

UNITED STATES DEPARTMENT OF DEFENSE
DEFENSE HEALTH BOARD

BOARD MEETING

San Antonio, Texas
Tuesday, February 21, 2012

PARTICIPANTS:

Board Members:

NANCY W. DICKEY, M.D., Chair

MAJOR GENERAL (Ret.) GEORGE K. ANDERSON, M.D., M.P.H.

JOHN BALDWIN, M.D.

M. ROSS BULLOCK, M.D., Ph.D.

VICE ADMIRAL (Ret.) RICHARD H. CARMONA, M.D., M.P.H.

ROBERT GLENN CERTAIN, Ph.D.

GUY L. CLIFTON, M.D.

ROBERT FRANK, Ph.D.

GENERAL (Ret.) FREDERICK FRANKS

JOHN V. GANDY, III, M.D.

EVE HIGGINBOTHAM, M.D.

DAVID ALLEN HOVDA, Ph.D.

COLONEL (Ret.) DONALD JENKINS, M.D.

GENERAL (Ret.) RICHARD MYERS (telephone)

DENNIS S. O'LEARY, M.D.

Attendees:

GENERAL (Ret) JOHN ABIZAID

CALEB S. CAGE

VERNIE R. FOUNTAIN

GAROLD D. HUEY

DR. BRUCE D. PARKS, M.D.

VICTOR F. SNYDER, M.D.

PARTICIPANTS (CONT'D):

RUTH STONESIFER

JACQUELYN S. TAYLOR, Ph.D.

LIEUTENANT COLONEL MARK BOSTON, M.D.

MAJOR ROGER LEE

CAPTAIN WILLIAM PADGETT

COLONEL KATHERINE RICHARDSON

COMMANDER ERICA SCHWARTZ

LIEUTENANT COLONEL BRYONY SOLTIS

MAJOR GENERAL BYRON HEPBURN

HERB COLEY

VICE ADMIRAL JOHN MATECZUN

BRIGADIER GENERAL PAUL DWAN

CAPTAIN LORI FRANK

ALLEN MIDDLETON

CAPTAIN CRAIG T. MALLAK

CAPTAIN CHRIS DANIEL

DEBORAH GUNN

LIEUTENANT COMMANDER JOSH TOBIN

CHRISTINE E. BADER

COLONEL WAYNE HACHEY

CAMILLE GAVIOLA

MARIANNE COATES

OLIVERA JOVANOVIC

PARTICIPANTS (CONT'D):

HILLARY PEABODY

LIEUTENANT COLONEL JOHN DORRIAN

LIEUTENANT COLONEL DONNA TURNER

MAUREEN MICHELLE TAN

KATHI HANNA

MAJOR GENERAL PATRICK SCULLEY

COMMANDER DAVID WILCOX

LIEUTENANT GENERAL JOHN HESTERMAN

Court Reporter:

KIMBERLYE A. FURR

* * * * *

P R O C E E D I N G S

(9:15 a.m.)

DR. DICKEY: Welcome everyone to this meeting of the Defense Health Board. We have several important topics on our agenda for today, so let's go ahead and get started.

Mr. Middleton, would you please call the meeting to order.

MR. MIDDLETON: Thank you, Dr. Dickey. Welcome everyone. As the Designated Federal Officer for the Defense Health Board, a Federal Advisory Committee and a continuing independent scientific advisory body to the Secretary of Defense, via the Assistant Secretary of Defense for Health Affairs and the Surgeons General of the military departments, I hereby call this meeting of the Defense Health Board to order.

DR. DICKEY: Thank you, Mr. Middleton. And now carrying on the tradition of the Board, I'd ask that we stand for a minute of silence to honor those we are here to serve, the men and women who serve our country.

Thank you. Since this is an open session, before we begin, I'd like to go around

the table and have the board and distinguished guests introduce themselves.

I'm Nancy Dickey. I'm the President of the Board. And when I'm not working for the Board, I'm the President of the Texas A&M Health Science Center.

GEN (Ret) ABIZAIID: I'm John Abizaid. I'm the Chair of the Dover Port Mortuary Independent Review Subcommittee and Former Commander of the United States Central Command.

GEN (Ret) FRANKS: I'm Fred Franks; retired U.S. Army, a member of the Defense Health Board and also the subcommittee.

