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Eliminating preventable death on the battlefield.

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Abstract

OBJECTIVE: To evaluate battlefield survival in a novel command-directed casualty response system that comprehensively integrates Tactical Combat Casualty Care guidelines and a prehospital trauma registry.

DESIGN: Analysis of battle injury data collected during combat deployments.

SETTING: Afghanistan and Iraq from October 1, 2001, through March 31, 2010.

PATIENTS: Casualties from the 75th Ranger Regiment, US Army Special Operations Command.

MAIN OUTCOME MEASURES: Casualties were scrutinized for preventable adverse outcomes and opportunities to improve care. Comparisons were made with Department of Defense casualty data for the military as a whole.

RESULTS: A total of 419 battle injury casualties were incurred during 7 years of continuous combat in Iraq and 8.5 years in Afghanistan. Despite higher casualty severity indicated by return-to-duty rates, the regiment's rates of 10.7% killed in action and 1.7% who died of wounds were lower than the Department of Defense rates of 16.4% and 5.8%, respectively, for the larger US military population ($P = .04$ and $P = .02$, respectively). Of 32 fatalities incurred by the regiment, none died of wounds from infection, none were potentially survivable through additional prehospital medical intervention, and 1 was potentially survivable in the hospital setting. Substantial prehospital care was provided by nonmedical personnel.

CONCLUSIONS: A command-directed casualty response system that trains all personnel in Tactical Combat Casualty Care and receives continuous feedback from prehospital trauma registry data facilitated Tactical Combat Casualty Care performance improvements centered on clinical outcomes that resulted in unprecedented reduction of killed-in-action deaths, casualties who died of wounds, and preventable combat death. This data-driven approach is the model for improving prehospital trauma care and casualty outcomes on the battlefield and has considerable implications for civilian trauma systems.