

The Military Experience

National Guideline Development
Funding, Logistics, Dissemination
and Implementation Challenges

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Disclaimer

- The opinions or assertions contained herein are the private views of the author and not to be construed as official or as reflecting the views of the Department of the Air Force, the Defense Health Agency or the Department of Defense.
- There are no conflicts of interest to disclose.

Learning Objective & Pre-Session Poll

Learning Objectives

- Discuss the Joint Trauma System's evolution and future ideal state for guideline implementation.
- Identify military lessons in guideline implementation that can be implemented in civilian practice.

Pre-Session Poll

1. Does your hospital have a guideline for “Damage Control Resuscitation” (balanced resuscitation) of trauma patients?
2. Has your trauma system implemented Pre-Hospital transfusion for trauma patients?

The Evolution of the Joint Trauma System 2005-2024



Right Patient, Right Care, Right Place, Right Time

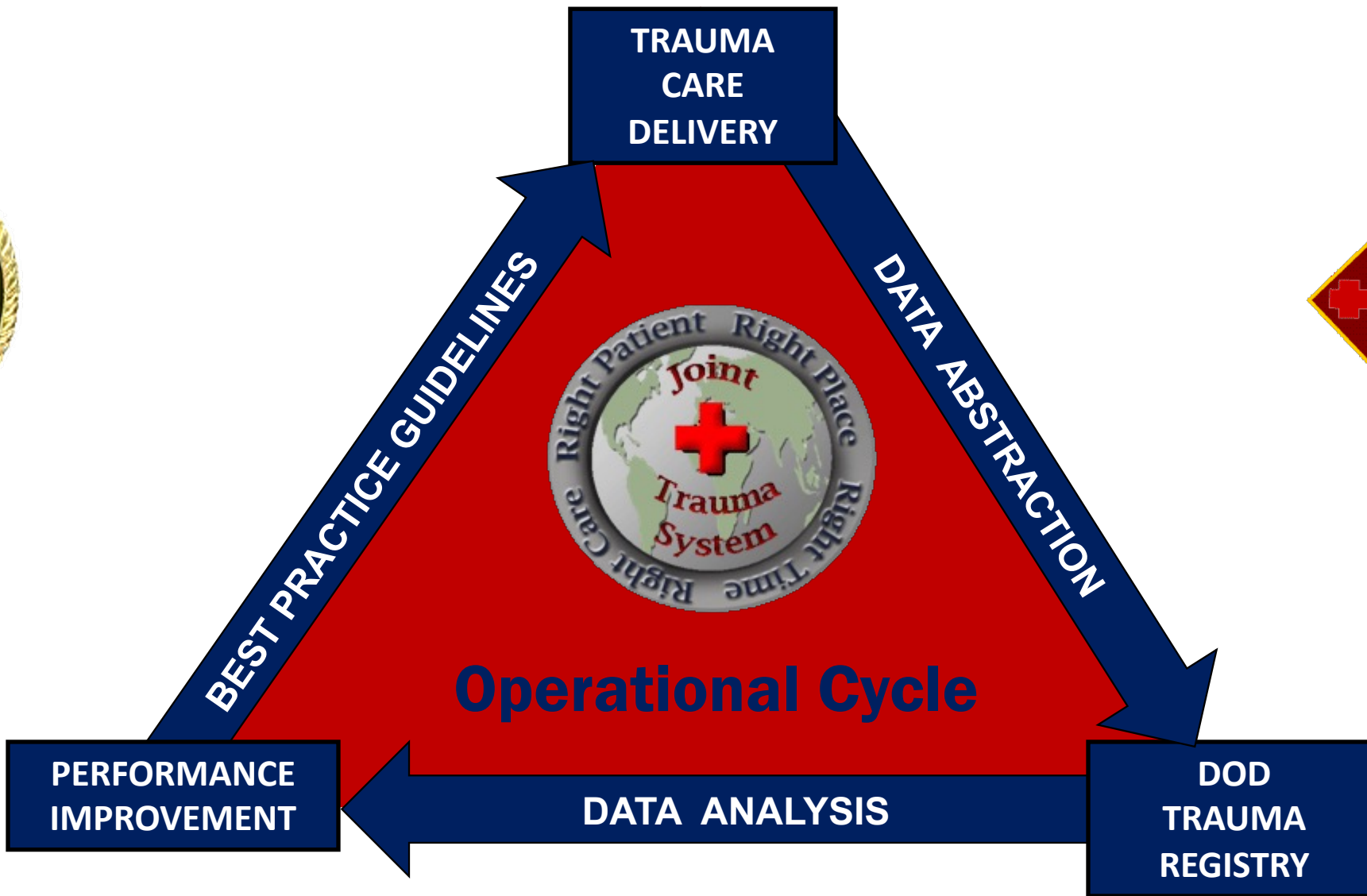


JTS Vision



That every Soldier, Marine, Sailor, or Airman injured on ANY battlefield or in ANY theater of operations has the optimal chance for survival and maximal potential for functional recovery.