DR. ANDERSON: George Anderson, retired Air Force medical officer and member of the Defense Health Board.

DR. HIGGINBOTHAM: Eve Higginbotham, Visiting Scholar in Health Equity at the AAMC in Washington, D.C. and formerly Senior Vice President of the Health Sciences at Howard University.

DR. BULLOCK: I'm Ross Bullock, neurosurgeon at University of Miami and Director of Neurotrauma there.

DR. BALDWIN: I'm John Baldwin, member of the Defense Health Board, cardiac surgeon Texas Tech University.

DR. CERTAIN: Robert Certain, former member of the Defense Health Board, former combat aviator, former prisoner of war, retired Air Force chaplain.

DR. PARKS: I'm Bruce Parks, a forensic pathologist and former Chief Medical Examiner of Pima County, Arizona.

DR. SNYDER: I'm Vic Snyder. I'm a former member of the House of Representatives and Armed Services Committee and I'm currently a Medical Director at Arkansas Blue Cross in Little Rock.

MS.STONESIFER: Ruth Stonesifer. I'm a Gold Star Mother of Kristofor Stonesifer, who was killed 19 October 2001.

MR. CAGE: My name is Caleb Cage, former Army Artillery Officer, current Director of the Nevada Office of Veterans Services.

VADM MATECZUN: I'm John Mateczun, Commander, Joint Task Force National Capital Region Medical.

MAJ GEN HEPBURN: Good morning. I'm Byron Hepburn, the Director of the San Antonio Military Health System. I'm also the 59th Medical Wing Commander here in Lackland Air Force Base, and I'm representing Bruce Green, our Surgeon General in Washington, D.C.

CAPT FRANK: Good morning. Captain Lori Frank. I'm representing the Surgeon General of the Navy. My day job is here in San Antonio as Service Component Command XO.

MAJ GEN (Ret) SCULLEY: Good morning. I'm Major General, retired, Patrick Sculley; Senior Vice President for University Programs of the Uniformed Services University of Health Sciences, and I'm here representing President Charles Rice.

MR. COLEY: Good morning. My name is Herb Coley. I'm the Chief of Staff for the Army Medical Command here at Fort Sam Houston, and I'm representing Lieutenant General Patricia Horoho, the Surgeon General and Commanding Officer of the Medical Command.

BRIG GEN DWAN: Good morning. Paul Dwan; Deputy Joint Staff Surgeon, representing

Major General Doug Robb, Joint Staff, Washington,
D.C.

MR. HUEY: Good morning. Gary Huey;
Civil Service mortician, retired, and consultant
to the International Mass Fatalities Center.

DR. TAYLOR: Good morning. I'm Jackie
Taylor. I'm a funeral service educator from
Boston, Massachusetts.

MR. FOUNTAIN: I'm Vernie Fountain
from Springfield, Missouri. I'm an embalmer and
specializing in postmortem reconstructive
surgery.

DR. CLIFTON: Guy Clifton; a member
of Defense Health Board; Faculty, Uniformed
Services University.

DR. FRANK: Good morning. I'm Bob
Frank and I'm on the Defense Health Board. I'm
currently the Provost at Kent State University.
I'm about to transition to a new position as
President of the University of New Mexico.

DR. HOVDA: Good morning. My name is
Dave Hovda. I'm a member of the Defense Health
Board. I'm a Professor of Neurosurgery and the
Director of the UCLA Brain Injury Research

Center.

DR. GANDY: Good morning. I'm John Gandy. I'm an emergency medicine physician. I'm on the Defense Health Board and the TCCC Committee.

DR. JENKINS: Don Jenkins; Chief of Trauma, Mayo Clinic, Rochester; Chair of the Trauma Injury Subcommittee.

DR. O'LEARY: Dennis O'Leary; President Emeritus of the Joint Commission and member of the Defense Health Board.

DR. CARMONA: Richard Carmona, Former Surgeon General, Vice President of the Defense Health Board.

COL HACHEY: Wayne Hachey, Executive Secretary, Defense Health Board.

MR. MIDDLETON: I'm Allen Middleton. I'm a Deputy Assistant Secretary in the Office of Health Affairs and the Designated Federal Official for the Defense Health Board.

MS. BADER: Good morning. Christine Bader, Director of the Defense Health Board.

