

MHSRS 2026 Abstract 1042 Session: Fighting the Invisible Enemy: Combating Antibiotic Resistance in Combat Wounds

Title: Immediate Battlefield Antibiotic Delivery at the Point of Injury, Preventing Prolonged Field Care Infections

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Introduction:

Combat healthcare faces a critical challenge: preventing infections during Prolonged Field Care (PFC). Preventing infection and sepsis remains a pivotal concern, with historical data revealing the persistent threat of infections leading to preventable casualties among military forces. Large Scale Combat Operations (LSCO) will result in massive disruption of medical logistics and trauma care in the 100,000s. Injured will not be cared for in the “Golden Hour,” day or even 72 hours or more. Infection and sepsis will be new global norm akin to 1800s warfare but often with less access to surgical interventions. The National Defense Authorization Act (NDAA), unclassified open source NDAA, OSD, DOW, DHA and themes the last seven years of MHSRS, SOMA, AUSA and Operational Medicine Conferences continue to prepare the nation and our medical system to get ready for LSCO.

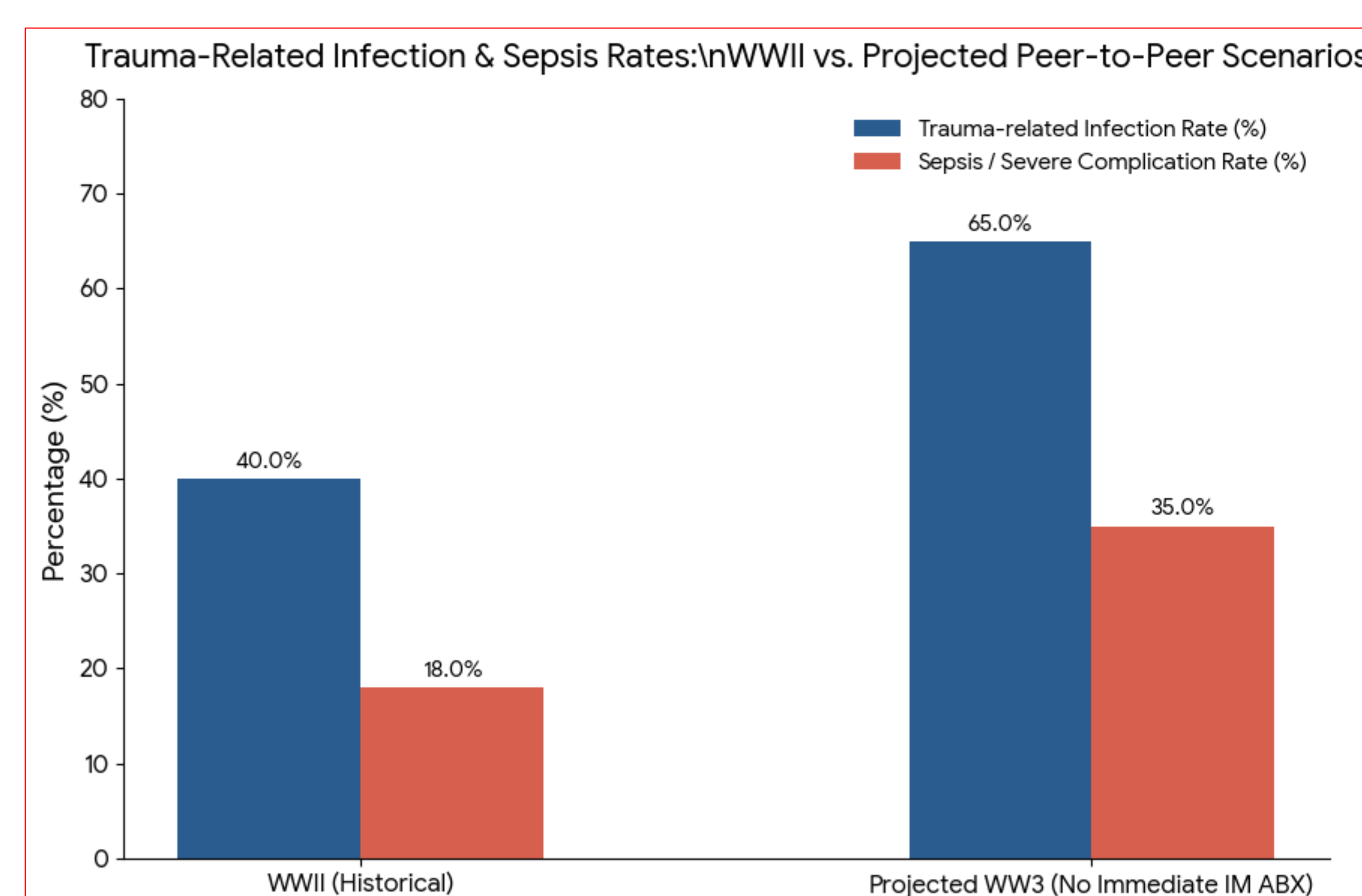
Discussion:

Not addressing the historic delivery of battlefield antibiotics is akin to not focusing on drone warfare. We either rapidly advance or we will suffer immensely and unnecessarily. Medicine is the worst at edicts, protocols, mantras and self-induced barriers when often obvious solutions exist. The medical protocol and science of shifting to tourniquets, freeze dried plasma, and TXA that took decades to embrace is tragic and cost lives.

