

# University of Colorado Center for COmbat Medicine and BATtlefield (COMBAT) Research

Research in Mental Health, Resiliency, and Psychological Readiness - Insights from a Veteran and Deployed Commander

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University of Colorado  
Anschutz Medical Campus









# Gulf War



# OIF, OEF Burn Pits





# CU Center for COMBAT Research



## Vision

Save and improve lives on the battlefield and at home

## Mission

We solve the U.S. military's toughest medical challenges by leading high-impact research, education, and innovation in collaboration with government, academic, and industry partners. *We turn military medical gains into better health care for all.*

## Research needs

Today's gaps and tomorrow's battlefield

## **How We Help the DoD:**

Executing collaborative research for definitive warfighter health solutions

Development of warfighter solutions to address the DoD's highest priority needs

Advancing DoD biomedical scientists and programs through the best of military-civilian collaboration

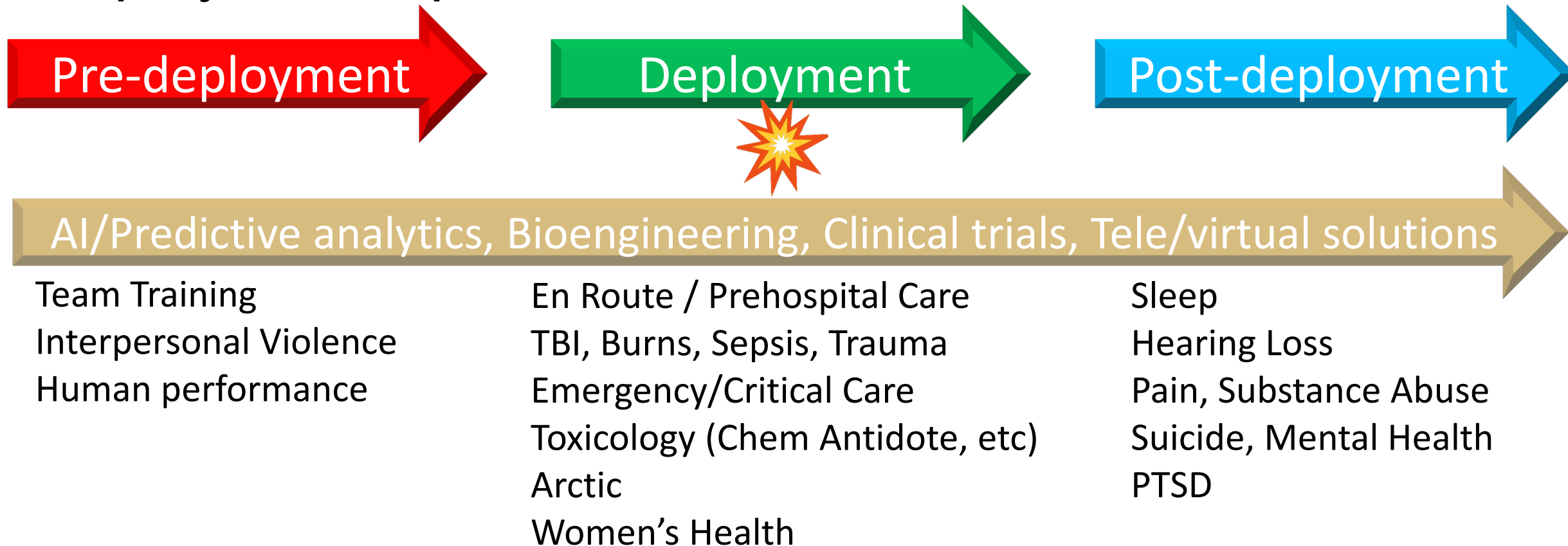


# CU Center for COMBAT Research Overview

- **62** DoD research grants
- **17** Staff Members
- **100** Research Investigators
- **390** High impact publications
- High rate of funding of our research proposals
- Academic, industry and military collaborators



# Acute and emergency care Deployment/Operational Research Areas



## Center for COMBAT Research Strategic Focus Areas:

★ Point of Injury & Prolonged Casualty Care    ★ Critical Injury & Illness    ★ Brain Health





**Anne Ritter, DrPH, MPH**  
Associate Director



**Kathleen Flarity, DNP, PhD**  
**Brigadier General, USAF**  
Deputy Director



**Vik Bebart, MD**  
**Colonel, USAF**  
Director



**Todd Getz, PhD**  
Assistant Director,  
Technology and Innovation



**Sean Keenan, MD**  
**COL, USA Retired**  
Assistant Director, Prehospital,  
Trauma, & Operational Strategy



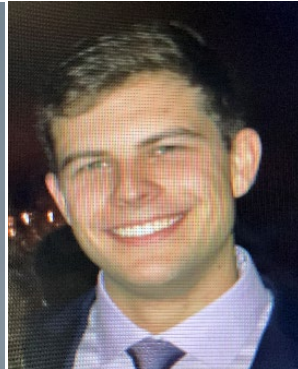
**Anne Libby, PhD**  
Scientist Development Lead



