Committee on Surgical Combat Casualty Care (CoSCCC)
Trauma Medical Director/Trauma Program Manager Meeting

08-09th Nov 2022
San Antonio, TX

Meeting Minutes Prepared by: Mr. Dominick Sestito

Day #1 CoSCCC Nov 8th, 2022

Day 1 – What Does 'Right' look like for the Military's Trauma System			
Time	**Title of Talk**	**Presenter**	**Challenge to be addressed, goals, and potential deliverables**
0800	Welcome/ Introductions: Agenda, Meeting Intent	Gurney	
0820	Evolution of Civilian Trauma Systems	Dr. Ronnie Stewart	**The Challenge:** *The military has stateside and deployed trauma missions and must prepare for deployed trauma care operations. There is a challenging reciprocity between low volume stateside trauma mission and high-volume deployed mission. Legislation to mitigate this (making MTFs trauma centers) helps prepare trauma teams and also prepares these hospitals to be casualty receiving centers in case of a large scale conflict. Does the military need a trauma system that looks similar to the civilian system and how should they interact?* 1) Why civilian trauma systems decrease mortality/why we need trauma systems. 2) Most significant challenges with civilian trauma system implementation 3) The military's role in stateside civilian trauma systems 4) How trauma systems are part in disaster/pandemic planning; the military can learn how to scope/scale/surge a deployable and stateside trauma system
0850	Evolution of Military Trauma Systems	Dr. John Holcomb	**The Challenge:** *The military set up the JTSS without a plan, lives were lost until the JTTS was established. Despite having a CCMD Trauma System framework (CTS DHAPI) the 'go to war' trauma system is not truly established. How does the military always have a 'JTTS' ready to go for each CCMD?* 1) Lessons learned: establishing the Military Trauma System (JTTS) in CENTCOM 2) What were the key leadership/training/infrastructure requirements? How are those sustained? 3) Is it important to maintain a military trauma system in peacetime? The role of the JTS in the interwar period. 4) Lessons learned in standing up the JTTS for things we must maintain to surge the MTS (CCMD trauma system and garrison trauma mission for casualty receiving centers) 5) How can the MHS facilitate the downrange mission in garrison?

0800 – Introduction:

The Trauma Medical Director Summit opened with an introduction by COL Gurney, Chief, JTS and CDR Jensen, the Chair of the Defense Committees on Trauma (DCoT). The agenda was explained and Flag Officers, Distinguished guests and Subject Matter Experts from bot Military and Civilian Partners were thanked for their commitment to help facilitate this meeting.

a. Goals: understand the problem, establish a community of military and civilian surgeons who understand the problem, build a framework for trauma systems capability in Continental United States (CONUS) Military Medical Treatment Facilities (MTFs) and Combatant Commands (CCMD), define components necessary to maintain trauma system expertise in the Military Health System (MHS), and define resources, personnel, leadership, and strategy needed to deliver high quality trauma care in the CTS and the MTFs.

COL Gurney: How do we build and sustain an integrated military trauma system? This is not a new talk – DEC 2018. The Problem: maintaining trauma clinical and systems expertise and readiness in support of two missions: the operational and direct care mission (CCMD trauma system) and MTF mission.
What we have learned: If you have seen one CTS – you have only seen ONE. Each CTS is INDIVIDUAL and UNIQUE…all solutions are inherently local…System development takes a long time, however, in the military we have a short institutional memory.

Dr. Ronnie Stewart - Evolution of Civilian Trauma Systems-

Outlined the Principles and Practices of Trauma System Development and contrasted the amount of money devoted to Trauma (4-5 Trillion) and Mental Health (232 Billion) each year.

Pillars of a modern trauma system: prevention, acute care (communications systems, prehospital, trauma center), rehabilitation, framework for disaster and other injuries (stroke, STEMI, mental health crisis, pandemic). This system depends on cooperation and communication.

How do trauma systems save lives?

- Setting and verifying standards
- Ensuring availability of resources
- Coordinating care
- Improving communication and performance improvement.

Trauma system principles:

1) be maximally inclusive with stakeholders
2) have dialogue and consensus be centered upon what the right thing to do for the patient or population being served
3) timely/structured cooperation and communication
4) a bias toward action

The Department of Defense (DoD) has all the minimum standards described by Dr. Winchell's paper.

Developing a national trauma system: Proposed governance and essential elements

Robert J. Winchell, MD, Brian J. Eastridge, MD, Margaret M. Moore, MD, Dennis W. Ashley, MD, Barbara A. Gaines, MD, Dia Gainor, MPA, A. Alex Jahangir, MD, James C. Krieg, MD, Carole A. Mays, MS, Holly N. Michaels, MPH, Nicholas Namias, MD, Debra G. Perina, MD, Eileen M. Bulger, MD, *and* Ronald M. Stewart, MD, *New York, New York*

Lessons Learned

- Trauma care is not genetically coded
- Not all hospitals are created equal
- Injuries don't only happen near hospitals
- Trauma systems work
- Networks are better than funnels
- The obvious is not always that obvious
  - Robert J. Winchell, MD FACS

ACS *Committee on Trauma*

BLUF: optimal function requires maximal inclusion: maximally inclusive, consensus-based decision-making process, cooperation, and communication.

Dr. Holcomb-Evolution of Military Trauma Systems –

This is a history talk. Marty Schreiber published a paper on this in 2002, but you must go back to COL Don Trunkey. He wrote that we were woefully unprepared. From my experience in a civilian trauma center was relationship building, trauma expertise, and knowledge of PI, registry, systems, and research, and the concept of potentially preventable death.

Donald D. Trunkey, MD, FACS
COT Chair 1982 – 1986

COT Goals - 1983

- Systems
  - Prehospital – trauma must remain involved
  - **Hospital – need country-wide system of trauma care**
  - Rehabilitation – develop regional rehabilitation network
  - Prevention – COT needs to be involved in advocacy for IP
  - **Disaster Planning – viable working trauma network is key**
- Professional
  - Research – COT should support a national institutes of trauma
  - Education – develop educational objectives for GME
  - Economic – worries about large corporate networks impact
  - Quality – good track record and must maintain it

We initiated the development of a theater trauma system in May 2004. Coalition of the willing is key. Too many MTFs, we recognized that we needed to do better, but we didn't have any outcome data, and there was no communication between levels of care.

We briefed ASDHA (Ms. Ellen Embry), who knew nothing about medicine, in 2004 about creating a trauma system. She said we must do this and do it now.

How does the military always have a JTTS ready to go for each CCMD? Lessons learned: establishing a Military trauma system (MTS) in U.S. Central Command (CENTCOM).

1. What were the key leadership/training requirements? Participating in the civilian trauma system at home.
2. Lessons learned from standing up the JTTS: Participate in the civilian system is key in order to retain the memory of how a trauma system functions and prevent the loss of institutional memory.

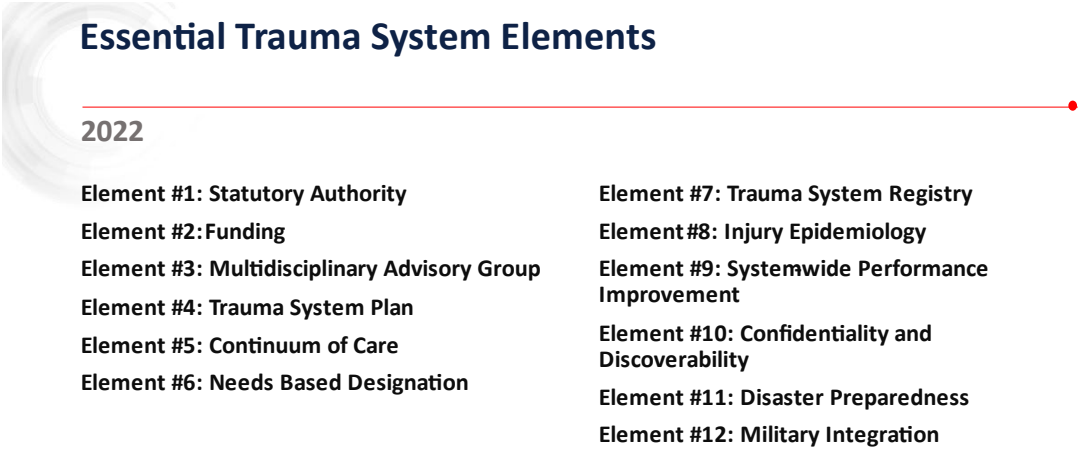
0920	The ACS Committee on Trauma's Current Initiatives / Opportunities for the military's garrison trauma community to gain trauma expertise to support the deployable trauma system (CTS)	Dr. Jeff Kerby and Dr. Warren Dorlac	**The Challenge:** *The providers that make up the clinical aspects of the trauma system are not always the same people who plan the trauma system. The COT establishes trauma system frameworks that are implemented at the regional and state level. Who are the people that make these systems work? Can the military emulate this?* 1) Understanding State and Regional Trauma Systems. Are CCMD Trauma Systems (CTS) similar to State Trauma Systems? 2) How TMDs and TPMs integrate a Regional or State Trauma System. 3) Is there any way to have a trauma system without well trained TMDs and TPMs? 4) The TMD and TPM role in the COT and in the development of trauma systems.
0950	Putting it all together from a Trauma Systems Perspective – Integration of the Military and Civilian Trauma System – Going to War with a Trauma System ~~ **Putting it All Together**~~	Dr. Robert Winchell Virtual Dr. Warren Dorlac	**The Challenge:** *The military has the deployed trauma system (CTS) and the US/MTF Trauma System – these systems function in parallel and in series. They exist with parallel functions in different geographic regions – but they exist in series along the continuum of care from point of injury back to stateside trauma center.* 1) Deploying a trauma system – rapid surge of a trauma system / what's the essential framework? ***The What*** ***2)*** How would the ACS COT Deploy a Trauma System – which of the 11 core functions can be rapidly deployed? Which are essential for the parallel and 'in series' function of the CCMD Trauma System (CTS) ***The How*** 3) Maintaining a trauma system framework to be able to surge deployed and surge stateside at MTFs that are casualty receiving areas. ***The Who***
1020	**Panel Discussion: Adaption and Evolution of Trauma Systems and MIL CIV Symbiosis** **Panel members: Dr. Stewart, Dr. Holcomb, Dr. Dorlac, Dr. Kerbey, Dr. Winchell** **Panel moderators/discussants: Maj Gen Friedrichs, COL (USAR) Jay Johannigman, COL Gurney, Col Shackelford, CDR Jensen** Items to address: - LL and forgotten / Sustainability of trauma system ❼ what does right look like? - MCP integration - Role of COT Region 13 - Who should own the CCMD Trauma System? (the civilian perspective)		
1100	**BREAK**		
1120	The Way I see it: The MHS and the stateside trauma system in support of the CCMDs: readiness generation in the MHS	**DHA Perspective** Dr. Brian Lein	**The Challenge:** *The MHS has the dual role of the Direct Care and the Operational Missions (including deployed trauma care operations). The DHA is a CCMD Support Agency but also charged with running the largest healthcare system in the world.* 1) What is the DHA 'go to war responsibility'? 2) What are the biggest gaps in DHA supporting the 'go to war capability'? 3) DHA role in CCC readiness and sustainment. Role in growing trauma systems? a. How does the DHA support trauma systems readiness in support of CCC? 4) How can the civilian trauma system support the DHA casualty receiving responsibilities for large volume casualty reception?

Dr. Jeff Kerby and Dr. Warren Dorlac- ACS Committee on Trauma (CoT) current initiatives and/or opportunities for the military's garrison trauma community to gain trauma expertise to support the deployable trauma system (CTS):

Dr. Kerby – Discussed the Vision and Mission of the Committee on Trauma

CoT has four main pillars:

I. education (ATLS, ASSET, etc.)
II. quality (verification program)
III. systems (trauma systems evaluation and planning, EM)
IV. advocacy/injury prevention/stop the bleed



An Unfinished US Trauma System:

- Trauma systems have developed at the state/county level
- No federal support or standards for trauma systems
- Variability in access to care and quality of care
- Lack of coordination across state lines
- Lack of coordination across the continuum of care
- Trauma Center distribution driven by market forces rather than population need
- Lack of cooperation between competitive healthcare systems
- Disaster preparedness is not a priority

Dr. Dorlac - Understanding state and regional trauma systems: trauma centers and their staff are the core of a system.

1. They currently don't have the stateside trauma centers/trauma volume to sustain/provide manpower with the necessary experience for a deployed mission.

    a) It requires a huge level of commitment and staffing to run a trauma center.
    b) Trauma Medical Director (TMD) training courses through residency, fellowship, and courses such as the TMD course by Trauma Center Association of America (TCAA) or Trauma Outcomes and Performance Improvement Course (TOPIC) by the Society of Trauma Nurses (STN).
    c) Trauma Program Manager (TPM) training comes through extensive direct patient care, a series of ongoing courses (i.e., TOPIC) and on the job training. Unfortunately, however, being a trauma nurse is not a recognized career field in the DoD. As such, while this may be easy for trauma surgeons, it is not easy to get the training and support required to be a TPM for a trauma nurse.
        i. In the civilian world, this is the opposite. Trauma nurses are a career, not just a temporary job.

