Global Health Engagement in Asymmetric and Hybrid Conflict: Lessons from Ukraine

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UK-FID

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• John Quinn and Patrick Chellew have worked in an contractor capacity to the Ukrainian World Congress (2014), Medsanbat Initiative (2015), as Subject Matter Experts (SMEs) to NATO (2015-2018) and as contract researchers from 2014- present.

DISCLOSURES
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• Other: Northwick Park Hospital (NHS) Emergency Department staff, Global Response Management (GRM) acting Medical Director
OBJECTIVES

- Review Global Health Engagement (GHE) in warfare, Ukraine 2014 - present day
- Medical JFO/ATO Report (previously the Medical ATO Report) and evidenced based approach to GHE
- New threats - New opportunities - Back to the Future in prehospital medicine
- Expanding civ-mil interoperability for medical readiness
- The Evacuation Chain in Ukraine a historical perspective - Trains, planes and automobiles
- Real World Civilian-Military Medical Exercises (Civil-Military Collaboration)
- Conclusions

RESEARCH ASSUMPTIONS

- All patients in conflict, war and disaster deserve best practices and the best medicine possible
- Global Health and Global Security are linked
- Global Health Engagement requires relationships and communication
- The Lessons Learned process is valid and transferable in conflict - best practices are

UKRAINE 2013-PRESENT DAY

- After 5 years of “active” conflict, health-care resources in conflict-affected areas of Ukraine remain stretched and humanitarian and M2M support remains complex.
- “Reforms” in 2010-2013, systematically stripped Ukraine MoD and replaced key leadership with Russian oriented individuals: impact to governance, outcomes and preparedness / response
- Health facilities and infrastructure weak: poor access for civilians to primary health care and trauma services, further development of the civ-mil collaboration.
- “… 3.4 million people in Ukraine urgently require humanitarian assistance and protection. The humanitarian response plan urgently needs US$181 million to close the funding gap.” - UNOCHA.
- Spikes and upticks in warfare activity at the JFO lead to increased mortality and morbidity

Do you have a few recent photos we can add to an addition aside after this one? Maybe Azov ... Avdivka ... Clinical or otherwise?

john quinn, 11/20/2018
THREAT ENVIRONMENT
- Insurgencies, non-state actors, fragile and failed states, ungoverned spaces, asymmetric and hybrid tactics
- NATO Article 5 – sub-threshold events
- Shifting away from unipolarity to near-peer / peer-peer adversaries* and conflicts
  - Golden Hour Adaptation: casualty rates ↑↑ / morbidity and mortality ↑↑
    - Adaptation of the Evacuation Chain
- Multi-Domain battle – how will this affect the current prehospital medicine paradigm
- The future and medical innovation, will it be driven by evidence – where is your evidence coming from?

*HOW LONG CAN THE U.S. MILITARY'S GOLDEN HOUR LAST? WAR ON THE ROCKS, OCTOBER 2018
TANISHA M. FAZAL, TODD RASMUSSEN, PAUL NELSON, AND P.K. CARLTON

JOINT FORCES OPERATION MEDICAL REPORT (JFOMR) / MEDICAL ATO REPORT
- Evidenced based decision making
- Morbidity and mortality data
- Military to Military (M2M) support
- Military-Civilian (Civ-Mil) Support

TANGIERS INTERNATIONAL // EVACUATION CHAIN IN WAR AND DISASTER
Joint Forces Operations / Anti-Terrorist Operations (JFO/ATO) Medical Report

- Executive summary: key findings and policy recommendations
- Discussion of methodology
- Rapid review of morbidity and mortality information
- Review of new weapons systems, tactics and locations included in warfighting
- Challenges, barriers, blocs, bad actors and obfuscation description
- Review of best practices based on DoD, NATO and partner nation standards
- Maps, data points, case studies, analytics and translations
- Summary and key recommendation descriptions

When you don’t rule the air

THE DATA

Ukrainian case-fatality rate = ?

Ratio – “Killed to Wounded”
- 1:2.4 (2014)
- 1:4 (2015)
- 1:6 (2016)
- 1:7 (2017)

E. Khoroshun, 2017

Morbidity and mortality data across ministries epidemiologically challenging

Telemedicine: cell phone (all dead), radio (doesn’t work), whatsapp, photos and movement - other platforms

Echelons of care: PD - Role I -> (II) 12 reinforced civilian hospitals (Role II to IV) -> (II) 4 MPH -> (IV/F) Mechnikova, Kharkiv Med Hospital, Kharkiv Institute of General Emergency Surgery -> rehabilitative care

Since the beginning of ATO, we have lost 46 military medical workers dead on the battlefield. More than 200 health workers were injured. (does not account for civilian medical teams).