**Ian Stanley, PhD**  
Psychological Health  
Lead



**Alyssa Maxfeldt**  
Program Manager



**Jimmy Eazor**  
Research Professional



**Amanda Ray**  
Admin / Comms



**Erin Anderson, RN**  
Clinical Liaison Lead



**Colleen Miracle**  
Communications  
Manager



**Kristin Maestas**  
Post-Award



**Alex Costakis**  
Pre-Award

**CU COMBAT National Strategic Advisors**  
**Dr. (Col retired) Mike Davis** (was Director CCCRP)  
**Dr. Jonathan Miller** (was DHA/MRDC leader)  
**Susan Sweat**

**100+ COMBAT Center investigators**



## Colorado's installations

The state has seven major military installations:



CU Center for COMBAT Research and CU Anschutz Campus; Aurora, CO



1. Greeley Air National Guard Station
2. Buckley Air Force Base
3. Air Force Academy
4. Peterson Air Force Base
5. Schriever Air Force Base
6. Cheyenne Mountain Air Force Station
7. Fort Carson

Source: Department of Defense  
The Denver Post

7+ military bases w/in 45 min of Univ of Colorado

Center for COMBAT Research

Community Outreach

Our communities, our neighbors, our families, our patients, and our workforce





# Partnerships

## Research Collaborators

Defense Health Agency (DHA)  
DoD Combat Casualty Care Research Prog (JPC6)  
US Army Institute of Surgical Research  
US Army Med Research Institute of Chemical Defense  
Brooke Army Medical Center  
USAF 59<sup>th</sup> Medical Wing  
USAF 711<sup>th</sup> Human Performance Wing  
Uniformed Services University of the Health Sciences  
Special Operations Command  
US Space Force  
US Army Office of the Surgeon General\*  
Naval Health Research Center\*  
U.S. Army Research Inst for Environmental Medicine\*

*\*in development*



## Agreements

Defense Health Agency Educational Partnership Agreement (EPA)

We evaluate DoD research scientist training programs

Uniformed Services University (USU) Research Affiliation Agreement with Univ of Colorado

Streamlined program for research collaborations USU  
military medical students







Our impact in combat –  
delivered home to Colorado civilian communities





# Examples of Mental Health, Resiliency funded DoD studies







## Preventing PTSD and Other Trauma-Related Outcomes

**Dr. Ian Stanley**

Psychological Health Lead  
CU COMBAT Center

### Current/Recent Funding

DOD (CDMRP, MTEC)  
NIH CCTSI

NJ Gun Violence Research Center  
Military Suicide Research Consortium  
American Foundation for Suicide Prevention

### Overall Objective:

Develop acceptable, effective, and scalable interventions that prevent trauma-related outcomes, such as PTSD and suicide

### Population Foci:

Military service members and civilian first responders

### Representative Projects:

Firearm Safety in PTSD (FaSP)

Maximizing Social Health (MeSH)

Written Exposure Therapy for Suicide Prevention (WET-SP)

Community-engaged research with first responders

# Lethal means safety for suicide prevention



Dr. Emmy Betz

## OVERALL OBJECTIVE:

Implement acceptable, effective interventions for suicide prevention in military populations, with a focus on universal secure storage and voluntary reductions in firearm access during at-risk periods to decrease death.

Fort Carson, Buckley, Colorado National Guard



### PROTECT

*Promoting Responsible Ownership and Elevating Community Togetherness*



### Protective Environments

*Military Community Engagement to Prevent Firearm-Related Violence*



### National Guard

*Project Safe Guard Training and Evaluation*



### SECuRe

*Securing the Environment, Connecting to Reduce Risk*

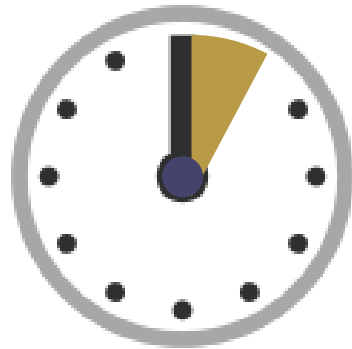




Only **10%** of people with suicidal thoughts/actions **die by suicide**  
(Owens 2002)



But **85-90%** of people who use a gun for suicide **die**  
(e.g., Spicer 2000)



There is often a **short period**  
of final deliberation  
(Hawton 2007, Deisenhammer 2009)



**~3x** risk of suicide death  
in homes with firearms  
(Miller M et al, 2002, 2005, 2007, 2013)

# Brig Gen (Dr.) Kathleen Flarity – DOD award Increasing Resiliency – for burnout, stress



Factors Affecting Readiness & Retention in En Route Combat Casualty  
Care (ERCCC) – A Mixed-method Ethnographic Study in Colorado







# Next steps for PACT Act Research



Partner in research efforts with toxicology and mental health SMEs  
Center for COMBAT Research

- Resource for excellent researchers working in this space
- Access to military/veterans' populations
- Experienced in DoD research
- Expertise in toxicology (Dr. Bebarta, others) and toxic exposures
- Expertise in mental health as it relates to DoD/VA

# CU Center for COmbat MEdicine and BATtlefield (COMBAT) Research: Capabilities, Scientific Innovations, and Solutions

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# DoD Plan

- “Protective environments and healthy climates”
  - A specific element of the DoD’s plan for Integrated Primary Prevention
- Includes “promoting an understanding of lethal means (e.g., firearms, medications, household poisons) safety among the military community”

Figure 6. Enterprise-Wide Program Evaluation Framework