DUE OUT: Develop this and take it seriously. Make trauma nurse a career field in the military

Secret to COT's Success

- Patient Advocacy
    - Why we were formed
    - Essential to why we are still here
    - Speak for the patient
- Focus on the Patient
- See Something, Do Something
- Bias for Action
- You Say No, I Say Go
    - Persistence
- Spirit of Surgical Volunteerism

COL Gurney: I want to reiterate a few things. We heard about people and systems. Labor of love and coalition of the willing. One comment. Dr. Dorlac said selecting training and growing trauma experts – the JTS should have something to say? about that. Unfortunately, that authority lies with the Services, not the JTS…

Dr. Robert Winchell- Putting it all together from a trauma systems perspective –

Dr Winchell discussed how prior to Vietnam, we used previous medical systems for future conflicts because there was no civilian trauma system development. "We went to Afghanistan/Iraq without a plan and built the JTTS using elements of the civilian model, however, now we are facing rapid loss of function in JTTS in response to decreased activity "

The Problem:

- Be immediately ready to care for war wounded
- Rapidly deploy a high-efficiency theater trauma system
  - Limited lead time
  - Scale highly variable
  - Geography highly variable
- Limited real-world experience remains
- A large event will exceed military capacity alone
  - Need to integrate civilian and MTF system to support

Civilian Trauma System	**Military Trauma System**
Strengths	Strengths
Longevity of personnel and institutions	Clarity of mission
The need for trauma care doesn't go away	Command and control structures
No need for rapid scale-up or a new theater of operations	Well developed system elements
Challenges	Challenges
No clarity of mission	Wartime mission disappears during peace
No stable command and control	Need for rapid scale-up, anywhere in the world
Variable commitment of system elements	Turnover of personnel, loss of institutional memory

"How do you "keep the boilers warm"? - Maximize integration with the US Civilian trauma system. Seek partnerships with other systems within CCMDs

Summary: our goal is to be better prepared for the next conflict. The concepts of the JTS, the CTS, and a JTTS are well established. Substantial progress has been made in structure and planning. Challenges remain in personnel and experience. Need to maintain basal activity in CTS. MCPs and shared learning is KEY. We must work with US facilities and organizations and explore partnerships within individual CCMDs.

Panel discussion: Adaption and Evolution of Trauma Systems and MIL CIV symbiosis –

Maj Gen Friedrichs (Moderator) Dr. Warren Dorlac, Dr. John Holcomb, Dr. Jeff Kerby, Dr. Ronnie Stewart, Dr. Winchell

Maj Gen Friedrichs: we are going through a top to bottom review of the MHS. In next year's program that will be submitted to congress, it will be the most substantiative relook at the MHS in the last 20 years. If you could each submit suggest a recommendation as we redesign the MHS, what would it be?

> **Dr. Stewart**: I would say support the Brooke Army Medical Center (BAMC) model where you have a fully integrated trauma center into a supportive civilian community. I think it is overly

simplistic (the current plan -- having every MTF do this). I would recommend keeping the boilers warm. I think that an inclusive trauma system leads to collaboration and creative problem-solving.

Dr. Dorlac: I will take a different approach from Dr. Stewart. I think we have a much bigger footprint across the DoD than we have Level I and II trauma centers. I think we need to leverage our civilian partners even more. The Dutch have a nice model that I have been pushing for a while. They take a forward surgical team (FST), integrate them into civilian trauma centers, but do so in a way that they can immediately pull them out since they are inherently on a deployment schedule. Make the duration of this rotation three months to ensure that personnel continue to benefit from this partnership. The CIV facility knows when they are going to leave (unless there is a national emergency), but they deploy together. As such, the relationships are maintained. When they return, they plug right back into their position in the hospital. This is sort of the reserve model.

Dr. Holcomb: I've been involved with MCPs for over 20 years now. The Alabama Air Force model has embedded teams on a rotational model works really well. Number 2: there are 52 MTFs in the MHS, but only 5 that really take care of a lot of patients. There are no readiness benefits to a colonoscopy or a breast biopsy. I would suggest shutting down the other 47 MTFs and just push the patients to the major centers. These centers can handle it. Put the other people (as needed) in MCPs. I really think we are at a breaking point and I encourage congress and the MHS to take a radical view since the system is majorly broken. The system designed after Vietnam is not right. We need to be radical to fix it.

Maj Gen Friedrichs: I'll flag this. we need a joint trauma command – a fourth command. You heard from the ACS that you can't run a system with three different masters. This way the surgeons can run the MTFs and we can focus on the JTS.

Dr. Kerby: Idk if I can address that audience comment, exactly, but it is interesting. I was going to comment about Military civilian collaborations. We have 30 active-duty military personnel at UAB. I would push for continued support of that. For the CoT, we are working closely with Peggy Knudson and I would push for continued support.

Dr. Winchell: I'm with Holcomb. I think if you want to make something happen, you just have to blow the whole thing up. Just put everyone into one system (patients – military and veterans?). The civilian system is just as broken as the military system. We don't have a unified trauma system that we can't make work either. We either make it together or we don't make it. Military personnel need to see trauma to keep their skills up. They can't be doing breast biopsies or colonoscopies – these are not substitutes.

Dr. Holcomb: when we say trauma team, we need to be clear: we are talking about more than just the surgeon. It is also the nurses, enlisted personnel, etc.

LTC Graybill - We have done a good job with the pre-hospital education…. I would love if the JTS could partner with ACS CoT to get ATLS uploaded to our content management system so that people would be able to access it when they need it.

Dr. Kerby: the short answer is yes. The goal is to make the information available to people at their fingertips when they need it. We (the ACS) are a bit resource limited at the moment though. We did just get a commitment to build a new app that includes a content management system though.

Maj Gen Friedrichs: we will be talking about what we can do better a lot here, but it is a great privilege for me to go to these international meetings and hear the rest of the world talking about what the DoD does correctly. The international community thinks that ATLS and TCCC should be a benchmark for these courses.

Dr. Stewart: go to back to my radical colleagues who advocate for blowing the system up, if you are planning to rely on the civilian system to soak everything up, good luck with that. Big money in healthcare has prevented that. When I talk about the SAMC model, I think it is important. The San Antonio Military Medical Center (SAMMC) model is very important.

Dr. Winchell: The fact is that we need the command-and-control structure to tell the system that it needs to take on the mission or not the plastic surgery mission. I disagree that the resources don't exist. I just think they are currently prioritized in an incorrect manner that prevents us from utilizing them.

Col Shackelford: In this room we have a lot of intermediate level majors and LTCs who have asked to be TMDs and TPMs. We haven't talked much about leadership development though. How do we help these guys become future military trauma leaders?

Dr. Holcomb: Somewhere between Ronnie's comment and mine is the middle ground here. You just learn by doing it and by having more senior people you can ask questions of. Am I advocating for closing all level II and III trauma centers? No. But it isn't worth having centers where the major cases are colonoscopies and breast biopsies.

Maj Gen Friedrichs: what is the ACS perspective?

Dr. Kerby: take advantage of the resources available to you. ACS has a conference every year. It is a great forum to share ideas and learn from others/how they are doing it in their own centers. This is available to you, as are the courses on the topic that the ACS/TCAA have developed. Also reach out to people.

Dr. Dorlac: From the ACS perspective, there are a lot of opportunities out there. Peggy Knudson is here in the room. She has been super instrumental in trying to get this message out there. The Region 13, if you are a military uniform wearer, you can show up at that meeting. We have had the visiting surgeons meeting that was sponsored by the ACS

----------BREAK----------

1140	National Disaster Medical System US Military Requirements & Planning	CAPT Eric Deussing	Introduction to the NDMS. NDMS planning and timelines
1200	The Way I see it: How the MHS (Service and DHA) support the worst case scenario: deployed and stateside trauma systems fully engaged.	**The Joint Staff Surgeon Perspective** Maj Gen Friedrichs 20 min talk 10 min discussion	**The Challenge**: *Commanders / National Defense Strategy are preparing for the potential of large-scale conflict in two CCMDs and simultaneous attack on US.* 1) What are the biggest gaps in the MHS 'got to war capability'? a. CTS (deployed trauma) vs Garrison MTS (casualty receiving) capabilities? 2) How should the civilian trauma system support the military trauma system as a means for additional preparedness and readiness? 3) From the JSS perspective – what is the minimal go to war capability? a. The minimum LSCO capability from a trauma systems perspective. b. What is needed? (people, training, teams, system, integration, etc) What is the Joint Staff Surgeon expectation for Services and DHA to support CCC in a fully deployed trauma system engaged in 2 CCMDs? What is the worst case scenario and biggest gaps in medical to support the warfighting functions.
1230	**LUNCH**		
1320	The NORTHCOM Response and Casualty Receiving Plan / Disaster Planning for the NORTHCOM CTS	Col Michael Higgins	**The Challenge**: *NORTHCOM is the casualty receiving CCMD for LSCO. Planning for large volumes of casualties requires integration of medical and non-medical capabilities.* 1) What are the biggest gaps in the MHS 'got to war capability' and casualty receiving? 2) NORTHCOM involvement (or not) with MCPs 3) Systems planning and integration with civilian trauma system
1340	Perspective of a BDE Commander on the Military Trauma System and the Pandemic Response in Afghanistan	COL Scott Wence virtual	Observations on the Deployed Pandemic Response and Impact on Trauma Readiness Perspectives from a non-medical leader
1400	**Discussion: Integrating Deployable Trauma System: Overlap of Direct Care & Deployed Missions** **Panel members: Dr. Lein, Dr. Holcomb, COL Wence, Maj Gen Friedrichs, Col Higgins, Dr. Dorlac** **Panel moderators/discussants: Dr. Stewart, Col Shackelford, COL Gurney, Dr. Mabry** Discussion questions submitted from audience Other Potential Discussion Topics - How is the military trauma system manned? Should it be manned? How does the military man/train for other go to war capabilities? - Does 'train like you fight' exist for medical? For the trauma system? - How does the NDMS and NORTHCOM response integrate with CCMD/non-medical leadership. - Command/Control of the deployed trauma system – who has the authority? Is there a role of non-medical/CCMD leaders?		
1440	**BREAK**		

Dr. Brian Lein - DHA's role in combat casualty care and sustainment –

We are the ones responsible for this. The JTS works for me as of 4 months ago and I am very happy about that. I don't think that there is a role for each MTF to be trauma designated. We just don't have the resources for that. Some will have it and some won't. In some of these communities around the MTFs, they are not receptive to us setting up the trauma centers. My final comments on our way ahead: we need a dedicated system of military AND civilian. We will never be able to solve this JUST within the military (45 MTFs that provide inpatient care). The only way we can do this is by partnering with our civilian colleagues.

> The question is: if/when we have a large scale combat operation, how are we going to take care of patients for the full continuum of care after their initial acute injury. This has to be part of the comprehensive trauma care system in the military since we own them for the rest of their lives.

CAPT Eric Deussing - National Disaster Medical System: US Military requirements and planning –

Current director of the NDMS pilot. Mission: Strengthen interoperable partnerships across the National Disaster Medical System to care for our Nation's combat casualties by increasing medical surge capabilities and capacities.

-We have created a preliminary NDMS medical surge model, however, it is not yet validated.
-We have recognized that there are perishable lessons learned from the pandemic. We experienced a surge like we haven't seen over the past years. We also recognize that we need to make recommendations based on the outcome of the 5-year pilot per Congress's request.

Implementation: phase 1 was involved with examining the gaps. We turned those gaps into opportunities. We are now turning those opportunities into solutions.

Maj Gen Friedrichs: Both US civilians and the MHS face significant challenges and opportunities, including workforce changes, care delivery transformation (data sharing, telehealth, etc.), supply chain management (ex. during the pandemic, we had issues with the Chinese restricting our access to certain things; we have standardized about 50% of the equipment in the DoD, however, we stopped at the simple stuff like toilet paper and the needle hasn't budged in 7 years. Why don't we standardize tough things like role 2 teams or ventilators?), and greater interoperability between Services and systems. We need validated MHS requirements to drive future resourcing.
One big gap in the MHS: after we get patients back to the US following a major event. We don't have a plan for how to handle this

MHS concerns

i. Beneficiary care issues
    1. In aggregate, the MHS and NCR performance is better than the US average
    2. National shortages in multiple medical specialties impact availability of care
    3. Less than 50% of uniformed medical personnel work in MTFs
    4. DoD casualties have decreased significantly since 2017
    5. Complex care volume decreased during the pandemic and is still recovering

ii. OPSDEPS Feedback
    1. Recommend more detailed understanding of medical support in remote areas
    2. Specific concerns regarding behavioral health
    3. Need to reconsider the impact of healthcare benefit reduction to future military service
    4. ICMOP will redefine role 4 requirements from multiple mission sets
    5. Military manpower working in MTFs improves operational readiness; increases access to care; and patient satisfaction

iii. Recommendations
    1. Create plan to sustain critical care, surgical, and trauma care in hospitals
    2. Balance readiness of the current and future medical force
    3. Develop military health system strategic plan
    4. Monitor effectiveness and efficiency of the MHS (on and off base care)
    5. Provide DHA with visibility to employ uniformed Service medical personnel in MTFs

COL Seery: We were completely restructured with futures command. I think we must be very engaged and boisterous in what we do. We must be our own separate shadow military.

Maj Gen Friedrichs: We should be the advocates for what right looks like considering we are the military. There is a balance going forward. Congress hasn't come to us since 2013 directing language about our system because it's working. There are clearly things we need to fix.

Col Shackelford: One thing I learned as JTS director is that nobody is in charge of the MHS. How can you mandate interoperability?

> **Maj Gen Friedrichs**: we as the joint staff can't do that. My advice is that we establish clear targets as recommendations. This can be directed from OSD via the services. If we don't want to be more interoperable, why would that be?

LTC Ritchie: I'd like clarification on your position on interoperability. How do we achieve Role 2 interoperability that is similar between the Services when they may be better served being similar to the customer they serve (i.e., Navy medicine specializing to treat wounded personnel in a submarine, whereas Air Force medicine specializing to treat wounded personnel in a plane, etc.)?

> **Maj Gen Friedrichs**: I don't think the Army is going to train too many people in submarine care. This said, there is not too much difference in TCCC between the Services. It is easy to pull out specific unique situations that one Service needs to plan out more than another situation, however, there are general things that we can all do. I am struggling to find things that preclude us form being more interoperable.
>
> **LTC Ritchie**: 100% agree. We have taken surgeons from the Air Force and the Navy and we have trained them to do the function of an army FST. The equipment they used, however, tended to be that of their service.
>
> **Maj Gen Friedrichs**: Right, but we need to ask why the equipment needs to be unique. I think those are choices that you are highlighting. We recently had an Army team working on a Navy ship and the only major difference was the equipment they had.