Rapid delivery of safe antibiotics is obvious to prevent infections, sepsis, suffering, death and complications. Antibiotics (ABX) come in three primary delivery forms, oral, IV and IM administration. IV ABX must be often reconstituted, dosed and drawn up. Then an IV line must be started, and those supplies must be on hand. Global conflict will destroy logistical lines and constrain evacuations. Casualties will not be in hospital settings for days or even weeks. IV fluids are bulky and the wrong IV fluid or cold IVs can kill. Training stopped over a decade ago. A system to immediately safely start TCCC antibiotics anywhere, by anyone is needed.

TCCC oral medications have a role but compliance is always an issue. The most efficient solution for traumatic LSCO Point of Injury (POI) casualties is immediate self IM delivery. IM offers rapid, accurate medication administration, streamlining combat healthcare delivery and reducing logistical burdens for field medics and medical teams. This presentation explores the practical implications of IM ABX dosing, aligning with the evolving landscape of military operations. General John M. Murray's emphasis on transitioning from "saving every life" to "saving the most lives" underscores the critical role of ABX in combat care, especially amid intense LSCO scenarios. Immediate access to ABX through IM/IV dosing not only meets TCCC recommendations but also reflects the innovative ethos of the DOW. Advocacy for IM ABX underscores its potential as the global standard in trauma medicine, simplifying protocols and enhancing operational readiness in the most austere environments. In conclusion, the adoption of IM ABX delivery represents a pivotal advancement in combat healthcare, promising to mitigate infection-related casualties and optimize outcomes in challenging operational environments.

Sepsis Kills in LSCO 0.9% OEF/OIF vs 40% in LSCO



LSCO will generate up to 3,000 casualties per day for a standard force of 100,000 deployed soldiers.

Large-Scale Warfighter Exercises: Projections for full-scale operations estimate up to **50,000 total casualties** per major campaign phase, breaking down into approximately 10,000 killed, 30,000 requiring evacuation.

No Golden Hour, Day or Week.

PUBMED & Army University Press

Methods:

Using open source NDAA, OSD, DOW, study of WW1, WW2, current conflicts PACOM and AI predictions, Pub Med, attending DHA, MHSRS, SOMA, AUSA, SOF Week, Joint Medical Journals, Operational Medicine and 40 years of experience

Results:

Advocacy for the paradigm shift to IM Antibiotics is being driven by the DHA and military medicine. The shift underscores the speed, safety and reduced training and logistical burdens as the new global standard in trauma medicine. This simplifies protocols and enhances operational readiness in the most austere environments and frankly in dual use civilian settings. No dosing errors, no IV complications. The adoption of IM antibiotic delivery represents a pivotal advancement in combat healthcare, promising to mitigate infection-related casualties and optimize outcomes in challenging operational environments. Four decades of study, real world military medicine, hospital systems, MASCALS, disaster zones, and research lead this author to clear conclusions. The delivery of battlefield antibiotics should be immediate, dose -controlled drone ready and universal available. Delivery should be immediate by anyone, anytime anywhere.

Enhancing Combat Healthcare: The Paradigm Shift to Intramuscular Antibiotic Delivery

Conclusions

Infection and sepsis during LSCO will reach staggering rates never seen in modern war. The NDAA and open-source intelligence are clear. The TCCC guidelines are clear. If conflict occurs, we must be ready and we must be able to pivot rapidly and think in global medical and logistical (supplies, cost, training, access) mindset saving the most lives. Drone delivery and simplicity are a must. Modern autoinjectors are often one step systems.

As rapidly as possible from POI antibiotics need to be started on casualties to prevent and slow infections in complex and even simple battlefield wounds. Oral, IV and IM delivery can offer rapid, accurate medication administration; however, IV delivery is not sustainable from a logistics and training footprint. In appropriate walking wounded cases oral delivery is ideal. In the rest of the penetrating, severely injured cases, a simplified approach is mandated. Streamlining combat healthcare delivery and reducing logistical burdens for field medics and medical teams is as much of a decision point as antibiotic resistances. Septic patients require extraordinary resources in regular healthcare. One thing is certain: in LSCO and PFC delays in TCCC antibiotics will result in hundreds of thousands of preventable infections and deaths with massive demands on deployed and stateside healthcare teams.

This poster explores the practical implications of immediate IM antibiotic dosing, aligning with the evolving landscape of military operations. General John M. Murray's emphasis on transitioning from "saving every life" to "saving the most lives" underscores the critical role of antibiotics in combat care, especially amid intense operational scenarios. Immediate access to antibiotics through IM/IV dosing not only meets TCCC recommendations but also reflects the logistical and safety demands of global LSCO of military and civilian casualties with massive delays in traditional healthcare standards.