BOLD, RESPONSIBLE PRACTICE OF BATTLEFIELD MEDICINE



**TRAUMA
CARE
DELIVERY**

BEST PRACTICE GUIDELINES

DATA ABSTRACTION

**PERFORMANCE
IMPROVEMENT**

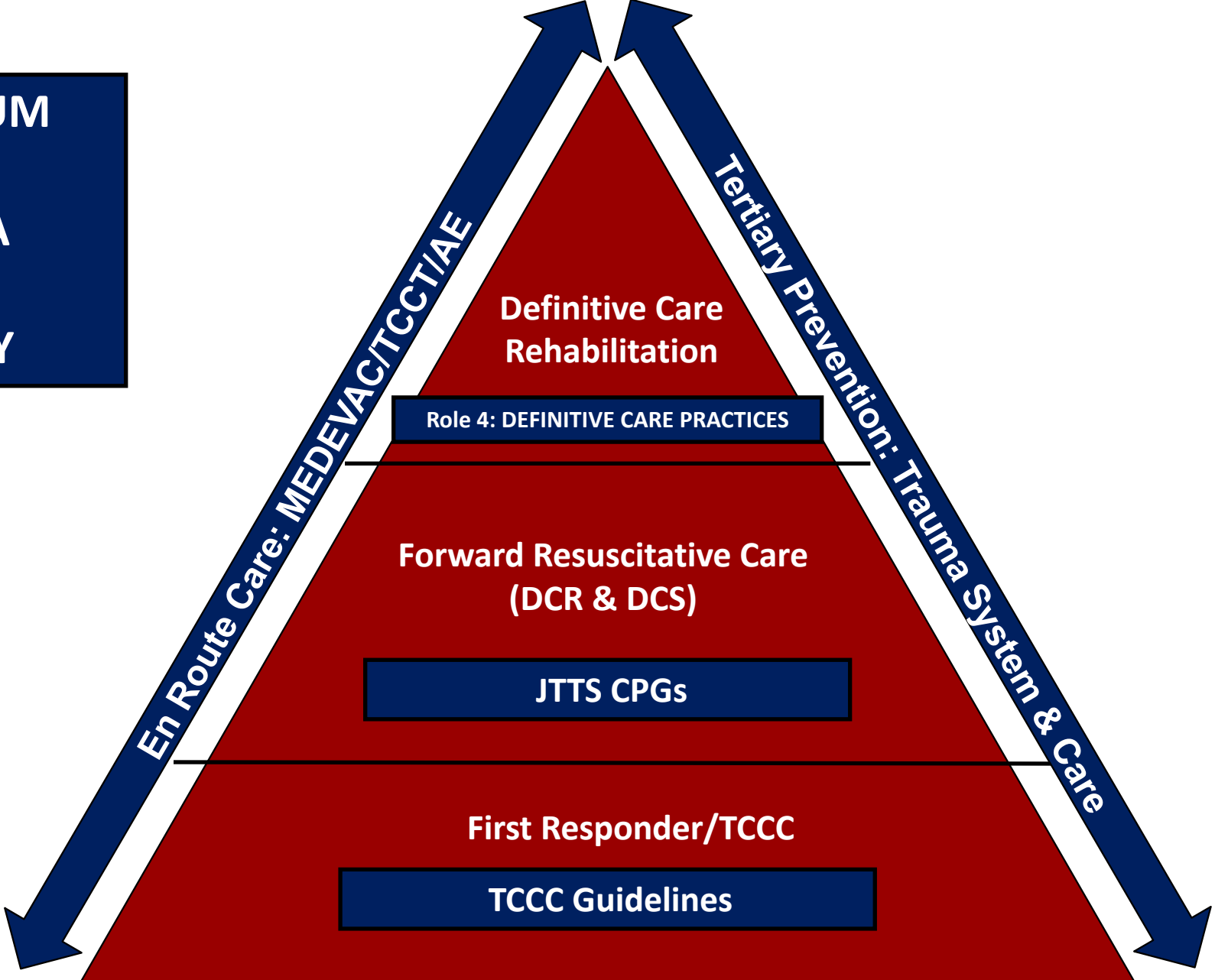
DATA ANALYSIS

**DOD
TRAUMA
REGISTRY**

Operational Cycle



**CONTINUUM
OF
TRAUMA
CARE
DELIVERY**



PREVENTION

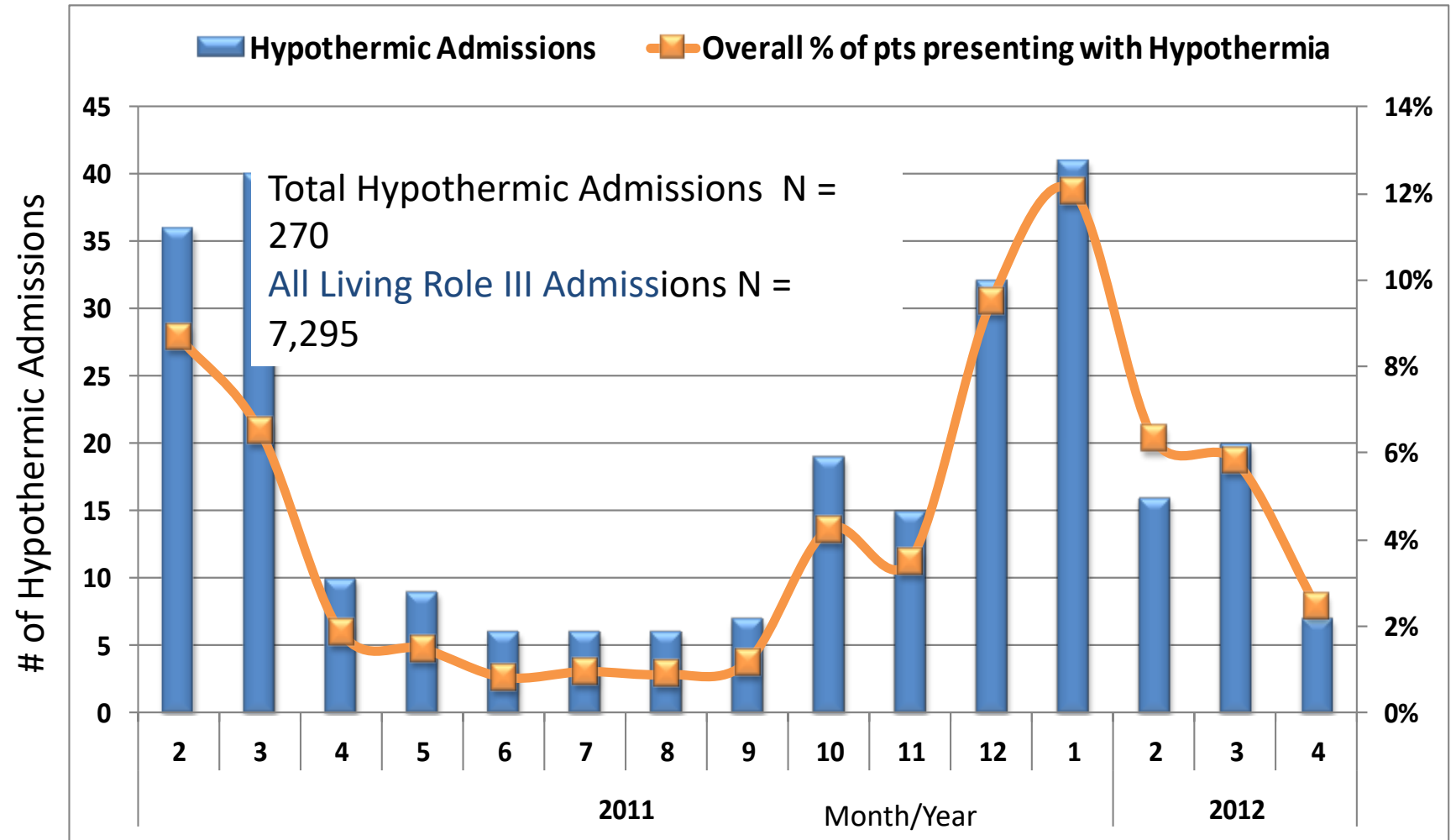
Tactics, Techniques, Procedures & PPE

JTS Performance Improvement

- ❑ Data – DoD Trauma Registry
- ❑ Communication – VTCs
- ❑ Analysis – Performance Improvement
- ❑ Clinical Practice Guidelines

15 Month Hypothermia Trends:

Admissions with Temp < 96°F



% of Admissions that are Hypothermic

CPG Impact, 2009

	Pre-CPG	Post-CPG	p	CPG Compliance
Burn Resuscitation Associated Abdominal Compartment Syndrome Mortality	36 %	18 %	<0.05	94 %
Hypothermia on Presentation	7 %	1 %	<0.05	84 %
Massive Transfusion Mortality (≥ 10 u RBC / 24 hr)	32 %	20 %	<0.05	85 %

Strategic Websites and Phone App

JTS.health.mil
Deployedmedicine.com

DEPLOYED MEDICINE Search Deployed Medicine INSTRUCTORS ABOUT LOG IN

STANDARDIZED TCCC TRAINING ACROSS THE ENTIRE U.S. MILITARY

FEATURED CONTENT

- TCCC... by JTS / CoTCCC