LTC Sams: I think what we have learned this morning is that the MTFs as the solution is NOT the solution. Thinking that we are going to recapture all this care is not the solution. Also, blowing up the MHS and putting everyone into MCPs is not the solution either in my opinion. We need the civilians to help the military and the military to help the civilians. How do we get that convergence, sir?

> **Maj Gen Friedrichs**: we are going to go through some very uncomfortable discussions. Read the medical annex to the Joint Warfighter complex. I hope you say, like we discussed here, that "right" looks different than what we currently have now.

Dr. Peggy Knudson: if we go to war next week, you will need the civilian sector. How will you find us and provide the special training we will need?

> **Maj Gen Friedrichs**: that's the next talk with Col Higgins. We previously approached this as a national problem for which we produced national solutions, not a DoD solution. We need to get back to that.

Col Michael Higgins - The NORTHCOM Response and Casualty Receiving Plan –

With any intent-based leadership discussion, there is a bias toward action. The folks in this room are the ones who actually have to solve these issues.

> **USNORTHCOM SG Perspective:** Aggregate threats (external and internal) are here and are very real. Our MHS is not perfect, but is indeed part of our national security, national defense, and even international stability. Our allies bolt onto our backbones when we do largescale operations. Our JTS must evolve with our US and international surgical/medical systems. Where

are we in NORTHCOM right now from my perspective? Most of our CONUS medical forces are aligned to go somewhere else. I think MCPs are key strategic items. Consistent messages informed by actual events: the nation needs to be prepared and needs to make readiness a priority. DHHS/ASPR: limited, health system readiness is not a leading priority, unable to absorb military casualties. DHA National Preparedness: concurrent incidents, efficiencies limit surge capacity; emerging threats. 2022 NDS: homeland defense #1; resiliency as deterrent; global integration; campaigning. When we do all of this well, we provide options on our offensive plans to our CCMDRS.

My big messages

- We need to understand that health service support is an operation. We need to clearly define global requirements for these and get them into strategic documents. We need to be truthful in our assessments (ex., the fallacy that everyone is green (doing well/meeting criteria) until they are tested, and it is revealed otherwise...). Preparedness and readiness are a priority. Mutually, we need to galvanize partnerships that are end-to-end.
- Our homeland here is an active AOR. We used to have time and space 20-30 years ago. We no longer have this luxury. Aggregate threats raise concerns about our preparedness, readiness, and resiliency. We need a whole of national effort with globally integrated perspectives.

COL Scott Wence (virtual) - Perspective of a BDE commander on the military trauma system –

I learned early that medical is important. I was GEN Miller's XO. This realization hit me due to COVID. GEN Miller was ahead of it though. COVID brought a lot of things to light. The medical leadership didn't know where the surgeons were. We struggled to have senior leaders see the risk that they were accepting. They also really were not focused on what GEN Miller said. He gave focused guidance. There are a whole lot of people who think activity (in the form of meeting) is progress. In terms of observations, people struggled to make smart decisions and communicate them to senior leadership. You would also have true, credentialed experts in a room and their opinions would be equal to that of non-experts. When I returned from an 18-month deployment, some people exposed me to the Zero Preventable Death research and that opened my eyes. In my experience, it mirrored what I was seeing.

To sum up the key takeaways:

1. The learning trauma system: people that understand the importance of the covid registry go back to the Afghanistan days. There was a lot of pushback at the time, however, the clinical training information the registry housed was essential.

2. All levels of the continuum of care need leadership. Some people like me need education on this.

3. Rethink who we make brigade surgeons. When I look back on the data for the 75th Ranger regiment, they couldn't have done what they did without GEN McChrystal and someone else. Solidify what we need from brigade surgeons (whole blood, etc.). COIN was the best environment for medical care we will find. We are only going to get worse from here.

4. Personally, I have never once been asked about my Tactical Combat Casualty Care status (whether I am up to date or not). We are pushing for a whole blood program up north. The system shouldn't be reliant on personalities. The Army has a lot of programs that don't make sense, but we need to focus on the ones that do...

5. The Walker Dip (the peacetime effect) bothers me. It doesn't take a big imagination to think of a scenario where the world changes. I know we have all had one of those in this room. I think we barely learned the lessons of the last war and don't see any evidence that we are trying to get ready for the anticipated future.

Questions for COL Wence:

Dr. Bob Mabry: I'm in a room with a bunch of medical people. How we are organized is unique (DHA responsible for delivering medical benefit but the Services own the people). As a line commander, do you see any issues with this structure? Do you think it is a challenge that one agency/command owns the resources while another owns the people; one is responsible for the mission and the other is responsible for the people?

COL Wence: I think the whole unified command has issues with that. Even if the operational side doesn't, it isn't a good idea. You can clearly see this with medical. The COCOM commanders assume a ton of risk that they don't even know they are assuming. You have all these different joint things that were discussed earlier. As the COCOM commander, they don't get to pick what they get. They baseline it with theater entry requirements. About half of them didn't do them.

Dr. Holcomb: What would you do to help fix the MHS from an organizational theory/structure perspective?

COL Wence: that is the most difficult question. It is a truly wicked problem. There are different targets though. Close term, if 90% of the casualties don't make it to the hospital and that falls on the operational, that is something we need to address immediately. I think there are things you can do on the operation course. For example, reexamining how we select brigade surgeons. On paper, the DHA and the Service Surgeon Generals being separate make sense; in reality this is not the case.

Panel Discussion: Integrating Deployable Trauma System: Overlap of Direct Care & Deployed Missions – COL Wence, Dr. Holcomb, COL Higgins, Dr. Dorlac, Dr. Lien, Maj Gen Friedrichs

CAPT Tadlock: As we think about large scale combat operations and the future fight and lots of casualties – at my level, everyone is focusing on small surgical teams (Role 2 surgical teams). I don't see how a bunch of our Role 2 capabilities will take care of the mass casualties we will be seeing. Where do you all see the outburst of austere surgical teams?

Dr. Lein: Dr. Knudson brought this up. I think we are kidding ourselves if we think the solution will be coming purely form the military. If you think we are not going to be involving our civilian expertise, we will have to get there. Maybe 20 years down the road we will have autonomous capabilities. The interim solution will have to be this partnership. Trying to have surgical coverage like we did in Iraq and Afghanistan isn't going to happen since we don't have surgical teams to go around. Extending the golden hour through interventions will only get us so far going forward. There is no easy solution – more role 2 capability will have to come from other assets we have.

Dr. Holcomb: I think we need to be careful about magical thinking. Biology and wounding agents – automatic weapons and bullets. I'd really encourage everyone read the military medical history of WWII. What was happening back then is exactly what is happening in Ukraine right now. If you are seriously injured, you are going to die. Otherwise, if you aren't seriously injured, the Role 2 capabilities are ok. I disagree with Dr. Lein.

COL Gurney: Maj Gen Friedrichs just said we need validated healthcare requirements. Who validates the requirements to train the trauma system?

Maj Gen Friedrichs: in the military, a valid requirement comes from Congress, a 4-star CCMD commander writing an O-Plan that goes through the Joint Chiefs and then to SecDef. Requirements don't come from the Surgeon Generals. They come from the warfighters. We said we would develop requirements in our own communities, but that isn't working well for us at the moment because there is no 4-Star requirement. Having read each of our O-Plans, there are situations in which we will need Role 2 capabilities. Those of you in the room today need to help us rethink what those force elements will look like for the next fight. A large-scale combat operation will need different capabilities on the front line. Read the Medical Annex to the Joint Warfight Complex and think it through. Right now, we are taking the Afghanistan lessons learned and are trying to plug them into the 21st century system and it isn't a great fit. And finally, we won't have the nurses or surgeons we will need, so we will have to rethink our strategy accordingly. Last point: never get away from the commitment to our goal of right place and right time. We need to continue to describe what right looks like.

Col Cox: I live day to day in the civilian world. Most of the public doesn't think about all these issues. Can you guys speak to the whole nation response? What is the high-level discussion we must have with the civilian world to get some engagement from the civilian sector? Right now, the civilian world doesn't see/think about any of this.

COL Higgins: Lots to unpack there. There are similarities between both systems and groups (military and civilian). So far, we have laid out maps and plans for what must happen, which is fine and dandy when it comes to academic literature, but it is another thing entirely when they are actually laid out in front of decisionmakers (both military and civilian) for action. Some requirements already do exist out there that can tie everything together, but we need to formally get them into documents to execute. ASPR's strategy now is about regional competence. This said, ASPR has a different number of regions than FEMA. Somehow, we need to connect and address this gap (ex., via legislation, etc.). There is a lot we can do but we won't get any resources aligned or plans approved unless these requests go through the codified decision-making processes.

Maj Gen Friedrichs: We spent from 2010 until last year agreeing to disagree who should write a plan to get after this. Our community did that. Then we got someone outside of our community (DepSecDef) to appoint NORTHCOM to write it. Someone said something about the civilian healthcare system. Within the US, the national biodefense strategy articulates a vision of defense and resilience that we didn't have going into the COVID pandemic. If you look at other documents, they are all starting to describe the same approach. If you want to be resilient and responsive, you have to accept that survival has some degree of interoperability between the military and civilian sectors. There are also some unfortunate things we can't change, for example, not every hospital has a runway for receiving patients. This is unfortunate, but this is the truth. We need to work within the constraints we have.

LCDR Pokorny: Being at Naval Medical Center Camp Lejeune, we are really remote and have to take all opportunities we can get. Is the DHA looking at opportunities to capitalize on the small things? For example, when Jacksonville, NC, was down providers, we had a corps of marines who volunteered to go help. Unfortunately, they were ultimately unable to go because an agreement couldn't be reached about their insurance liability.

> **Dr. Lein:** I appreciate you mentioning that. I'm not going to say this is not my responsibility, since I am at DHA, but I don't control the civilian licensure. That is at the OSD level. OSD can agree to cover licenses and malpractice, but I can't do that at my level. I'd love to give you the authority this afternoon. In many of your communities, your medics and corpsmen are going out on those ground ambulances. We have local solutions, but why can't we come up with a federal solution? This is part of the issue with our system of government. With this in mind, this is the first I'm hearing of this. **PLEASE SEND THIS UP TO ME, LCDR POKORNY – LETS CONNECT AND DISCUSS THIS FURTHER.**
>
> **Maj Gen Friedrichs:** When people tell you no, keep pushing the solution on them until they give you the answer you need. In the COVID response, when the healthcare system and the White House decided they needed to deploy 7000 people in a heartbeat, there was a piece of paper signed enacting this order. **We need to include this in the ICMOP, Col Higgins. We need to ensure that these responsibilities are easily delegable. We need to be able to capture the "how" on these sorts of items as an enterprise.**

COL Baker: Do you think that a joint Service-sponsored planning group, co-sponsored by the DHA J-3-5-7, would be helpful? Would that bring the Services to the table?

> **Maj Gen Friedrichs:** To your point about planning, that's what we are doing now. We went to the Dep Sec Def and now Col Higgins' team is ordered to do the ICMOP. I think everyone here has seen the initial mission analysis. If not, reach out to Col Higgins. NORTHCOM will come out with a level II plan by January next year. The Joint staff are in the process of tasking them to develop the next level of that plan. The second opportunity is the NDMS pilot that CAPT Eric Deussing briefed earlier. The third opportunity is the voice that comes out of the JTS. As such, they can do meetings like this.

CDR Jensen: All experts said systems-based understanding is under the domain of a surgeon, but no Services require this at all. It also is not a theater entry requirement. How do we go about getting this into individual requirements?

> **Maj Gen Friedrichs:** The joint capabilities process and the Joint Requirements Oversight Council. The point is that we must accept that in a huge bureaucracy with a politically restrained resource environment, patience is key to achieving results and changing precedent. We need to be united and speaking with one voice.

