injuries than several common infectious diseases including malaria, tuberculosis, and acquired immunodeficiency syndrome.<sup>1-4</sup> Such alarming statistics is compounded by the fact that more than 90% of these injury-related deaths occur in low-to-middle-income countries (LMICs).<sup>4</sup> Traumatic brain injury (TBI) accounts for a substantial number of those deaths (up to an estimated 1.5 million) and is the leading cause of disability in young adults.<sup>5,6</sup>

Despite the lack of robust research in Latin America regarding the burden and causes of TBI, the available data suggest that factors that may contribute to such disproportionate higher numbers may include unsafe vehicles, lack of appropriate road infrastructure, and the predominance of vulnerable road users. In addition, systems of care for TBI patients vary across Latin America with some countries having very clear paths similar to high-income countries, whereas others have none at all.<sup>7</sup>

A recent study analyzing data from the Benchmark Evidence from South American Trials: Treatment of Intracranial Pressure (BEST TRIP) study suggested that even though mortality from severe TBI is higher in Latin American LMICs compared to high-income countries, the rate of favorable recovery is similar.<sup>8,9</sup> However, demographic factors such as race and geographic location play a very important role in predicting outcome.<sup>8</sup> Most likely, socioeconomic status and cultural differences between regions in Latin America may influence these differences. For example, family resources and purchasing power may dictate in large part the type of posthospital care patients receive. In addition, the prehospital care patients receive may depend on the robustness of the organization of the healthcare system of a particular geographic location.

In this issue of the *Panamerican Journal of Trauma, Critical Care, and Emergency Surgery*, Drs Luis R Moscote-Salazar and Sandro Rizoli (guest editors) have assembled a group of authors from Argentina, Brazil, Canada, Colombia, Cuba, and Nicaragua to address important areas of care of severe TBI patients in Latin America. The discussions encompass the gamut of relevant issues such as epidemiology, pathophysiological aspects, prehospital care, emergency department evaluation, neurocritical care management, multimodality monitoring, osmotherapy, neuroprotection, biomarkers, and neurosurgical treatments. Such reviews are important as they can serve to highlight what aspects of the continuum of care of severe TBI patients may be missing across Latin America. Many challenges need to be overcome for the implementation of reliable and efficient systems of care for TBI. The Galapagos Neurocritical Care Summit Investigators<sup>7</sup> have provided recommendations to improve specific areas to impact upon outcome of neurocritically ill patients, including TBI, such as more robust and widespread epidemiological studies, public and

Division of Neurosciences Critical Care, Departments of Anesthesiology and Critical Care Medicine, Neurology, and Neurosurgery, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

**Corresponding Author:** Jose I Suarez, Division of Neurosciences Critical Care, Departments of Anesthesiology and Critical Care Medicine, Neurology, and Neurosurgery, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, Phone: +1-410-955-7481, e-mail: jsuarez5@jhmi.edu

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healthcare providers education on the basic concepts of TBI and ways to prevent it, high-level government investment in prehospital management of TBI patients, centralization or regionalization of care of severe TBI, and establishment of accessible and well-equipped rehabilitation programs for all severe TBI survivors. Rehabilitation interventions should also include caregivers and be directed at strengthening social support of these caregivers of individuals with TBI to improve mental health and contribute to more optimal care for these patients.<sup>10</sup> Finally, it is imperative that healthcare professionals in the region collaborate very closely with government officials to ensure that the knowledge acquired can be leveraged to bridge the gaps and used to draft fair and effective public health policies to reduce the burden of severe TBI and its terrible human and economic consequences.

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