- Tourniquets & Tourniquet Conversion 2023 by JTS / CoTCCC
- PROLONGED CASUALTY CARE (PCC) 21 DEC 2021 by JTS / ...
- CoTCCC & PCC-WG CONSENSUS STATEMENT by CoTCCC &...

[VIEW ALL](#)

COLLECTIONS

- TACTICAL COMBAT CASUALTY CARE** [VIEW COLLECTION >](#)
- CLINICAL PRACTICE GUIDELINES** [Browse CPGs](#)
- CANINE TACTICAL COMBAT CASUALTY CARE**
- ASM TCCC**
- ALL SERVICE MEMBERS**
- COMBAT LIFESAVER**

Joint Trauma System
The Department of Defense Center of Excellence for Trauma
Bold, Responsible Practice of Battlefield Medicine

JTS Mission
The mission of the Joint Trauma System (JTS) is to improve trauma readiness and outcomes through evidence-driven performance improvement. The JTS vision is that every Soldier, Sailor, Airman and Marine injured on the battlefield or in any theater of operations will be provided with the optimum chance for survival and maximum potential for functional recovery.
[Read more >>](#)

Performance Improvement
JTS supports US military performance improvement (PI) initiatives and activities by identifying, tracking and making recommendations on efforts to ensure the appropriate evaluation and treatment of injured Service members across the continuum of care, improve medic training and ensure medical readiness.
[View details >>](#)

Trauma Registry
The DoDTR is the first and only DoD trauma patient registry to collect combat casualty care epidemiology, treatments and outcomes from point of injury to recovery. The DoDTR contains identified information taken from medical records, expert clinical inference, scoring and coding schematics, probability determination and PI data.
[View details >>](#)

JTS Operations
As the DoD Center of Excellence for MHS trauma care delivery, JTS directly assists each Combatant Command in trauma system planning, treatment, management, and improvement of casualty outcomes to include battle injuries, disease non-battle injuries and all-hazard settings through evidence-driven performance improvement.
[View details >>](#)

Defense Committee on Trauma

Tactical Combat Casualty Care



Surgical Combat Casualty Care



En Route Care

Damage Control Resuscitation

Fluids for Resuscitation



Guidance: To treat and reverse hemorrhagic shock and to provide warm whole blood as close to the time-of-injury as possible.