And now we will ask folks in the public area to please state their names.

Oh, and excuse me, General Myers is on the line. Can you please introduce yourself, Sir?

GEN (Ret) MYERS: You bet, Christine. Dick Myers, former Air Force; Former Chairman of the Joint Chiefs of Staff; Vice President, Defense Health Board.

DR. DICKEY: Thank you, Sir. Ms. Gunn, we will ask -- Hillary Peabody will come through with the microphone. And this is actually a good time to please remind everybody -- especially with General Myers on the line -- to please speak into your microphone so that he can hear you clearly. Thank you.

MS. PEABODY: Good morning. Hillary Peabody; Defense Health Board, support staff.

LCDR TOBIN: Good morning. I'm Lieutenant Commander Josh Tobin; Shock Trauma Center, Baltimore, Maryland, Fourth Medical Battalion.

LT COL BOSTON: Good morning. Lieutenant Colonel Mark Boston; pediatric otolaryngologist and the Chief Surgical Services Consultant to the Air Force Surgeon General.

COL RICHARDSON: Good morning.
Colonel Katherine Richardson. I'm the UK
Surgeon General's Liaison Officer here in the
United States.

CDR WILCOX: Good morning. Commander
Wilcox. I'm the Health Services Attaché at the
Canadian Embassy.

LTC SOLTIS: Good morning.
Lieutenant Colonel Bryony Soltis; Army Surgeon
General's Office, Preventative Medicine Staff
Officer.

LT COL DORRIAN: Lieutenant Colonel
John Dorrian; the Air Force Public Affairs.

MS. GUNN: Good morning, again.
Deborah Gunn from the Air Force General Counsel's
Office.

CPT DANIEL: Good morning. Captain
Chris Daniel; Deputy Commander at Army Medical
Research & Material Command.

CAPT MALLAK: Good morning. Craig
Mallak; Armed Forces Medical Examiner.

CDR SCHWARTZ: Good morning.
Commander Erica Schwartz; Coast Guard,
Preventative Medicine Liaison.

CAPT PADGETT: Good morning. Bill Padgett; Headquarters Marine Corps Health Services, Marine Corps Liaison.

LT COL TURNER: Good morning. Lieutenant Colonel Donna Turner from the Office of Secretary of Defense for Personnel and Readiness.

LT GEN HESTERMAN: Lieutenant General John Hesterman. I'm the Military Deputy to the Under Secretary of Defense for Personnel and Readiness.

MAJ LEE: Major Roger Lee. I'm a staff officer of the Joint Staff Surgeon. I'm the Joint Staff Liaison to the Defense Health Board.

MS. JOVANOVIC: Good morning. I'm Olivera Jovanovic, support staff.

MS. TAN: Maureen Michelle Tan; Army Times.

MS. COATES: Good morning. Marianne Coates; Public Affairs Advisor to the Defense Health Board.

MS. HANNA: Kathi Hanna; support staff, Defense Health Board.

MS. GAVIOLA: Good morning. Camille

Gaviola; Deputy Director of the Defense Health Board.

DR. DICKEY: Thank you. We'll have a quiz later so all of you should get the names and the titles correct.

Before we continue the morning session, I know Ms. Bader would like to provide some administrative remarks. Ms. Bader.

MS. BADER: Sure. Thank you, Dr. Dickey. Good morning, and welcome everyone. I'd like to thank the Marriott Rivercenter Hotel for helping to organize the meeting arrangements; as well as the Defense Health Board staff -- Jen Klevenow, Jessica Santos, Lisa Jarrett, Hillary Peabody, Olivera Jovanovic, and Jean Ward -- for assisting in arranging this meeting. I think all of us who have been involved in planning Board meetings understand that so much work goes on behind the scenes, so we certainly appreciate their efforts.

I would also like to thank all of today's speakers who have worked very hard to prepare their briefings for the Board.

Please sign the Board attendance sheets

at the table outside with Jen Klevenow, if you have not already done so, and please notify the staff if your contact information has changed.

For those who are not seated at the head table, handouts are provided on the table in the back of the room. The Dover Port Mortuary slides have been updated very recently, as of this morning, so they will be posted to the website. We will get some hard copies made this morning, but the slides have just been updated.