1500	The CTS and the Levels of War: Operationalizing a Trauma System	COL Baker	The military trauma system along strategic, operational, and tactical levels. - Could organizing the military's trauma system enable better efficacy, manning, training, and equipping. - Defining the strategic operational and tactical objectives of the Joint Trauma System
1520	The CENTCOM CTS	Lt Col Hall	How the CTS is organized and operationalized in CENTCOM and the role of the JTS in support.
1530	**Panel Discussion: The JTS's Role in Supporting the CTS and the Direct Care Trauma Mission** **Panel members: COL Baker, Lt Col Hall, CDR Brill, COL Buzzelli, CAPT Tadlock, COL Gross, Col Shackelford, AFRICOM Rep** **Panel moderators/discussants: COL Cunningham, Maj Gen Friedrichs, Dr. Lein** Discussion questions submitted from audience and moderated discussion amongst the panelists Other Potential Discussion Topics - What is reach….what is overreach? - JTS role in QI/PI in each CCMD - Best practices for JTS support in each CCMD – the CTS and beyond.		
1610	The MHSSPACS Support of the Joint Trauma System in for both garrison and deployed operations	Dr. Peggy Knudson	How the MHS strategic partnership with the ACS can continue the development of TMDs and TPMs. - Developing communities of TMDs and fostering trauma system leaders in the MHS. - Collaborative efforts with the JTS, AAST Military Liaison Committee, ACS COT Region 13 and the MHSSPACS fostering a trauma system community in the DoD with civilian mentorship / support. - Future meetings for TMDs/TPMs
1630	BURNING ISSUES Moderated Discussion		Questions submitted prior to discussion. Moderator: COL Gurney
1700	**Day #1 Adjourn. Social Hour at hotel**		

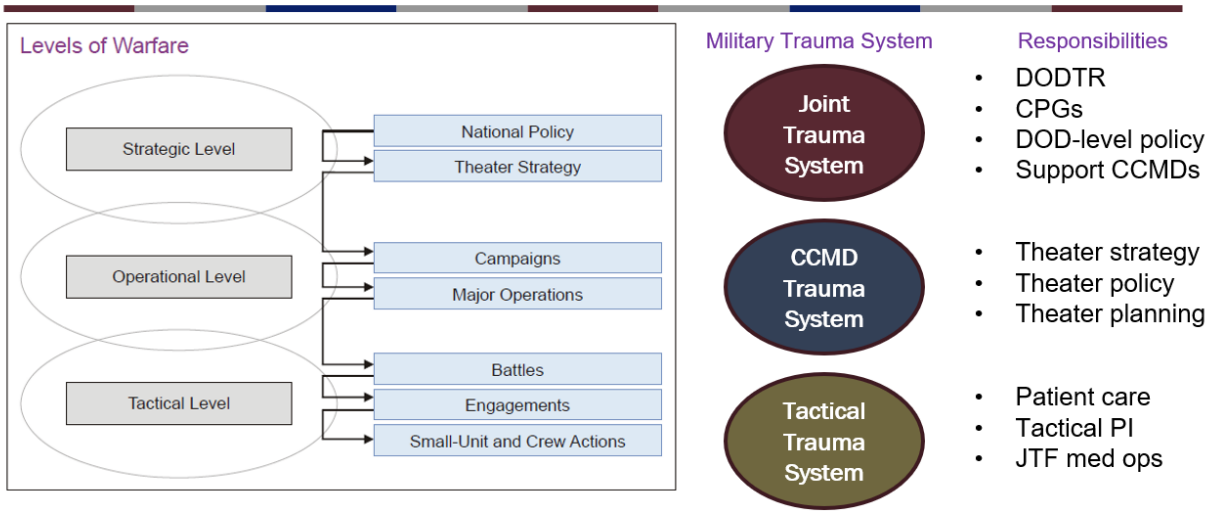
COL Jay Baker: The CTS and the Levels of War: operationalizing a trauma system -

COL Baker discussed the Operational cycle, differentiating war time and peace time requirements. He defined the levels of warfare and how it is imperative to understand this in order to accurately depict the design of the Trauma System in each CCMD.

In wartime, there will be a progressive build-up and build-down of the different level trauma capabilities according to the ebb and flow of the conflict. For the first three phases of a conflict (Deter, Seize Initiative, Dominate), tactical-level systems are expanded as capabilities expand, with the expansion reaching a peak in phase 3. In phases four and five (Stabilize and Enable Civil Authority), the tactical level systems steadily decrease as the conflict winds down until the eventual baseline state (Phase 0:

Shape) is reached. This level is maintained until the next conflict requiring U.S. military capabilities begins to ramp up.

How Should the Military Trauma System be Deliberately Designed?



"How should the military trauma system be deliberately designed? I don't know the answer."

<u>Lt Col Hall: The CENTCOM CTS -</u>

CTS establishment: DoDI 6040.47.

I. CTS organization:
   1. PI/Human research
      a. Guided by CCR 40-6
      b. IRB through us army medical research and development command's office of research protections
      c. Biostatistical support MOA with Madigan Army Medical Center, USUHS (Pending MOA), DHA (No MOA – but assigned liaison)
   2. Healthcare policy
      a. Guided by CCR 40-1
      b. CCR clarification through CCOPs (1 through 9 currently)
      c. Best practices evaluated and universalized throughout the COCOM at the command TPM/TMD level through orders given/gen admin

II. Priorities:
   1. Evidence-based best practices that:
      a. Reduce morbidity/mortality of patients
      b. Reduce wastage (Time, supplies, capabilities, etc.)
      c. Prevention of disease and non-battle injury (DNBI) (psychology and orthopedics are the largest problems thus far)
      d. Increased DNBI return to duty/decreased evacuations
   2. X-ray capabilities for austere surgical teams
   3. Ability to assess quality of care provided by medical units against evidenced-based benchmarks.

III. How can JTS support:
1. Establish theater policy for specific trauma training in coordination with the DHA, the Joint Staff, and the Services; establish processes and procedures to ensure adequacy of training, use of clinical practice guidelines, and proper documentation of trauma care
2. Encourage operational PI/Research (USCENTCOM wants evidenced-based chances and innovations to ensure adequate care or improve. USCENTCOM has CCR 40-6 and 40-1 which outline the process for how this is done)
3. Data Analysis (USCENTCOM has its own research capability for downrange investigators, but is always happy to work with efficient responsive support),
4. Medical Care Quality Assessment (USCENTCOM is not very interested in the past unless it impacts the present; it wants benchmarks for facilities and the means to assess CPG compliance and adequacy of training)
5. CPG Development (JTS is the arbiter of best clinical practices)
6. Liaison between COCOMs (CCMD authorities stop at borders; the JTS is an inter-CCMD function and, as such, receives information that one CCMD may not share with another CCMD)

IV. Examples of CTS evidenced-based practice improvement: In the DODI 6040.47
1. OR Utilization: how can we decrease OR utilization? How can we improve transport times between roles of care?
2. Differences between COCOMs – why are COCOMs different? What practices can be shared between COCOMs?

V. Updating the blood supply: We were wasting about 31K units of blood in CENTCOM and are currently working to address that by eliminating component therapy and instead using whole blood.

Panel Discussion: The JTS's Role in Supporting the CTS and the Direct Care Trauma Mission – COL Buzzelli, CDR Brill, CAPT Tadlock, Lt Col Hall, COL Baker

LTC Cunningham: What Maj Gen Friedrichs said about requirements coming from COCOM commanders -- Phase 0 is the only time the TMD is identified. Since TMD does not include prehospital, they will have some visibility, but will not receive the whole picture. That comes from the deploying units of the MILDEPS. How do we get that prehospital expertise to reside in the COCOM surgeon cell where it doesn't currently reside?

> **CAPT Tadlock:** I can only speak to INDOPACOM. We are going to make someone an assistant TMD, which doesn't technically exist, but we are going to do it anyways.

Col Shackelford: Talking about strategic, tactical, and operational with regard to JTS. Tactical -- big gap is training and PI. What are your thoughts on how we can get those bodies and how we are going to train those people?

> **COL Baker:** Rewriting the surgeon's manning documents is probably going to be very tough. We visited multiple CCMDS last year. Many of them said not to give us any more billets because the J-3-5-7 will take them away. To answer the question of how you put prehospital specialists into CCMD surgeon cells… unfortunately I don't know…
>
> **Maj Gen Friedrichs:** Luckily, I do! There is a Joint Doctrines Operation Library (JDOL) process that is run through the Joint Chiefs. The COCOM must request that billets be added. Congress passed a law that cut the COCOM's authorization by about 25%. Anything that is added to that must be taken from somewhere else. This means that someone has to say that they don't care

about their job to allow for them to be exchanged for a JTS billet. If anyone has great thoughts about changing the manning documents, I suggest writing to your Congressperson.

Col Shackelford: The longer I worked at JTS, the more I came to the same conclusion as Ronnie Stewart: we need a systematic approach to all trauma care. How do we implement a systematic approach to trauma casualty care that is not specific to trauma?

Lt Col Hall: A casualty, be it a suicide or a gunshot, is a casualty. We can look at all casualties.

CAPT Tadlock: Emergency general surgery while deployed.

COL Buzzelli: what we have done in SOUTHCOM is more to advertise that we can do things besides trauma and ensuring that people can lean on the trauma office.

Lt Col Hall: When I deployed to AFRICOM, there was one gunshot wound, but everyone else got more than me I think (other CCMDS)

Lt Col Streit: two-part question. I've been listening to the same things from some of the people in this room for like 16 years. It seems that the PCS cycle is to blame for the repetitive loss of institutional knowledge. Have the COCOMs been able to do anything to overcome that? Around the room you can see all our TPMs are civilians and that is for a very good reason. That is great for the stateside but not done for the COCOMs.

Lt Col Hall: for aggregation of knowledge, per CC40-6, you are supposed to be reporting all your documents to us (CENTCOM). In terms of the PI for nurses/TPM's, this is where JTS could be super helpful.

COL Gurney: Lt Col Streit, we all recognize that is a huge gap, but we don't have the answers. This said, we have a whole nursing section tomorrow.

LCDR Pokorny: I'm a TMD at a level III civilian place. I rely on the liaisons (emergency medical services, orthopedic, neurosurgery). As we build this out, trauma surgeons are leading the way – I'd argue that a surgeon DOES have to be in your position, Lt Col Hall.

Lt Col Hall: this would be a great goal for the JTS – let them know they could do PI too.

COL Buzzelli: I'll second what you said. I think most of the value comes from having a surgeon at the COCOM level.

COL Baker: this is in the DHA-PI. We recommended putting a trauma surgeon in a (TMD?) role and an emergency medical physician in the prehospital role?

Col Shackelford: I think the answer is that we just don't have the manpower yet.

Maj Gen Friedrichs: We did this twice. Please folks, don't lose sight of how much progress we have made. We were sitting around not too long ago lamenting how awful it was. As COL Gurney said, we can add a capabilities-based assessment. Last comment -- as you all talk through this and look at the value of nurses and emergency medicine physicians, this will reward us for many years to come. Every year, someone will come back and challenge why money is being spent on this trauma system rather than other things. Every year we will have to defend putting

resources toward this joint trauma system. One valuable way to do this is ensuring the JTS is the backbone of the MHS. This is the opportunity to demonstrate the value of this system.

Dr. Holcomb: I think the process that the JTS has worked out over the years is important. How many people in the room primarily take care of cardiac patients? (Nobody raises their hand). Trauma patients? (Everyone raises their hand). I think the process could be replicated by stroke experts or cardiac experts. That's what makes it go. The process overlaid with experts. Monkeypox should be handled by monkeypox experts, not the JTS.

Lt Col Hall: Following the path to an inclusive trauma system leads to an emergency healthcare system. The framework for the JTS is a terrific framework for the other time-sensitive injuries. If you look back on the history of the ACS CoT, the surgeons developed it as "injuries" or "traumas" outside of what we think of as trauma today.

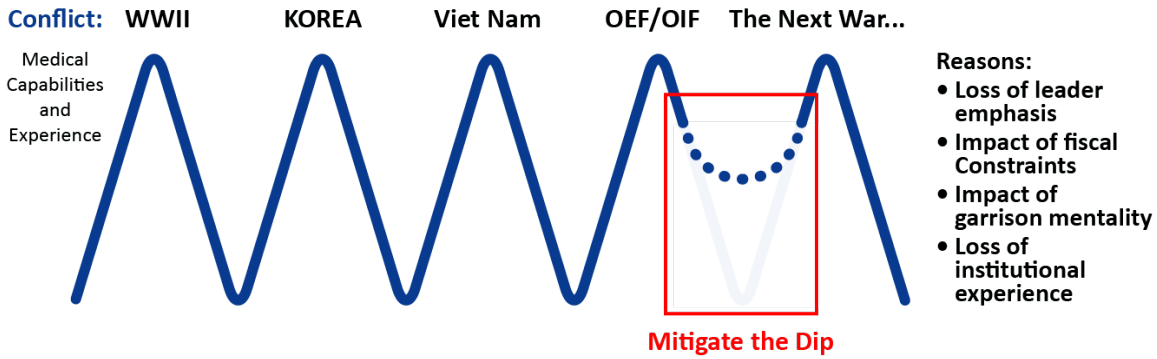
Col Shackelford: I think John is entirely right. We don't need trauma surgeons taking care of everything. That said, we need them as the backbone. From the boots on the ground/in-theater perspective, it is the same people taking care of the patients. We don't need trauma surgeons taking over all casualty care.

Lt Col Hall: From my perspective, a patient is a patient. I have heard surgeons complaining about having to see sick patients. I'd hope surgeons would want to help patients whether it is surgical or medical.

Dr. Peggy Knudson - The MHSSPACS support of the JTS for both in garrison and deployed operations –

Dr. Knudson opened with a brief history of the relationship between MHSPACS and the Military. 8 years ago, a charter was singed to exchange information in 4 categories: education, trauma systems, quality, and research. We added a fifth pillar to that (excelsior surgical society). That is how MHSSPACS started. The founder of the ACS was an Army surgeon. In WWI, 90% of the fellows of the ACS were deployed. I'll give you guys a rundown of each pillar of the ACS except quality because there will be more on that later.

Surgical Education: Mitigation of the Walker Dip



- **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.

EDUCATION:CLINICAL READINESS PROGRAM

THREE COMPONENTS*:

- Periodic assessment of knowledge points
- Periodic demonstration of skills **(ASSET+ and COTS+)** COL (ret) Mark Bowyer MD USAF
- Assessment of garrison practice as related to combat readiness

***DOD Policy**

"Walker Dip" Mitigation for JTS

- 1. Military Trauma Centers
- 2. Military Trauma System
- 3. Military Trauma Medical Directors
- 4. Military Trauma Program Managers
- 5. Military Future Trauma Leaders Program
- 6. Military-Civilian Partnerships
- 7. Military Surgical Society and Military Region 13 (COT)
- 8. Military Treatment Facilities and NASEM/ASPR/NTEPS

Future trauma leaders

i. Dedicated positions for members of the military sponsored by the MHSSPACS and others

Mission Zero Act

John Holcomb clarified that this came from the NASEM report sent to Congress. It was put into the NDAA in 2017. It has finally been funded. This money is meant to enhance MCPs. It was initially supposed to be $20 million, but it only ended up being $2 million for the first year. We have been promised $11 million for next year. We did a Congressional brief to Representative Michael Burgess and Senator Tammy Duckworth.