**Low Titer O
Whole Blood**

**(LTOWB) is the
FLUID OF CHOICE
for damage control resuscitation
(DCR).**

**If LTOWB
is unavailable,
administer pre-
hospital DCR fluids
from most to least
preferred**

- ▼ Plasma, platelets, and red blood cells (RBCs) in a 1:1:1 ratio
- ▼ Plasma and RBCs in a 1:1 ratio
- ▼ Plasma or RBCs alone

JTS CPG ID: 18



Introduction to Damage Control Resuscitation



The Damage Control Resuscitation Clinical Practice Guideline was updated based on new evidence and approved by JTS leadership for full implementation in July 2019.

What is a clinical practice guideline (CPG)?

CPGs detail best practices for optimal care obtained from a systematic review of scientific evidence. CPGs are based on the latest clinical research that is vetted by trauma experts from across the military and civilian sectors. CPGs are not a substitute for professional clinical judgment.

What is the Joint Trauma System (JTS)?

The JTS serves as the reference body for all DoD trauma care by the authority of NDAA 2017 Section 707. The JTS is a performance improvement organization that utilizes a systematic approach to determine the acute and long-term outcomes of all casualties, quality of care, improvements in prevention and treatment, and logistical implications.

What is damage control resuscitation (DCR)?

DCR is a complementary strategy to damage control surgery: the goal of DCR is to stabilize a casualty enough for surgery. DCR prioritizes non-surgical interventions to reduce morbidity and mortality from trauma and hemorrhage. The major principles of DCR are to restore homeostasis, prevent or mitigate the development of tissue hypoxia, oxygen debt, and burden of shock, as well as coagulopathy.

What are my specific DCR requirements?

Medics/corpsmen: early, aggressive recognition of the need for DCR, early hemorrhage control, early blood administration, and rapid transport to surgical teams.

Snapshot of TXA Availability at Surgical Locations

Asadabad	
Bala Morghab	
Bostick	Yes
Delaram	No
Dwyer	No
Edinburgh	Yes
Farah	Yes
Gazni	Yes
Herat	Yes
Jalalabad/Fenty	Yes
Kileghy	Yes
Kunduz	
MES	
MES/Meymanah	
Payne	No
Qalat/Lagman	
Shank	Yes
Shlrana	Yes
Shindand	Yes
Solerno	Yes
Spin Boldak	
TK/Orgun E	Yes
TK/Role IIE	Yes
Warrior	Yes

Joint Trauma System Dashboards

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 [User Group Access Request](#)

Trauma

- DoD Trauma Registry (DoDTR) Casualty Summary
- Combatant Command Summary Report
- MTF Quality Indicators

Combat Casualty Care Quality Improvement Program (C3QIP)
 Note: Restricted Access dashboards contain detailed information from the medical record. All access versions have sensitive information removed.

- C3QIP Prehospital Blood Transfusion
- C3QIP Prehospital Domain
- C3QIP Role 2

COVID

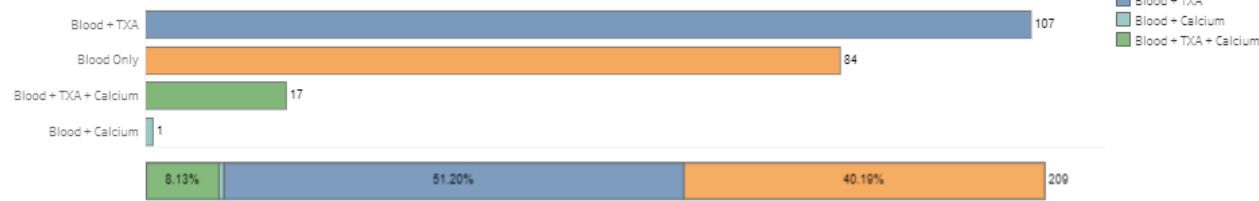
- Abstracted COVID Registry
- COVID Weekly
- COVID Hospitalization Rates
- Vaccines and Adverse Events