Restrooms are located just outside of the meeting room. And if you need to use a fax, copies, or the telephone, please work with Jen Klevenow. If you plan to attend the dinner tonight, please provide \$41 in cash to Jen so that she can prepay at the restaurant.

And as a reminder, because this is an open session, the meeting is being transcribed, and please make sure you state your name before speaking into the microphone so that our transcriber can accurately report your questions and your statements. Additionally, this will help General Myers, who has dialed in this morning.

Refreshments will be made available for both morning and afternoon sessions. We will have a working lunch for the Board members, the Service liaison officers, and the Federal agency liaisons. And for the public that are looking for lunch options, the hotel restaurant is open and there are several dining options within walking distance.

Please notice that there are short bios for each of the speakers today. Dr. Dickey will provide a brief introduction, and then please refer to your binders and the handouts in the back of the room for a more detailed bio.

And with that, I will turn the meeting back over to Dr. Dickey. Thank you.

DR. DICKEY: Thank you, Ms. Bader. We are honored to have with us today General John Abizaid, who is a retired four-star General in the U.S. Army and Former Commander of the United States Central Command. In this position, he provided oversight for the American military operations, encompassing a 27-country region and including 250,000 U.S. troops. General Abizaid retired from the military on May 1st, 2007 after

34 years of service and served longer as Commander of CENTCOM than any of his predecessors.

General Abizaid was selected by the Secretary of Defense to Chair the Dover Port Mortuary Independent Review Subcommittee. He's going to introduce the decisional briefing pertaining to the subcommittee's findings and their proposed recommendations. Presentation slides will be found at your places, as the ones that were in your binder have now been undated.

I do want to reiterate something Ms. Bader just said, though. As General Abizaid presents and then several members of the subcommittee, each of these people brings remarkable background and expertise to their presentation. I would encourage you to please look at the bios. Their one-line introductions as we went around the table this morning do not do them justice, and I want you to be sure to provide their recommendations the appropriate weight of the authority they represent.

So without further delay -- actually, let me make one other comment. We talked briefly, sometimes in our presentations, we'll

take questions as we go along. This is a fairly detailed presentation and, with some trepidation, if we start questioning as the General presents, we may never get to the end, so I would encourage you to jot down your questions, flag the slide, or whatever, that triggered it. I promise we'll save plenty of time for questions and discussion at the end, but I think we'll go ahead and have the entire presentation and then have discussion of it.

So, General Abizaid, I give you and your subcommittee time for presentation.

GEN (Ret) ABIZAID: Well, thank you very much, Dr. Dickey. We appreciate the opportunity to be here. We appreciate the opportunity to present our findings and recommendations. Despite the fact that we have many, many slides, and that Dick Myers is not here to criticize them, we will get through them relatively quickly.

The first slide please. Here's what we're going to do.

Next slide. We were established at the Secretary of Defense's direction in December and

were tasked with giving an independent assessment of operations at the Dover Port Mortuary and we are required to report to the Secretary of Defense by February 29th. So in terms of a panel to come together to do the work; to assemble the witnesses, to talk to everybody that needs to be talked to, to examine in the detail that needed to be examined, it is, by my experience, a pretty short timeline. So we moved quickly.

Next slide. We looked at various reports and investigations in some detail. I will not cover them here. I think most of you, if not all of you, have had the chance to review and, in some cases in depth, read the report that we issued and some of you are very familiar with these various investigations.

Next slide. This is the membership of the subcommittee panel. I'm going to ask them once again to identify themselves so, when it comes time for questions, you can know who to direct your question to.

So starting with you, Caleb, please.

MR. CAGE: Caleb Cage; Director of Nevada Office of Veterans Services.

MS.STONESIFER: Ruth Stonesifer; Gold Star Mother.

DR. SNYDER: Vic Snyder; former House member and currently the Medical Director of Arkansas Blue Cross.

DR. PARKS: Bruce Parks; forensic pathologist, former Chief Medical Examiner.

GEN (Ret) FRANKS: Fred Franks; retired U.S. Army, and member of the Defense Health Board, Commander of VII Corps during Operation Desert Storm.

MR. HUEY: Gary Huey; retired Civil Service mortician and consultant to the International Mass Fatalities Center.

DR. TAYLOR: Jackie Taylor; funeral service educator.

MR. FOUNTAIN: Vernie Fountain, the embalmer.