Preparation for Mission Zero $$$

1. Published selection/evaluation guidelines in MHSSPACS Bluebook

2. Conducted survey of 20 selected MCPs to evaluate the criteria proposed (published in JTACS (Grabo, et al 2022)
3. Worked with ASPR/DHHS on the funding announcement
4. First grants announced in September 2022 ($ 2 million total)
5. 20 centers received $80,000
6. Anticipating FULL FUNDING in 2023 ($11million)

Integrated Military-civilian trauma system

i. Potential to save 20,000-30,000 more lives each year.
ii. Lots of areas where civilian trauma centers don't exist are WHERE MTFs are – integrate the systems!
iii. 3 efforts to fix this map (on slide 25)
    1. NASEM report: zero preventable deaths/integrated mil-civ trauma system that incorporate MTFs
    2. ASPR: national emergency medical network group
    3. NTEPS: National Trauma Emergency Preparedness System (military readiness integration)

COL Buzzelli: In terms of the military readiness curriculum, are we coming to a consensus for how frequently this needs to be done?

Dr. Knudson – proposed 3 years

Lt Col Hall: I love the TQIP idea. If I could get that data for down range, that would be amazing! But we have problems with the downrange environment. We have slow if any reports coming out and timeliness issues. Whatever you find about one group may be different from another group due to inconsistencies caused by rotating personnel. How can the ACS help get TQIP in the deployed environment?

Dr. Knudson: We have discussed this for the 7/8 years I've been doing this. That issue is that the DoDTR doesn't communicate with the TQIP since the data points are different. That said, we shouldn't be looking at DoDTR data on the civilian side. We (civilians) should NOT get combat casualty care data – that's your data.

Col Shackelford: there is C3QIP (Combat Casualty Care QIP) that we are modeling after TQIP. In addition, the TQIP fields have been added to the DoDTR so we can sync those up. It is a slow and painful process.

Dr. Knudson: Also, the combat casualty care injuries don't really translate to the civilian world.

****************************Day 1 Adjourned @ 1710****************************

Day #2 CoSCCC Nov 9th, 2022

Day 2 – TMD / CTS Strategic Planning TMD Meeting			
0800	Opening Comments / Admin Notes	COL Gurney, Mr. Sestito	
0810	The CCMD Trauma System Each CTS TMD discussion in 10-12 minutes 1) Biggest win for the CTS 2) Biggest challenge for the CTS 3) Support for the CTS 4) Unique aspects about my CCMD.	CENTCOM – Lt Col Hall EUCOM – LTC Rittenhouse (Teams) AFRICOM – TDB (Teams) INDOPACOM – CDR Brill SOUTHCOM – COL Buzzelli NORTHCOM - Col Higgins	
0920	**Discussion: How does this best support the CCMD? How does this fit into a civilian trauma system model? How does CTS best prepare for competition/conflict in CCMD?** **Panel members: CTS TMDs, CAPT Tadlock, Lt Col Gavitt, LTC Hathaway** **Moderators: Dr. Dorlac, COL Sonka, Col Shackelford**		
0940	DHAPI 6040.06 Lessons Learned: Next Steps Toward a Military Trauma System	Ms. Teri DF COL Jay Baker	Discussion of wins, gaps, & potential solutions for Combatant Command Trauma Systems. How does JTS proceed to ensure the Joint Force has CTS needed to support future conflicts?
0955	TMD community – clinical community supporting strategic framework/deployed trauma system capability	COL Jay Baker Lt Col Brian Gavitt	The Policy Makes It Happen: The Structure -- 10 minutes The People Make It Happen: The Function -- 10 minutes
1015	**Group Discussion on CTS Capability, Support, Peacetime/Wartime Functions**		**Moderators: COL Gurney, COL Baker**
1040	**BREAK**		
1100	MTF Trauma Center Verification Process and Expansion	**Current Process, Top Challenges and Potential Needs for Congressional Legislation** Lt Col Val Sams (15min) **Big Picture and DHA vision for MTF Trauma Center Expansion** Dr. Lein and Col Shackelford (15 min) **My biggest challenge as a TMD at a Level 3 Trauma Center: regional, DHA, national** CDR Doug Pokorny (15 min)	
1145	Trauma Systems do not exist without nurses: the role of TPM and TNC	The Role of Trauma Nurses in Trauma Systems – Dr. Robert Winchell; 10 minutes The Role of Research Nurses in the Deployed Setting – Dr. John Holcomb; 10 minutes The Role of Trauma Nurses in the MTFs – Jason Forum or Gina Pickard; 10 minutes The Deployed Trauma Nurse Perspective – LTC Dana Mayer; 10 minutes The Role of Trauma Nurse in the COT – Dr. Jeff Kerbey; 10 minutes	
1235	**Group Discussion: MTF Trauma Providers, MTF Trauma Center Expansion: Readiness, Sustainability, Talent Management, and the Civilian Trauma Ecosystem** **Panel members: Dr. Lein, LTC Mayer, Lt Col Sams CDR Pokorny, Col Shackelford** **Moderators/discussants: Dr. Stewart, Dr. Mabry, Dr. Dorlac, Dr. Nunez**		

LTC Rittenhouse - The CCMD Trauma System -EUCOM TMD –

EUCOM CCMD is relatively new in its development and implementation. With regard to success, one of the initial things we faced was how to produce a system that covers an entire continent and involves all our partners. This turned into the appendix to Annex Q.

People ask about the war in Ukraine and whether we at LRMC are involved. We are not since it is not a NATO war.

One of our challenges here:

- The amount we rely on our partner civilian facilities. This is different compared to CENTCOM or other CCMDs where we own essentially the whole process.
- There is no definition of what is 'ready' –We also don't have a unified theater entry requirement.
- We are becoming more integrated into the theater entry plans, we continue to integrate into exercise plans, improve visibility of partner sites, etc.

COL Gurney: How do you overcome the challenges of surgeon cells in different CCMDs?

> **LTC Rittenhouse:**This definitely is a bit of a challenge. The main mitigation is that, as things were heating up in the area, I was able to decrease my clinical workload. There were enough surgeons here to ensure that the patient care was not affected. This said, one challenge we are facing is the comms – the other operationsl forces use secure comms, but we in the medical field tend not to do that.
>
> Yes and no. there are always challenges when an external force tried to mandate the readiness requirements for a service. There was not a great plan for what we do with casualties that were hurt as a result of battle (civilians), however, this plan has been more flushed out.

COL Baker: it was interesting you made a comment about verified readiness. How do you plan, in the appendix to annex q, to communicate with the role 3s and 2s- in terms of how that relationship would be structured. For Ukraine this was a small problem set. Have you been able to go back and look at the full plan to see how the relationship would function?

> **LTC Rittenhouse:** The CCMD obviously has to scale. This would cause the Ukraine problem set to have to be more modular. The goal would be to have each role 3 functioning as a regional trauma center. They would collect the data form their down range and transmit it up to the CCMD trauma system.

COL Gurney: I've learned so much from Connie Johnson who is next to you – thanks Connie! Brad, when forces enter into theater, there seems to be a disconnect at the operational level. How do we improve communication with the operational forces if we are not integrated with the brigade level element. Did you see this? How do you see the JTS, the CTS, helping bridge the gap between the operational level at the brigade level and the clinical operational level?

> **LTC Rittenhosue:** the comms piece is a challenge all the time. The rotational force comms is even more challenging. As we move forward and this becomes a more stable rotation, as you move into the theater, that is the area with the most likely chance for success. Especially with the

82nd division – we have to figure out where army people are going and what they are doing. Where are they? How do we get there? How do we access that capability of care. How do I get my people back to care? All of this is a bit harder when you are multinational and military to civilian.

CDR Jensen: I think we may need to advocate for the Services to train trauma experts on the skillsets of performance improvement and ensure they have the same lexicon. This will allow for more rapid integration. Starting with a common lexicon and a common understanding, with PI being a basis of that, is the key.

Dr. Lein: My question for you is how much has the tricare area office been involved in your planning/coordination at your level and, if not, how can I make the better available and accessible to you to help with the planning for Phase 0 so that during phase 1 or 2 you aren't scrambling to get them on board?

LTC Rittenhosue: We now have good POCs and a good working relationship with them to be able to reach out to see how we would incorporate facilities, so things are getting better. It is better now that I understand what the TRICARE area office is and what they do.

CDR Liebig - AFRICOM TMD - The CCMD Trauma System –

"To summarize in one sentence…AFRICOM kind of feels like playing for the JV Team." CDR Liebig discussed some of the challenges he had to overcome as TMD.

-Plethera of Ortho surgical Supplies with no Orhto Surgeon, and in other locations, Ortho Surgeons with no access to supplies.
- There are two CCAT teams here in Djibouti and one in the entire rest of AFRICOM.
- Fairly robust CCAT capability, but we can only really move patients around in the theater.
- In all of AFRICOM, there is no role 3 at all – this a role 2 plus theater.
- Of the 6 role 2s in AFRICOM, 2 of them are contract teams that rotate every two months.
    - This is good for KSAs, but the tradeoff is a loss of institutional knowledge.

COL Gurney: Dr. lein and I were talking. It is demoralizing to be deployed, and not get any patients, and more over, to not have the equipment to do your job even if you DO happen to get a patient.

Dr. Lein: Yeah, your CCMD SG needs to get on this. They need to work with the (S)3 in AFRICOM if they want to do this. There is no way you will get an RFF or a medical control unit that oversees everything and they won't put it under the CCMD SG. This is a discussion between your CCMD SG and the other (S)3 in AFRICOM. Then you can cross-level your supplies with the other commands there. You are the right person to point this out and make something come out of this.

COL Gurney: Has PI and loop closure and case reviews been helpful for you guys?

CDR Liebig: yeah it has been helpful. None of us are doing very much. The only things that we are doing has only come up in the last few months. We are trying to emphasize the point that we are trying to figure out what went wrong. None of us are seeing enough to be learning from ourselves.

Dr. Remick: Have you had the opportunity to engage with any civilian medical partners as part of the overall plan for injury care

> **CDR Liebig:** Locally we have not. We had some issues a while ago when people went to work in local centers here, so that does happen in west Africa but not really at all in east Africa.

COL Gross: what is your tenure over there? Is this something that you arrived in theater and they surprised you as the TMD?

> **CDR Liebig**: I'm here for 9 months and I knew that I would be ther TMD well before I came here. Matt Tadlock and I were discussing this about a year before I got here – he prepped be for what it would entail.
>
> **Dr. Lein:** There are permanently assigned military people over there, such as in Egypt. We need to figure out a better way for you as the CTS to leverage the people who have been in country in decades to work with the local community hospitals and trauma systems so that you can set up a nexus to inegrate with the community over there. That lab in Kenya goes allover southeast and east Africa. My bet is that they are completely siloed from you and not tied in to what you are trying to do as the theater TMD.

COL Luke Hoffman – TMD CENTCOM –

I do think there are some wins from the JTS side that should be mentioned. This is probably one of the first deployments I've been on where the nurses and FSTs were familiar with the JTS website. So glad to see they are familiar with the JTS. Most of them have the deployed medicine app too. What is unique here is that we do have some overlap with the department of state medical facility that is right here – we do share resources with them. That is a Department of State facility and is not miltary run, so we have to keep that in mind. Unfortunately, the quipment discussion in AFRICOM is also similar here. There definitely have been some wins with the CPGs and compliance, but there are challenges when people do arrive here to theater. Another challenge here is that, because we fall into CENTCOM but are in our own OAR, we are are own separate portion.

COL Baker: Absolutely Jen. I think clarificatoin between the different levels of operation is key. They do different things. Luke, I do have a question for you and Lt Col Hall. You have a different chain of command, but how do you guys relate and what are your wins/potential improvements?

> **Lt Col Hall:** potential wins? The CTS has been documented. It is going through staffing right now and will be signed off, but that will really deifne the CTS for CENTCOM. I don't speak with COL Hoffman too much, but we peobably should speak more. Our current win is having the CTS documented, but we need more PI support and submissions. I think the opearational best practices. Our PI process should be focused on operational things and JTS's should be focused on clinical things.

Col Shackelford: I wanted to point out something from LTC Rittenhouse. In the appendix to Annex Q that lays out the plans for a trauma system, this is planning for PI. It was ultimately a huge win to get that into the O-plan. How are we propagating that best practice? Do we have an O-plan in INDOPACOM and AFRICOM or CENTCOM for how we are gong to deploy a trauma system going forward?

Lt Col Hall: we have things about deploying a trauma system in our O plan but not our Annex Q. the CCMDs make the annex Qs, so it varies across CCMD. When we did this for CENTCOM, we did it very functionally – what we need to do for the patient. We then listed two PIs in there as well, including a walking blood bank.

Col Sams: I just wanted to get back to this topic about all this CMD and control and how important it is. Across services and theaters, howe are we going to structure this?

COL Seery: Gong all the way back to the beginning of OIR, we had a trauma CZAR. We had a trauma person we appointed to these places. In the army, we made a conscious decision so that on our army role 3s, we have that person there. The TMD/chief of trauma will always be there. It was known that "surgeon" was always going to be a trauma surgeon. It was previously informal, but we formalized it.

CDR Brill - TMD INDOPACOM –

There are two really good things we do in INDOPACOM. One is looking at the 30000-foot view and admiring our problems. The other thing is focusing on the micro view of the problem. None of the things I say here are reflective of O plans or classified material.

I am responsible for bullying/coaxing/scaring people at the MTFs into thinking about trauma and then they do that. At the INDOPACOM level, we have made some progress on things. We have established a TMD, TPM, are working on an assistant TMD, set up recurring bimonthly calls, are improving data collection. In terms of operational assets, we have the 18th MEDCOM and others.

