



The Impact of Challenges in Data Linkage between Prehospital and Hospital Trauma Registries

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Editorial

The fundamental pretext of an organized system of trauma care is to “get the right patient, to the right place, in the right amount of time” [1,2]. The “right amount of time” was coined as the “Golden Hour” [3]. Another important aspect of the trauma system is that of oversight and performance improvement [4].

One of the challenges in meeting those basic tenants is the difficulty in linking prehospital and trauma registry data. Additional challenges include the absence of quality data; the lack of identifiers such as name. Misspellings or key stroke errors in the records confound the challenge further. The aforementioned issues make deterministic linkage difficult.

For nearly two decades, there have been probabilistic efforts in the US to link disparate data sets [5]. High order statistical skills and computer resources are essential in increasing both the match and confidence rates [5-7].

Efforts to increase the ability to deterministically match prehospital and trauma registry records have included a proposal to generate a Global Unique Identifier (GUID) across registries and Arkansas’ trauma system efforts to successfully deploy a “trauma band” to be placed on the patient’s wrist by the initial care provider and remain in place until the patient has transitioned out of the trauma system. Early trauma band implementation challenges have included care providers adjusting to a requirement that can easily be forgotten. In a recent comparison of trauma care prior to and following the implementation of a trauma care system approximately 33% of patients had a matching trauma band number linking the prehospital patient care report, the hospital and trauma registry. Improved matching is anticipated in the future [8].

Quality data are essential to trauma system performance improvement. Without the ability to routinely and accurately link prehospital, hospital and trauma registries those data and subsequent performance improvement efforts are compromised. Issues concerning funding for improving or changing existing programs for electronic records must be addressed as well as research that includes cost benefits for care providers and patients. This is of particular concern for rural/frontier prehospital and hospitals where the rates of injury are the highest. Continued efforts to create methods of deterministic linkages such as those described in this editorial are warranted.

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Received Date: 06 Jul 2017

Accepted Date: 19 Jul 2017

Published Date: 27 Jul 2017

Citation:

Sanddal ND, Sanddal TL, Mann CN.
The Impact of Challenges in Data
Linkage between Prehospital and
Hospital Trauma Registries. Ann
Trauma Acute Care. 2017; 1(1): 1002.

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