GEN (Ret) ABIZAID: Okay. So it's a very well experienced and highly-qualified team. It includes senior military people, but, more importantly, it includes people that are professionals in this business, so they know how business works on the outside. They are experts

in their own field. And, of course, it's also important to have a person like Ruth Stonesifer on board, a Gold Star Mother, who understands the impact that operations at Dover can have on families both positively and negatively.

Next slide. Our mission:

independent assessment. And it's important to understand that there's more than the Air Force Mortuary Affairs Office to be looked at.

Although, it was the central point for us, it's very important for people to understand that there was no way for us to be able to assess what went on at AFMAO -- what the problems were and what the corrections need to be -- without looking at all of the supporting organizations around it, so we looked at that. We went from operations in the field all the way up into policy at OSD. And, in particular, we wanted to see how far along has the Air Force come -- in particular with regard to the various reports of investigations from the Office of Special Counsel, the Air Force Inspector General, the Army Inspector General, et cetera -- in making the corrections that were deemed necessary.

Next. The Terms of Reference:

objectives and scope. It's clear that some people had thought that we were going to have a very limited scope of only looking at AFMAO, but, again, it was also clear, from the instructions relayed to me personally by the Secretary of Defense, that we had to look at every aspect of operations that affected AFMAO in order to get the right view of what had happened there and how to move ahead. You see these issues here, which our various experts will be discussing in some manner or another in their presentations.

The next slide is continued here. Next slide. What's very important for everybody to understand is what we were not asked to do. We were not asked to talk about disciplinary actions, people that may be liable for more disciplinary actions, et cetera, because that's the subject of investigation that's already ongoing by the Secretary of the Air Force. The IG inspections look at disciplinary actions, the OSC investigation looked at disciplinary actions, and both the OSC, the Air Force actions are still ongoing and, therefore, it was very

important for us to stay out of those areas. And I want to make sure everybody understands that we were looking at what I would call, as an infantryman, tactics, techniques, procedures, and processes in order to understand what was in need of fixing, how will they have been fixed, and what more could be done to make them more effective from AFMAO and its supporting organizations.

Next slide. We did a lot of meetings with a lot of people, and we had an opportunity to visit the site and have a very detailed examination of how business was conducted there. We interviewed family members. We met with whistleblowers, with the permission of all of the various people in the chain of command to make sure that we stayed within the purviews of our instructions. We wanted to understand from them what they thought about how various corrections had been made, et cetera, and how things were going in a forward-looking manner. And, of course, we reviewed a long and detailed amount of documents, policies, regulations, reports, SOPs, et cetera.

Next slide. We organized ourselves into various subcommittees once we started to understand what we thought the areas were that needed to be looked at in detail. General Franks and I worked on the command, oversight, and policy; Air Force Mortuary Affairs, Dr. Jackie Taylor, Vernie Fountain, Gary Huey; Armed Forces Medical Examiner System, Bruce Parks and Vic Snyder; and Casualty and Mortuary Affairs Operations Center/Service Liaisons, Ruth Stonesifer and Caleb Cage. So these subcommittees of the subcommittees did the detailed work necessary. Sometimes they would look and talk to other people, look at other procedures, independent of the full Committee and then report back to us. But it was a, what I would call, action-packed sort of organizational activity that the subcommittees and the Committee attacked.

Next slide. Guiding principles. I'll let you take a look at these. Throughout this whole thing, what could be more important than making sure that, in their final last measure, that we properly take care of the men and

women of the Armed Forces. They have to be treated with reverence, with dignity, with respect and honor, and that process can't stop anywhere along the way. Just like we can't make a mistake when we deal with things such as nuclear weapons, nor should we make a mistake when we deal with our Fallen. We have to make sure that not only are our Fallen treated with dignity, honor, and respect, but that we do so in a manner that is transparent and compassionate to the families concerned.

And I think, throughout this, we always kept that in the back of our minds. We understand that, as a result of many of the press stories, as a result of many discussions, that there has been a certain amount of confidence lost in our ability to get this mission accomplished. And it is absolutely important that we restore confidence to our troops in the field, to our families of those troops in the field, and to the broader American public that we can accomplish this mission with the perfection, the dignity, the honor, and the reverence that it requires.

Next slide. And we can see that trust

is sustained with Service members, their families, and the nation in this solemn and sacred mission and that is what this subcommittee report is all about.