1. "Tyranny of Distance"

2. MTF system improvement efforts

Hub MTFs	Spoke MTFs
➢Tripler AMC ▪ Level II ACS verified center ▪ Reverification Feb 2023 ➢NH Guam ▪ New trauma surgeon ▪ Activation criteria ▪ CPG development	➢NH Okinawa ▪ MTP, whole blood, TMD assignment ➢NH Yokosuka ▪ Trauma drills, activation criteria ➢Brian D. Allgood Army Community Hospital + Osan AB ▪ New facility, trauma drills, interest in system development
INDOPACOM	**Operational assets**
➢Established TMD, TPM ➢Working on assistant TMD ➢Recurring twice monthly conference calls ➢Data collection ➢Class VIIIB redesign	➢18th MEDCOM ➢III MEF/3d Med Bn ➢CCAT teams ➢51st Medical Group ➢18th MSS ➢Ships ➢Other Role IIs

3. Partner collaboration efforts

Republic of Korea	Vietnam
➢Previous rotation at a "Level I" center ➢KMEP now includes bilateral medical exercises ➢18th MEDCOM logistics exercises ➢Opportunities for re-establishing trauma-centric exercises/rotations?	➢Plan for sustained trauma rotations, combined HN building w/ US Forces' skills sustainment ➢Site survey Jan 2023 ➢Previous successes w/ Pacific Partnership creating in-roads into VNM
Taiwan	**Philippines**
➢Recurring III MEF input into surgical conferences ➢Recent 18th MEDCOM visit ➢High level visibility and interest in developing pre-hospital systems, TCCC, "light" mobile surgical assets	➢Surgical symposiums ➢High-level interest in en route care training ➢Possible rotation development?

CDR Jensen: The Navy is looking hard at Guam and is looking at developing a trauma center there. They have moved a former TSMO chief there as the current hospital Commander. Heads up for Dr. Lein, the navy will probably need your support on that.

Dr. Lein: I'm all in, but here is where I need your help. There is a huge AF footprint on GUAM. But the AF and the Navy don't talk. This is the same tyranny we just heard about in AFRICOM The Navy wants a trauma center? I'm all in – send me the signal and we will help build it. The Navy needs to help staff it though. The Navy needs to make that commitment. I can't hire them.

They need to let me know where they will take the required human capital from (NH San Diego?). I'm all in for the DoD saying that they will build a trauma center in Guam because the THEATER REQUIRES IT. It is a theater requirement.

COL Gurney: could it be a joint requirement?

Dr. Lein: no, it has to go through the CCMDs. We need this to be like Landstuhl where it is a joint system.

CDR Jensen: I think the TSMO is planning the tip in January.

Dr. Lein: Invite me – I'll be happy to come. Also invite the air force.

This goes back to the guam discussion. WE need to work with the Guam political leadership about how we are integrated into their trauma system. Ideally we would be the one and only trauma system for all of Guam. The issue is that each of these different countries have a different SOFA. We are trying to get a blanket (as much as possible) SOFA agreement. But the issue is that this has to go up through the CCMDs. If we are going ot start doing international agreements, this needs to go to the J5 or J9. The CCMD surgeon general and theater medical director is in sync with the goals and priorities of the CCMDer. We can break down a lot of doors medically, but if it is not in sync with where the CCDR wants to go, we will lose a lot of credibility.

Col Shackelford: for INDOPACOM, one of the things were considering was a Level IV trauma center designation. This is parely a trauma center, but it requires them to have the frame work for a trauma center. What do you think about a formal level IV designation for the MTFs in INDOPACOM and the annex Q for the O Plan?

CDR Brill: Okinawa and Guam are interested in at least level IV designation. Okinawa is looking at the next step. I think that is a great next step.

Col Shackelford: Lets get the ACS to help you out.

COL Buzzelli – SOUTHCOM TMD –

SOUTHCOM focuses on using our medical abilities as a form of "soft power." Our major mission is to stabilize the migrations out of South American to prevent them from showing up on our doorstep… The other is to counter growing and increasing Chinese influence in the region. Dr. Buzzelli talked about a case review and the experinces in Honduras. Form a purely medical perspective, we want our teams to travel down there and get a great medical experience. What do the Hondurans want? From what I saw, supplies – they really want disposables (class VIII). We do have some funds that can be used to purchase that so that shouldn't be too hard. They also want more through-put into their system. They don't necessarily want us down there for GME, just for acute trauma care, but they also want assistance with their backlog of work.

COL Gurney: We have a due out from Dr. lein to figure out who owns the hospital at JTF-Bravo in honduras?

COL Higgins – NORTHCOM TMD –

Capability and Capacity are key objectives of the NDMS Pilot; bed availability estimates are derived from NDMS Pilot research (USUHS NDMS Analytics and Modeling Brief, 2022).

- Any one limitation can impact CONUS reception, distribution and care of DoD casualties.
- Intertheater evacuation information is derived from TRANSCOM estimates limiting ability to the evacuation of 250-1,000 casualties per day (USTRANSCOM BPLAN 9008-18, Para 3.).
- Additional estimates incur that LSCOs could produce as many as approximately 50,000 casualties in a week with approximately 30,000 requiring intertheater evacuation at over 3,000 patients per day.
- Responsible entity covers the agency/command identified as responsible for execution of patient movement (PM) IAW appropriate DoDI.
- The patient movement tracking system identifies the systems in place for tracking movement of patients. These systems are covered in gaps due to incompatibility.

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USNORTHCOM SG Perspective

- **SG Opinion**: Whole of nation effort required to achieve full, globally integrated Military & Civilian Trauma and Medical System

- **Aggregate Threats (external and internal)**: increasing in proximity, persistence, and capabilities
- **Aggregate effectiveness**: in Preparedness, Readiness and Resiliency not matching pace = risk
- **Military Health System**: vital part of National Security, National Defense, and international stability
- **Joint Trauma System:** must evolve with US and International Surgical/Medical Systems

- **USNORTHCOM Medical Forces:**
  - Most CONUS medical forces aligned against deployed mission plans = 2d and 3d order impacts
  - Limited threshold medical (and support) assets for specific Homeland missions (e.g. CBRNE Response)
  - Key Gaps in:
    - **Patient Movement**: Critical Care Air Transport Teams, Aeromedical Evacuation, and/or aircraft
    - **Specialty Needs:** Mental Health, OB, Pediatrics, Surgery
    - **Medical Supply Chain** (often universal)
    - **Surge Capacity** (mil and civ): acute and sustained; specific capes (e.g. burn, pediatric, etc.)

- **Military Civilian Partnerships and Theater Security Cooperation Medical Partnerships:**
  - **Vital** Strategic, Operational, and Tactical instruments in Health Service Support
  - Not adequately addressed in complement of strategic documents, plans, and/or resourcing documents

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NORAD and USNORTHCOM *We Have The Watch* 7

COL Jay Baker: DHAPI 6040.06 Lessons: Next steps toward a Military Trauma System –

COL Baker outlined lanhguage in the DHAP-I and Responsibilities and Authorities with establishing a CTS in a COCOM

Col Gavitt - DoD Trauma System Leadership Development –

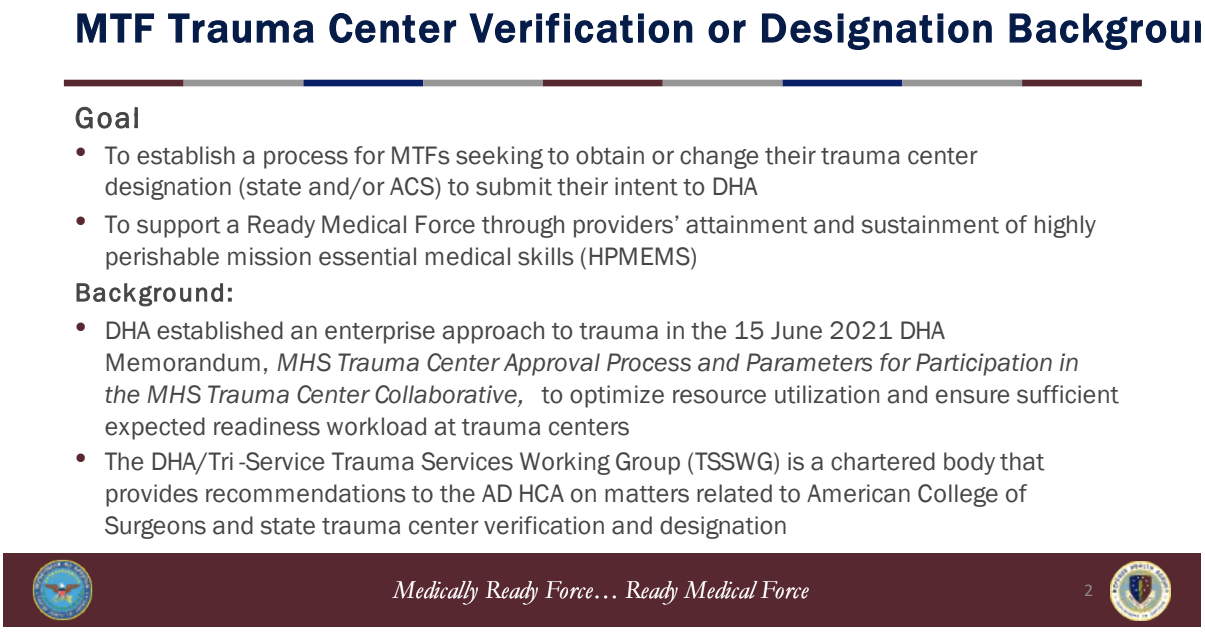
DoD challenges with TMD deployment include lack of continuity at MTF trauma centers, lack of funding for leadership /training courses/society integration, and multiple requirements competing for limited resources. The risk of the status quo include trauma center verification/designation, a deployed trauma system, and the quality of care.

TMD Development plan:

- select indiviudlas for a trauma fellowship
- have a TMD-specific devlopoment roadmap
- be able to track this development
- a pipeline to be able to identify them We also have a lot of trauma cofused MCPs
- MHSSPACS - leveraging our partnerships to be a trauma director development pipeline
- DoD - put people in mentorship roles so that when they come out of the process they are ready to go

Lt Col Sams - Current process, Top Challenges and Potenatial needs for Congressional legislation –

The trauma center verificaiton process is controversial for a few reasons. There are a few people who think that we shouldn't be making MTFs trauma centers…and the other side of that is if that this is the best way we can provide readiness.



Verification and Designation Challenges:

- Following the ACS principles of effective trauma systems
  - Local/regional trauma system needs and participation- committees, disaster planning, injury prevention

    - Institutional commitment- resources, patient safety, PI
- Subspecialty and other support personnel staffing *capabilities* and *prioritization*
- Billing and debt adjudication challenges for civilian (non-beneficiary) patients

Dr. Lien: that was a great presentation, and it stole a lot of the things I was going to say. When I was in the Army, I thought that every MTF should be a trauma center. But then I realized how many resources that would take. The issue is not that every MTF should be a trauma center, but rather how we get a complete trauma system across the MHS.We need the Service SGs and the Director of the DHA to discuss and commit the resources to address this issue (figure out the human capital distribution plan). We just can't compete with the civilian sector for trauma nurses. We just can't. We are even having troubles getting some facilities from Level III to Level II (ex. NMCCL).

Lt Col Streit: NAFB has done literally everything that every NDAA has asked of it for the past 7 years. We are a designated Level III trauma center, are taking civilian patients and are collecting from them, have places for our personnel to go when we don't have any work for them, we have a service contract for IR (the only one in the entire DoD)… and our budget was cut because we didn't' do DHMRSi. That's the message that was delivered to the trauma surgeons.
Dr. Lein: It wasn't because you didn't do DHMRSi. But if you don't code, what are we supposed to do? Say good on you? I'm not going to apologize that the way we document accountability is the responsibility of the MTF. Your MTF director signs off on the accountability documents. We can give you the money but where is the return on investment?

CAPT Tadlock: is DHMRSi the right system to be using?

crowd emphatically "NO!"

> **COL Gurney:** LTC Graybill, Col Gavvit, and CDR Jensen are working on this in coordination with J-5 and the JKSA PMO. It might be a COTS product or an EIDS product.

Dr. Lein: I want to go back to pay. Congrats to Texas, Nevada, North Carolina, etc. who have lobbied their representatives (not you guys because you can't lobby, but you know what I mean) to evoke change. We can't make money on trauma like in the civilian system because we can't bill.

> **Col Johannigman:** I just saw some people I respect agonize here. This is a painful conversation for us all. I suggest we break the mold once again. I suggest we consider this a critical break in a weapons system. I think we need this to be fixed in Washington DC with all the talented people in this room.

Dr. Lein: You are spot on. I agree that this has to change. The only way to do this is to change the laws.

CDR Pokorny: It is no surprise my biggest challenge as a TMD is manning. We have talked about this at length over the past few days. NMCCL is marred with transportation issues since it's a giant swamp. East of 95 is a dead zone for trauma. There is one level I, Level II, and Level III. North Carolina has no trauma system whatsoever. We had a trauma system assessment in 2004 and they are thinking of doing it again. To set the stage, NC is a barren wasteland. The real focus of this talk is establishing our relevance and our narrative. I will NEVER tell people that I can make a surgeon a better surgeon at NMCCL. I can give you the best lab techs and stuff out there, and we can keep relevancy, but you will not take a surgeon and make them better at NMCCL. I trained here at BAMC and got an INCREDIBLE systems background, but the ONLY thing I could apply at NMCCL was that there is always a way to Yes. Here's the fact. At major sites like BAMC, they can create fantastic trauma surgeons. Here's my opinion. Lejeune can create great

TMDs. The skills I need due to the unique layout and challenges of Lejeune are excellent for managing assets and stuff down range. I think this is a different mission than developing a trauma surgeon. This is developing a trauma medical director. THAT is why we have value and relevance and need support. Use us to develop TMDs.

> **Dr. Lein:** You didn't talk about this, but you can't create a trauma team. Can you sustain a trauma team? Do you have the volume to do that even if you can't create one? What CAN you sustain down there so we can appropriately resource you.

CDR Pokorny: Without a doubt, everyone at NMCCL is getting trauma readiness. I think we can sustain 99% of the team. I think the surgeon can sustain as well, however, it is true that there is not the same volume as at other centers. Can I bring four trauma surgeons and have them sustained? No. But can I have one or two trauma surgeons who scrub in with every general surgery and do some of that work? Yes. Our general surgeons see more trauma than anywhere else in the navy. I think we can sustain that in that model, but we need the partnership to do so.