General

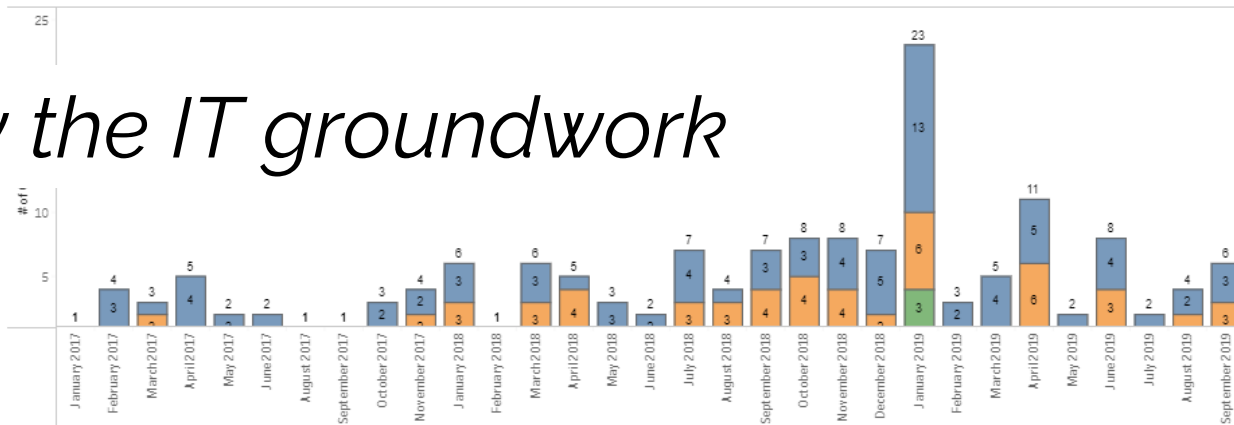
- Lessons Learned from a Post-Deployment Survey

Total Casualties **4,309**

Number and Percentage of Casualties Receiving Prehospital Blood (WB or RBC) by Blood Adjunct Group



Number of Casualties Receiving Prehospital Blood (WB or RBC) by Blood Adjunct Group and Month/Year



Lay the IT groundwork

Home Page | What is the DoDTR? | Demographics | Injury | Blood Products | Custom Query | Data Definitions

DoD Trauma Registry Summary
 Blood Products

Displaying data from **1/1/2011** to **2/8/2024**

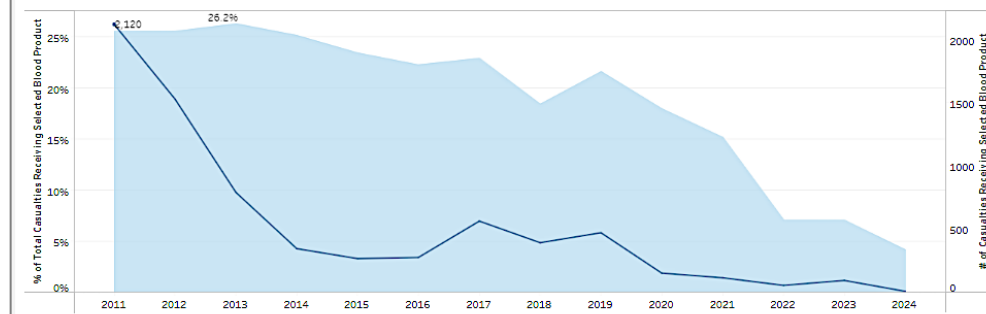
Data Refreshed 2/13/2024 10:17:03 AM

Total Casualties **31,483**

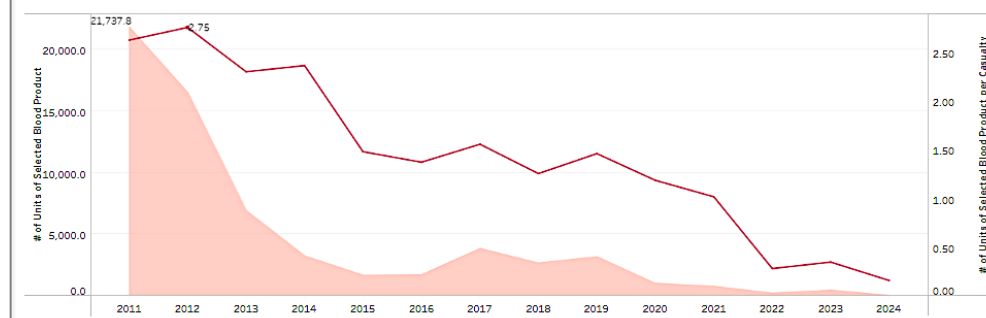
The summary numbers below include any prehospital blood products as well as blood products given at the MTF (Blood products include Whole Blood, Red Blood Cells, Frozen Red Blood Cells, Cryoprecipitates, Freeze Dried Plasma, Fresh Frozen Plasma, and Platelets)