Military Medical Directorate of Ukraine
If there are any clinical details or photos we can add here it would be great ... from training or operations ... we can put them in additional slides ... not only here.

john quinn, 11/20/2018
CASE STUDY #1: AZOV REGIMENT

- Regiment of the National Guard of Ukraine
- Deployed in Mariupol with MoD Marines
- Active in TCCC and TCCC-AP/MP courses
- Translated and trained Deployed Medicine video and material
- Trained in Blood Far-Forward - need help with Walking Donor
- Clinical Procedure Guidelines (CPGs)
- Application of DoD Standards
- Not recognized by MoD / MoH
- Results:

Deployed Medicine is a platform used by the Defense Health Agency to trial new innovative learning models aimed at improving readiness and performance of deployed medical personnel.

Anecdotal evidence that 10 lives were saved through the use of TCCC since 2017 and present day, per AZOV chief medic.
NAEMT in Ukraine

- NAEMT best practice standards in both military and civilian prehospital domains
  - TCCC, TECC, PHTLS etc
- Ukrainian Military Medical Academy and its 10 university integrated military medical departments
- Non-military educational institutions: national police academy, national academy of post graduate education and medical colleges, which train allied health providers
- NAEMT designated affiliate faculty for Ukraine: rihrih@wfuma.org

Global Health Engagement

- DoD in Ukraine: Office of Defense Cooperation (ODC)
- Leadership role for support of Ukraine MoD and other agencies
- Evolution of warfare required increase of engagement, early–on, health and medical excellent opportunity for engagement
- 2015/2016 – ODC appointed a joint position (DoD/DoS) for all things medical and health
- Multiple GHE activities for training in the prehospital space
- Joint Contact Team Program-Ukraine (JCTP) – to deploy US military teams to Ukraine to acquaint the Ukrainian military with various aspects of western militaries
- International Military Education and Training (IMET) – provides training in the United States to selected foreign military and related civilian personnel.
- Foreign Military Sales/Foreign Military Financing
- California–Ukraine State Partnership Program – directly supports both the goals of the US Ambassador to Ukraine and Commander, U.S. European Command. As part of the Governor’s Cabinet, the Adjutant General of the California National Guard facilitates partnerships throughout the state and local governments in California as well as the private sector.

Blood Far Forward: 2014-present

The procedure for carrying out any operation of hemotransfusion is regulated by the Order of the Ministry of Health of Ukraine dated July 05, 1999, No. 164 "Instruction on blood transfusion and its components”.

- Transfusion of the freshly prepared whole blood from the donor directly from the donor is a forced measure in the extreme situation in the event of massive blood loss.
- Also, the availability of equipment for high-quality and rapid defrosting of the FFP allows to prepare the transfusiology environment in motion.
- The use of the "universal plasma" of the AB (IV) group at the initial stage makes it possible to accelerate the process of conducting anti-shock measures at the prehospital level.
- Plasma vs. whole blood, in Ukraine based on availability and logistics for JFO

Blood POC in Ukraine: Rostyslav Zauralsky
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MEDICAL INNOVATION

- 2014: TCCC concepts
- 2015: Blood / Blood Products Far Forward, DCR, Civilian Medical Facilities / Military Staff (regulation)
- 2016: ECMO, proof of concept, prolonged field care (PFC)
- 2017: DCR / Damage Control Surgery (DCS) at Role II enhanced
- 2018: drones, MASCAL: train, sea-based evacuation, advancements in Role II+ and the evacuation chain, En Route Combat Casualty Care (ERCCC), antimicrobial resistance
- 2019: civil-military cooperation, Joint Trauma Registry (DoD), THOR, RDCR enhancements; interchange of data across ministries with NATO and NATO partner states
- 2021: NATO Vigorous Warrior (VW) live exercise - Role II focus and Interoperability - LL from Ukraine

FUTURE THREATS

- Injuries patterns and weapon systems: laser, directed energy, thermobaric; DU, WP; nuclear (CBRN)
SUMMARY

- Shift from rapid MEDEVAC to bringing life-saving capabilities directly to the patient - blood and medical capability.
- Prolonged Field Care (PFC) / En Route Combat Casualty Care (ERCCC) - timelines
- Military-civilian cooperation must adapt its medical technologies, training, and expectations to align with the threat and capability for near peer and peer adversaries
- Relying on host nation hospitals or medical systems to supplement NATO Medical Doctrine Standards - get out there

FINANCIAL DISCLOSURES IN DETAIL

Ukraine:
- Ukrainian World Congress (2014)
- Elena and Viktor Pinchuk Foundation - Medsanbat (2015) for Ukraine Military Medical Academy
- Canada Ukraine Foundation (CUF) (2016) [assessments and Reforms Office Working Group before cancellation]
- Prague Center for Global Health, Charles University (various)

REFERENCES AND CITATIONS