CDR Jensen: We need to emphasize teams, not surgeons. The team is more than just the surgeon.

COL Seery: The other thing at NMCCL is that you have Second Medical Battalion. That needs to be highlighted.

The Role of Research nurses in a deployed setting – Dr. Winchell, Mr. Forcum, Lt Col Mayer

Dr. Winchill: The role of the trauma nurse is foundational. Modern trauma has always been a team effort. Specialized nurses are the heart of early trauma units. Nursing leadership is central to the development of trauma center and systems. Nursing leadership is key in trauma system function, management, performance improvement, facility resources, and standards of care. This is often the only FTE post relied on to run the trauma program in the civilian side. Nurses often lead in system quality assurance. The TPM network is what makes many systems work.

> **Dr. Holcomb:** Quality research is a team effort.
>
> **COL Gurney:** There is no nursing leadership here; how do we message this to leadership? There is no requirement to have trauma nurses in this role; we will have to go to the Services to ensure this gets recifified. I think this is because it is not recognized between nursing and trauma leadership that you can't have a trauma system without nurses. We need to get better at integrating nurses into the trauma system.
>
> **Dr. Holcomb:** That is an issue – the nursing folks need to be here next time. You guys have identified this gap. You have to have a TPM for each TMD. The TMD's recognize this. We'll make this another due out for Dr. Lein. We NEED to have trauma nurse managers to ensure that trauma programs are staffed appropriately.

Mr. Forcum: The role of the TPM/TNC at the MTF –

There are ACS standards for this role. Performance improvement is the backbone of the program and is the responsibility of the TPM. Data quality – we are responsible for running the registry and we report to TQIP.

Trauma Nurse Clinician

- Subject matter experts on the care of the trauma patient
- Performance improvement
- On the spot education
- Rounding
- Cadre

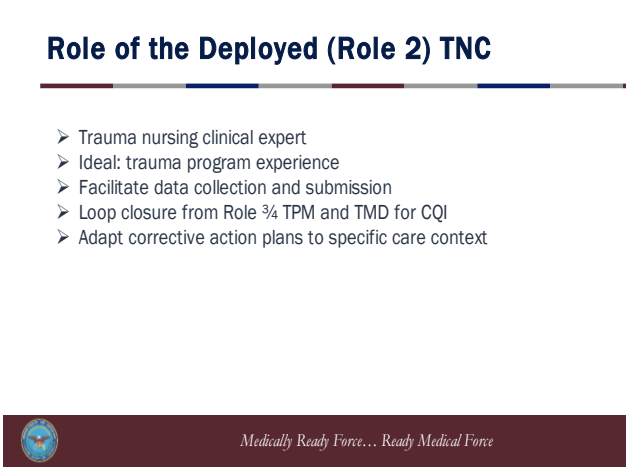
Translation To The CTS

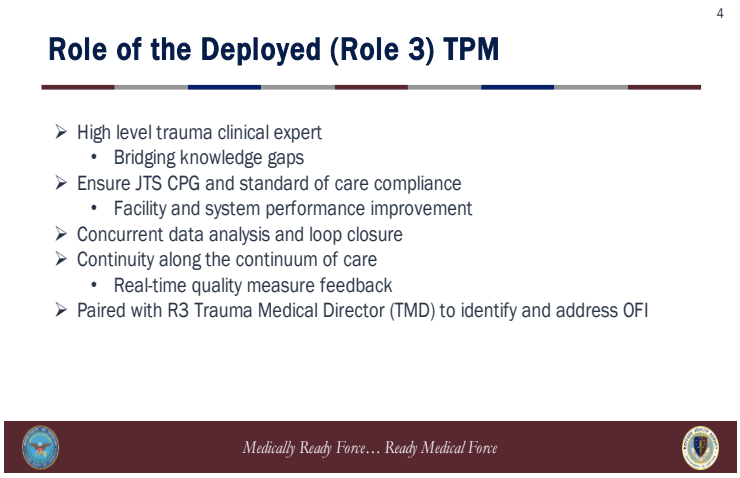
- A trauma system needs trauma nurses
- PI is essential downrange
- Build a cadre of deployable trauma nurses

Our personnel system, in my opinion, is the single biggest threat to our success. A fast onboarding is six months – for FAST TRACKED HIRING. A typical hire is two years. There are bidding wars for nurses now and we are hamstrung by our inflexibility. We need to be able to show that we are a consistent partner to our sites. I think the in-garrison TPM must remain a civilian for continuity.

Lt Col Dana Mayer - The deployed trauma nurse perspective –

For a deployed role 2 TNC, they would need to be a clinical expert and ideally have trauma program experience. They would also have to be able to facilitate necessary data collection and submission and close the loop from roles 3/4 TPM and TMDs for CQI. Finally, they need to adapt corrective action plans to the specific care context as necessary. Going forward, we need to develop a cadre of TNCs and TPMs, deploy trauma program trained nurses to all role 3s and role 2s, and overlap trauma nurse deployments to ensure continuity.





We also need to revamp their title and promotion opportunities to encourage this process. The nurses don't WANT to get away from the bedside, what typically happens when nurses promote, so give them this alternative path.

Col Shackelford: How do we make this happen?

Lt Col Mayer: I think you surgeons need to reach out to the nurse corp.

COL Higgins: I'll help you out here: I text Gen Ryder 3-4 times per day so I'll see if she can help.
Dr. Holcomb: you have a cadre of people in the military who have their Doctorate of Nursing Practitioner (DNP)s – they would be perfect for this.

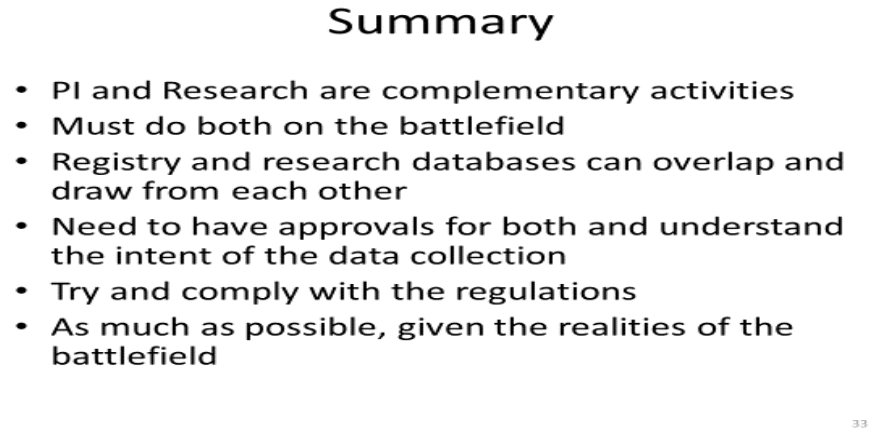
Dr. Knudson: rather than inventing your own course, it seems like we should be adding a segment to the CIV courses that already exist.

COL Seery: public law 1114-328 (NDAA)– we need to have career path for traumatologists. We don't have that – it was done intentionally to be a vague title. This could be a forcing function to get this done. Use this as the big "R" requirement to get this done.

1300	**LUNCH**		
1350	Trauma Research on the Battlefield: The need for a deployable research capability.	(1) Dr. Holcomb (2) COL JJ (3) Dr. Winchell 10 minutes each	1) Challenge with a deployable research capability, is it possible? (Dr. Holcomb) 2) Deployed research in support of CCMD and Warfighter; is there a need? (COL Johannigman / Col Shackelford) Trauma Systems and the need for research. (Dr. Winchell)
1420	New Documentation Tools Data drives decision making	Lt Col Val Sams COL Kirby Gross 10 min each	1) How data is used for medical and non-medical decision making ↔ the importance of data 2) Informing Medical and Operational Leadership with data. New documentation capabilities to facilitate advancing a 'data' culture for PI and to inform systems
1440	DoD TQIP Initiative / Collaborative	Dr. Peggy Knudson Ms. Gina Pickard	1) Standing up DoD TQIP for Level 2/3 Trauma Centers 2) The Importance of TQIP and Benchmarking MHSSPACS Support of DOD NSQIP and TQIP
1500	C3QIP – what is it? - Why are we using it? - What can it do? How can it be used for the deployed trauma system? Support of the CCMD and non-medical leaders	COL Brian Sonka	1) PI as a communication tool 2) Access to C3QIP / Command Surgeon Support 3) Future capabilities
1520	**Group Discussion: Data, Data, Data….. PI &Research**		**Moderators: Dr. Holcomb, COL Sonka, Dr. Kerbey**
1545	Trauma Medical Director Mentorship / Mentorship Families	LTC Hathaway Dr. Peggy Knudson CAPT Matthew Tadlock (20 min total, including 5 min discussion)	1) Role of mentorship for TMDs, ACS VRC opportunities for military surgeons. 2) Creating opportunities for military TMD and TPM growth though AAST Military Liaison Committee and the COT
1615	**Discussion: Summing it Up / Refining Deliverables/ Next Meeting Objectives**		**Moderators: COL Gurney, Mr. Sestito**
1640	**Meeting Adjourned**		

Dr. Holcomb: Trauma research on the battlefield: the need for a deployable research capability –

Dr. Holcomb discussed his historical perspective and hurdles he had to overcome during his deployments.



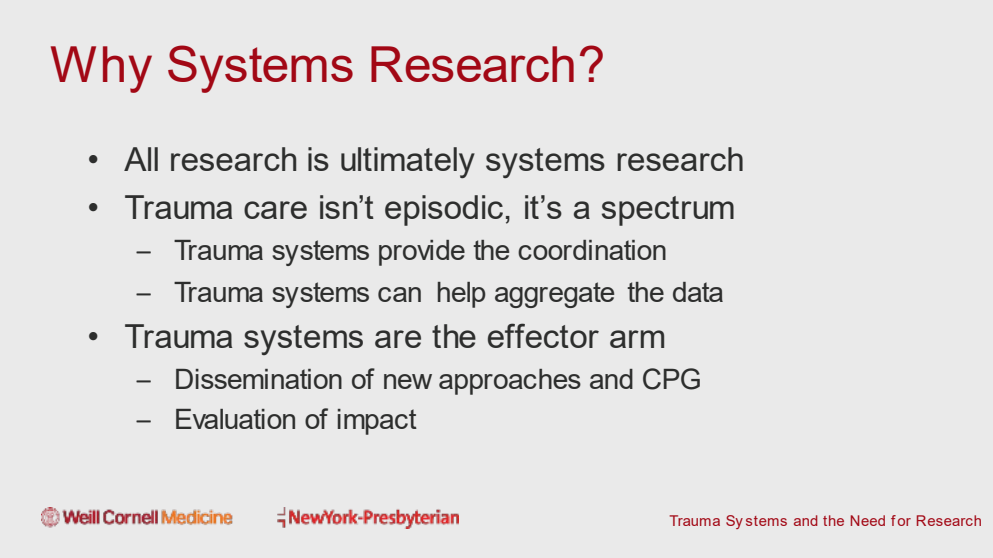
COL Gurney: We are standing up a research branch at the JTS and the goal is to get it codified in policy. When we stand up our JTS research branch, we will need policy support just like they can at a level I trauma center. But we have to be able to do it in a deployed trauma center.

> **Col Jahannigman:** I actually tried to pull off clinical research in theater. I did three projects but the hurdles were incredible. This was before there was a joint research initiative. Every time we had a PI role out, we would have to re-approval process.
>
> **Dr. Lein:** I'm all in. Do we piggyback off an existing IRB document at the DHA? Or do we draft our own? You guys need to let me know and discuss with IRB at the DHA.
>
> **COL Cunningham:** Should we supplement oxygen for a specific population? Some journals limit our PI research? I don't want to go to the DHA IRB. the challenge with that the de-identified information was that was that we were failing from a public health perspective. From a PI improvement, you want to track those you have harmed to be able to right it. I understand de-identification, but you need to track people to fix processes.
>
> **Dr. Holcomb:** Concur; that's why we went to the BAMC IRB. Publish PI data on and on and on. Research is the intent of the data.

****Crowd consensus: the DHA IRB is unnecessarily tedious and bureaucratic; it needs to be streamlined. If we can educate the IRB, that would be great.****

> **Dr. Knudson:** Even prospective research can be done without consent, but it still needs to go through the IRB. But it is a quick process. And as long as you are not doing a procedure on the patient, it doesn't need consent.
>
> **Dr. Holcomb:** Didn't we have complexities going across COCOMs with IRBs?
>
> **Col Johannigman:** Correct. I think the deliverable here on the whiteboard is to get the IRB within the JTS.

Dr. Winchell: I agree with the other speakers. Research has always been the heart of trauma care. You can't get better at what you don't study. Research is one of the 11 elements that came out of the NASEM report.



Things We Still Don't Know

- How do our patients really do over the long run?
- What is the optimal distribution of trauma facilities?
- What is the best use of transport resources?
- How can we improve care in the field and enroute?
- What are the changing patterns of injury?
- What are effective prevention measures?

Dr. Lein: This is why we need a surgeon on the IRB. I'm taking volunteers.

