

Algorithmic Triage & Decision Support for IDF Healthcare Services: Hybrid Routine Care in Operation "Roaring Lion"

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Introduction

- Coordinating medical care during conflict requires **rapid clinical decision-making** across distributed sites.
- This study examines **algorithmic triage and remote clinical decision-support systems** deployed by the IDF Medical Corps to allocate soldiers to appropriate care modalities - remote consultation, automated chatbot triage, WhatsApp-based communication, or in-person evaluation - during Operation "Roaring Lion."
- The framework prioritizes **clinical effectiveness** while maintaining information security and managing resource constraints in **austere, high-stress operational environments**.

Methods

- Mixed-methods design** integrating quantitative operational data with qualitative frontline perspectives.
- Quantitative analysis tracked **utilization data, automated triage accuracy, chatbot protocol changes, response times, and clinical thresholds** determining remote vs. in-person care.
- Qualitative component: **Thirteen semi-structured interviews** with clinical staff and patients, characterizing **decision processes, barriers, and perceptions** of algorithm-guided allocation care under wartime stress.

Conclusions

- Systematic algorithmic triage** and remote decision-support integration preserve medical continuity during prolonged conflict.
- Formalizing **WhatsApp and chatbot protocols** with dedicated clinical algorithms enhances first-line responsiveness.
- Tele-mental health protocols** warrant standardization for wartime deployment.
- Embedding **pre-deployment remote-care scenarios** into routine training improves staff readiness and resilience - directly supporting warfighter medical readiness in future large-scale combat operations.

Results

- Quantitative findings showed **increased written-contact volume (78.5%)** with completion of structured screening questionnaires and **systematic changes** in soldier engagement with automated chatbot triage.
- High satisfaction (≥85%)** with WhatsApp-based and telephone mental-health services.
- Findings informed a **structured algorithm** linking clinical presentation, automated triage outputs, security requirements, and resource availability to **explicit thresholds** for remote versus face-to-face encounters.



Five Key Themes