# of Casualties Receiving Any Blood Product	# of Casualties Receiving Any Whole Blood or Red Blood Cells	# of Casualties Receiving Any Whole Blood
7,384	7,145	1,315

of Casualties and % of Total Casualties Receiving Any Whole Blood or RBC (Prehospital and MTF) by Year of Injury Date (Click a metric in the legend to highlight on the graph)



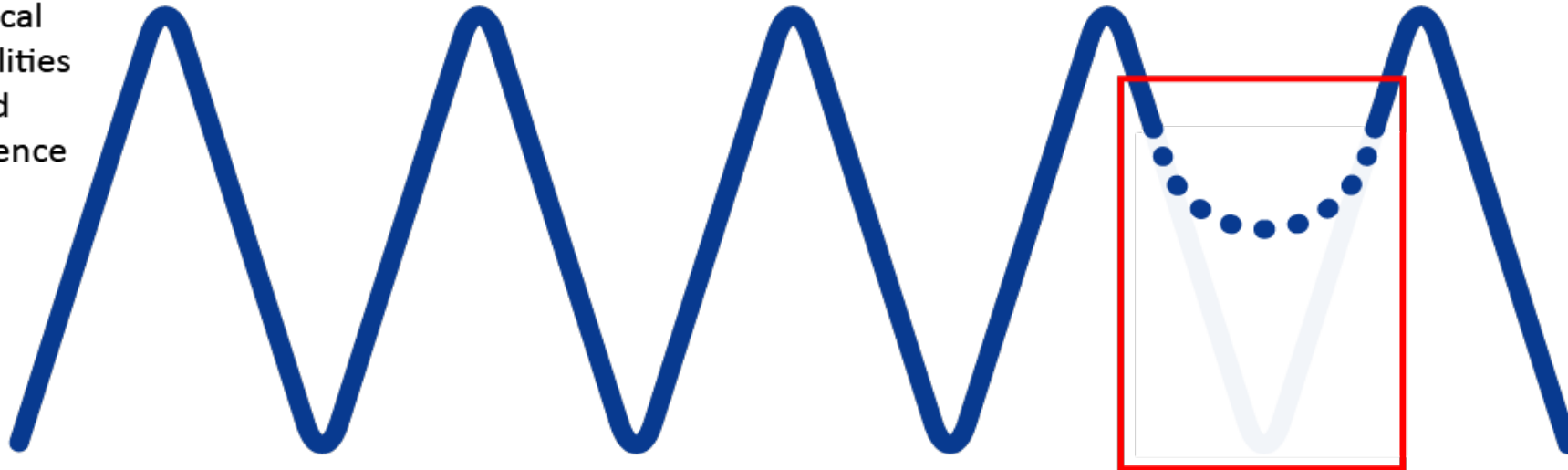
Total Any Whole Blood or RBC (Prehospital and MTF) Units and Units per Casualty by Year of Injury Date (Click a metric in the legend to highlight on the graph)



The Walker Dip

Conflict: WWII KOREA Viet Nam OEF/OIF The Next War...

Medical
Capabilities
and
Experience



Mitigate the Dip

Reasons:

- Loss of leader emphasis
- Impact of fiscal Constraints
- Impact of garrison mentality
- Loss of institutional experience

- **Maintain lessons learned to preserve gains made in survivability rates**
- **Maintain leadership emphasis on medical capabilities**
- **Ensure individual and collective training includes health services support under realistic conditions**

*The basis for this graphic was taken from Surgeon Commodore Alasdair Walker, the United Kingdom's Military Health Services' Medical Director remarks to the Military Health System Research Symposium in 2013.

Lessons from the Military

- ❑ Learn from the past, prepare for the future
- ❑ Commitment to the mission
- ❑ Focused Empiricism
- ❑ The Continuum of Care Conference
- ❑ Role of care-specific guideline implementation
- ❑ Pragmatic guideline update processes
- ❑ The role of the expert committees
- ❑ Recognize people for doing their job
- ❑ Keep the doctrine up to date

Post-Session Check-In

Post-Session Check-In

Which military lesson(s) could best be implemented in your trauma system?