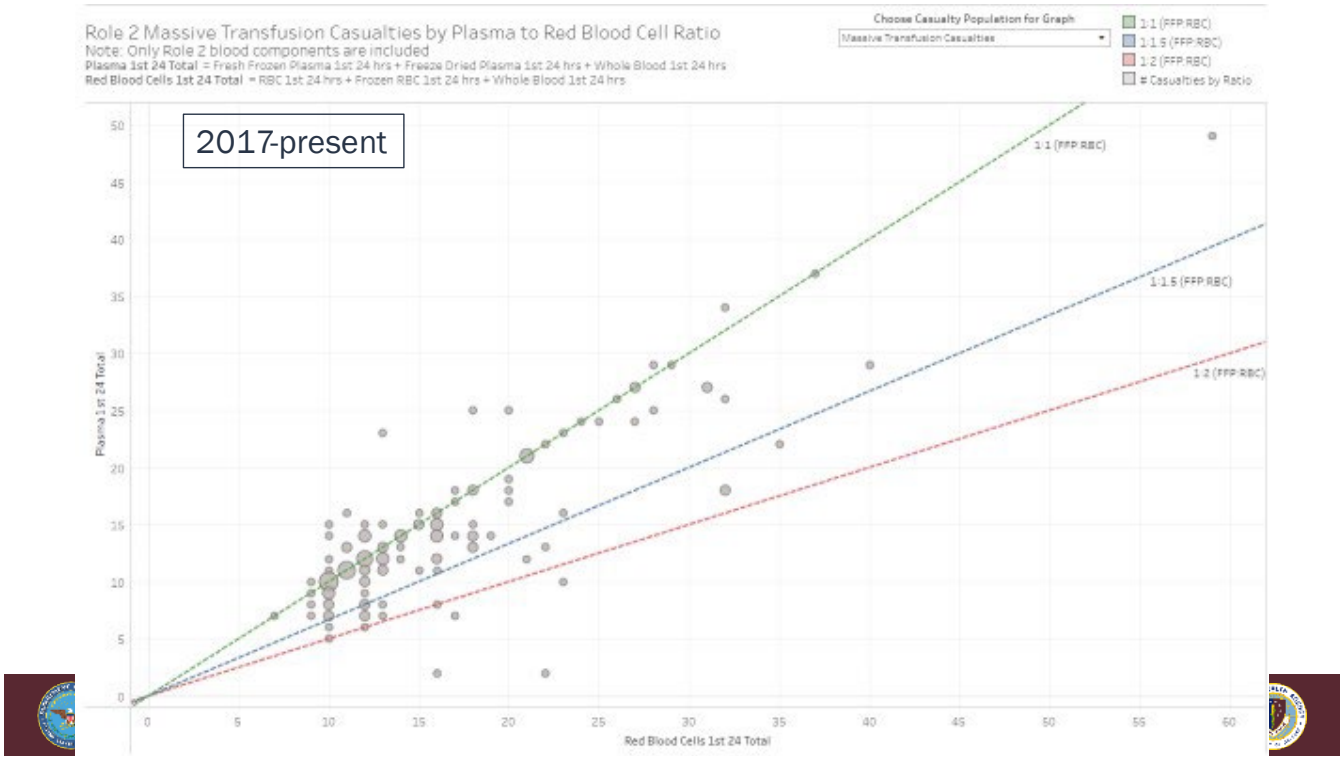
Ms. Pickard - TQIP and TQIP collaborative –

The ACS right now doesn't have a process for Level III collaborative reporting. I just got a look at the Level III TQIP report. There is some benchmarking, however, it is not as deep as that for the Level I's.

> **Dr. Knudson:** The thing that is different between the DoD and the other centers that the ACS works with is that the DoD's data is public.
>
> **Dr. Lein (speaking to Dr. Knudson and Dr. Kerby):** We have 3-4 big MHS conferences per year. I'd like to work with you to see if we can get some collaboration going here. I think we should have a specific trauma day/NISQIP breakout at one of these.
>
> **Dr. Kerby:** I just texted Abrams about starting a Level III verification thing and he said yes!
>
> ***Collective clapping***

COL Sonka - JTS C3QIP Dashboards –

C3QIP is not TQIP. It is not risk-adjusted benchmarking. There is something called syntactic data interoperability; however, this is different than semantic data interoperability. COL Sonka introduced the BATDOK instrument and how it transmits data, and the proposed implementation of the T-6 platform.



Example of C3QIP Dashboard

Mr. Forcum: with T6 being the downrange solution – any thought about using T6 in garrison?

Dr. Lein: We can absolutely look at that. If the community agrees we will use T6, we can do that. The problem is JOMIS is 5 years behind MHS GENESIS. I wanted them to go parallel...let's take this off-line and continue it with SME's.

LTC Ritchie: I would support both using T6 and would volunteer to pilot this.

Dr. Nunez: We trialed T6 at BAMC. It is a very workable product. Not perfect, and a lot of our older nurses had issues, but it's pretty good. I share a lot of Jason's concerns about the first step product relative to T6. Val Sams also showed the data capture was better with the Ipad than paper. Our concern with the Cerner product is not being able to follow the flow.

CAPT Tadlock – Mentorship –

AAST have done a couple of interesting things over the past year to get them their formal and informal membership. If you join AAST as an associate member or as a member for a reduced rate, you can be on

the same committee as the people who are probably going to be doing your verification. The other piece of this is excelsior. I was upset in San Diego when there was only one person at excelsior. Those are two great ways for informal membership.

> **COL Gurney:** people want to be friends and support people in the military. The people at AAST gave the military folks a pre-meeting day to have their paper competition, do region 13, and have a reception. They also cut the dues down to 1/3 to be an AAST member.

LTC Hathaway and Dr. Nunez Importance of membership –

LTC Hathaway: What we are doing at BAMC…the one area we have hit success is the TMD transition. The departing TMD guides the incoming TMD through a site visit, so they aren't just dropped in the deep end. The one area we haven't hit our stride in yet is with TPMs. Beside Lt Col Mayer who works with us as a reservist, we aren't getting that information out to the CCMDS.

Dr. Nunez: We proposed the idea of taking in several nurses to spend months with our TNCs and registrars so that they get a full course of trauma education. As Dana brought up though, this not in their career path, so it wouldn't be sustainable on their end for them to just drop a few years. We do a great job at BAMC at splitting the ISS > 15 trauma with university medical center. They have a lot of lower level of trauma, but we split it down the line with the acute ISS > 15 stuff.

> **Lt Col Streit:** when we wrote our PI plan, we included a review at the JTS level. We would be very supportive of it.
>
> **Dr. Nunez:** let me say we would like to support more work like that. It is not that we got derailed, but we got a but sidetracked with trauma center development. [speaking about the TSSWG meeting]. We could easily schedule that into our battle rhythm.
>
> **LCDR Pokorny:** we did that with our civilian partners. We have a rotating PI discussion with them every three months.

Maj Travis Arnold-Lloyd: Can you talk about the importance of Tim Nunez being a civilian?

> **LTC Hathaway:** I think that would be an ideal model. I think of Tim as a sponsor, not a mentor since he can introduce me into the system and the people.
>
> **Dr. Nunez:** To Travis' point – the ACS labels having a civilian as a strength. At first they were not sure, but now they get it. That is a strength that you made that commitment due to the unique nature of an MTF.
>
> **COL Gurney:** That is the model that have at Landstuhl as well.

???? : I come from a level IV trauma center. The mentorship for the TMDs and the Emergency Medicine physicians – what are we doing to mentor them? What are we doing for them?

> **Dr. Nunez:** I think we are lacking that representation on our WG. We look at a lot of level III centers in Texas, but what you are asking for – we are lacking. We thought mentorship would be a big part of the WG when COL Petersen started it up. We will do that through the TSSWG.

Proposed Deliverables

Legislative / Regulatory Changes

1. Unity of Command on the medical side….many of our problems are diffused ownership of CCC
    1. Service SGs vs DHA….diametrically opposed to how the military does everything….organizing and operating with Unity of Command
2. Legal authorities to participate in local trauma systems
3. OGC adjudication for
4. Debt adjudication mandated of deferred to DHA Director
5. DOD ability to charge Medicare for clinical care through the entire continuum of care
6. Next generation deployed EMR needs to be mandated in law to use whatever EMR JOMIS says

Legislative / Regulatory Changes

1. Adjudicate the ability to enter into agreements with payer sources down to lower levels…..MTF to act like any other hospital
2. Use of appropriated funds for patients
3. International agreements for allowance to care for HN patients in the CCMD
4. Expand 717 authorities

Due Outs

Asks to CCMD / Line

1. Plan for implementing/incorporating JTS
2. Incorporate JTS/CTS into all major O-Plans (maybe should come from CBA)
3. Exercise CTS into all exercises….get the trauma system into all Joint Exercises
4. Mission dependent medical equipment
5. Requirement for a trauma system in Guam

Asks to Services

1. Nursing leadership pathway → for traumatologist…
2. Services are presenting legacy capabilities of the next fight. We need a JF concepts for the future fight
3. Services acknowledge need for trauma leader development (TMD, TPM, EMS)….including TAD funds for meetings/training
4. MCPs train leadership and SYSTEMS stuff and not just clinical skills
5. Mission dependent medical equipment (interoperability)
6. Clarification for trauma billets / make trauma billets / PI requirement…trauma systems requirement
7. Protection for established trauma centers for TMD exemption from deployment

Asks to OJSS

1. CBA for Joint Casualty Care System
2. CBA for Trauma System

Asks to MHSSPACS

1. Curriculum for TMDs and TPMs → share ATLS and ASSET+ with the military sites on DM
2. Senior Visiting Surgeons
3. Sponsor Trauma Systems Development Summit ongoing
4. TQIP collaborative to include Level 3
5. Trauma system assessment for Guam
6. DHA funding courses for TMDs and TPMs with a day additional for JTS Trauma Systems course
7. Trauma Center Verification (VRC) and Systems Assessments opportunities for AD surgeons

Asks for DHA

1. Legal clarifications
2. Clarify the role of hybrid MCP + MTF program
3. T6 use in Garrison
4. All trauma centers to take care of civilian patients under the same authority for 12 months to their capability
5. Request IDA study for comprehensive billing issues
6. Base Access Rule for patients returning for clinical care…for 12 months
7. Requirement for a trauma system in Guam
8. Civilian Chief of Trauma for Level 1 /2 ACS verified trauma center
9. Expand 717 authorities

Asks for JTS

1. Require MCPs to train systems / trauma systems
2. Update the trauma systems manual
3. Trauma leadership development handbook
4. JTS to help define the role / expectations for a TMD and how they incorporate into hospital system / administration / command leadership
5. Continue to articulate the importance of TMD / expeditionary practice / leadership in trauma center
6. Metric for trauma system performance…to be tracked by DHA and in CCMDs.

Asks for TS-TWG

1. Trauma center metric

Meeting Adjourned at 15:45

TADLOCK

JENSEN.SHANE.DAVID.1259064119 Digitally signed by JENSEN.SHANE.DAVID.1259064119 Date: 2023.02.06 11:38:07 -06'00'

Matthew Tadlock, MD, FACS
CAPT, MC, USN
Chair, Committee on Surgical Combat Casualty Care

Shane Jensen, MD FACS
CDR, MC, USN
Chair, Defense Committees on Trauma

Enclosure (1) – Meeting Attendance

JTS Staff:
COL Jennifer Gurney (JTS Chief)
Dr. Mary Ann Spott (JTS Deputy Director)
Mr. Dallas Burelison (JTS Chief Administrator)
CDR Brenda Williams (Senior RN, JTS)
CDR Shane Jensen (DCoT Chair)
CAPT Matt Tadlock (CoSCCC Chair)
COL Brian Sonka (PI Chief)
COL Cord Cunningham (ERCCC Chair)
LTC Chris Graybill (JTET Branch Chief)
Lt Col Andrew Rhorer (AFMES)
COL Jay Baker (CTS)
HMCM Justin Wilson (SEA)
Mr. Dominick Sestito (SCCC PM)
Mr. Harold Montgomery (CoTCCC PM)
Trevor Gipper (A/V Spec)
Lt Col Lindsey July (JTS)
Katherine Robbel (PI)
Kenneth Leffler (PI)
Teresa (Teri) Duquette-Frame (PI)

CoSCCC Attendance
1SGT Michael Remley
Ben Stein (J-5)
Bobby Lane
Robert Mabry
CAPT Eric Deussing
CDR Jason Brill
LCDR William Burns
Col Brian Gavitt
Col Dan Cox
Col Jay Johannigman
Col Michael Higgins
Col Stacy Shackelford
COL Bonnie Harstein
COL Jason Seery
COL Kathleen Samsey
COL Kirby Gross
COL Mark Buzzelli
COL Wylan Peterson
Dr. Jeffrey Kerby
Dr. John Holcomb
Dr. Kyle Remick
Dr. Peggy Knudson
Dr. Ramey Wilson
Dr. Robert Winchell
Dr. Ronald Stewart
Dr. Timothy Nunez
Dr. Warren Dorlac
Gina Pickard
Jason Forcum
Jennifer Carney
Judy Logeman
Justin Stewart
Heidi Lavka
LCDR Doug Pokorny
LTC Emily Hathaway
LTC Eric Balent
LTC James Ryals
LTC John Ritchie
LTC Michael Anderson
Lt Col Andrew Hall
Lt Col Dana Mayer
Lt Col Erik Desoucy
Lt Col Ryan Earnest
Lt Col Stephanie Streit
Lt Col Valerie Sams
Lt Col Joseph Maddry
LTG Paul Friedrichs
Maj Julie Yanagihara
Maj Travis Arnold-lloyd
MAJ Abraham Fish
MAJ Brian Gamble
Michele Evans
Shelia Hardy
Wendy Clement

Virtual Attendance
1LT Samuel Strobel
Audra Roulet
Bill Orr (JTS)
CAPT Brendon Drew (JTS)
CDR Darshan Thota
CDR Jonathan Liebig
COL Pam DiPatrizio
COL Scott Wence
Danielle Davis (JTS)
Dr. Jeffrey Bailey (JTS)
Dr. Ken Leffler (JTS)
Dr. Larry Crozier (JTS)
John Recicar
Keith Fischer (JTS)
Kim Smith (JTS)
Laura Runyan (JTS)
Linda Martinez (JTS)
LT Katelyn Morton
LTC Brad Rittenhouse
LTC Luke Hofmann
Lt Col Mary Steuver
Maj Victoria Ables
Michael Moini
Rebekah Gurvitch
Thor Mueller (JTS)