**CONTRIBUTION OF LEVEL 1 TRAUMA CENTRE ON PROBABILITY OF SURVIVAL (AI)**

**Authors**

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**Background**

While South Africa has a number of hospitals with specialised trauma capabilities, only two hospitals are accredited level-1 trauma centres as defined by the Trauma Society of South Africa (TSSA). No study has yet been conducted in which the impact of a trauma centre on the probability of survival for trauma injuries is measured in the South African context.

**Methods**

A forward stepwise multivariate linear regression and the Trauma and Injury Severity Score (TRISS) methodology were used to isolate the impact of level-1 trauma centres and evaluate their care. In order to verify the statistical significance for each hospital a Z statistic was calculated. The Z statistic is an outcome comparison between the two subsets namely the number of survivors versus the predicted number of survivors.

**Ethical Considerations**

AI exercise is carried out on a completely de identified anonymized data base Medibank.

Internal Ethics committee permission granted

**Outcomes**

Both the stepwise regression exercise and the statistical significance test of actual and expected mortality rates using the TRISS methodology indicated that the presence of a level-1 trauma centre materially increases the probability of survival of a high priority patient with a trauma injury. While the exact impact of Hospital A and B are not clear, evidence suggests that it exceeds the widely accepted 50 % standard established by the MTOS. These findings provide valuable insight to the broader South African trauma community and embed South Africa in the international discourse on trauma care.