Next slide. Now, before I get into this in particular, I want to talk about broad issues so that the Committee can understand some of the important things that have taken place at AFMAO and in supporting organizations. First and foremost, I want to praise the current chain of command, Dr. Dickey, that is at AFMAO.

The Air Force has put in a terrific commander, who has the full confidence of our subcommittee, who has done a wonderful job in making sure that the processes are absolutely technically correct and very open, transparent, and he's also ensured that many of the observations in the various investigations were corrected. He's done so in a professional way. He's been ably assisted by the Assistant A1, the Assistant Personnel officer of the United States Air Force, in a way that has given him support and oversight. And also the A1 of the Air Force has done a great job in making sure that they moved

on issues of policies, tactics, techniques, procedures that need to be changed.

We also need to report to the full Committee that, when we went out to Dover, we witnessed everybody at work in this very difficult profession. And, of course, all of you understand what it is. I mean, you are professionals in your own rights. You understand how difficult it can be. You understand the nature of the wounds that come out of the theater, especially when serious blast injuries take place, and you understand that the work necessary to identify, to understand what happened, and then to prepare the remains for onward movement to their families is a tough, difficult task, and it's made more difficult by the fact that there's been an awful lot of casualties and deaths in the last ten years of war.

So as we were at Dover, it was readily apparent to us that people took the mission seriously, that they attempted in every way possible to honor, respect, and dignify the process that they were in, and in a way that we

found quite compelling, and we are of the impression that good people are out there trying to do good work, and for 99 percent of that work, it's extremely good.

Now, we also found, and it's very important to understand, that the proximate cause of a lot of these very difficult findings that the Air Force IG found of gross mismanagement, that other bodies of the U.S. government found with regard to processes, policies, et cetera were clearly things that should not have happened. These failings were failings of, in many respects, oversight; lack of technical expertise to oversee the technical work that needed to be done out there and lack of command oversight, and not only lack of command oversight, but also lack of inspection, follow-up inspection, et cetera, et cetera.

In other words, we had a command operating out here, I think you'll see as we talk through this particular part of our report, that was unintentionally a highly isolated command that didn't have the proper technical or command or policy oversight necessary to really deal with

the problems that it was facing, and in very important order, we need to understand how this chain of command works, ways that the chain of command can be strengthened, and the way that policy flow can be strengthened as well.

First slide. Now, this is not just about the Armed Forces Mortuary Affairs or the Air Force Mortuary Affairs Office; it's also about these organizations -- and we'll take a look at a chart here very shortly -- which are adjacent organizations or organizations that are in support of AFMAO as it performs its mission.

The Armed Forces Medical Examiner System is also an extremely important organization in the way that we do our business with regard to our Fallen. Not only do they have to identify every single one of them that comes through and they run the DNA registry for the entire Armed Forces of the United States, not only do they do that, but they have a batting record of 100 percent, which I think is pretty important for us to understand. Every Fallen Soldier, Airman, Marine, Sailor has been positively identified due to their great work.

They also take a look at various sorts of wounds that took place as they do the autopsies, they look at equipment, they look at the conditions of the Fallen as they come in to understand what happened, and then they make immediate recommendations to the field, either from tactics point of view, personnel point of view, or equipment point of view, to make corrections to keep our troops safe in the field. So not only do they do the examining and all of the work necessary to ensure that they assist the Armed Forces and Air Force Mortuary Affairs in its mission, but they also perform an invaluable mission for the entire Armed Forces in improving the manner in which our forces are employed, trained, and equipment, and it's extremely important to understand.

Next slide. Now, this is going to take me a second or two so that I can explain it. I will turn on the green pointer. Nobody jump in front of it; it's liable to cause some sort of an eye injury. Although, I would say, Dr. Dickey, that, with your esteemed panel here, we should be able to take care of the casualty.

DR. DICKEY: Absolutely.

GEN (Ret) ABIZOID: Here's the Air Force Mortuary Affairs Office, the Armed Forces Medical Examiner System, the Joint Personal Effects Depot, and then Service liaison officers that helped be the interface between the families and the Air Force Mortuary Affairs Office.

Now, you can see here that each of these organizations has a dotted line next to it, which shows that it has a responsibility to coordinate -- these dotted lines, of course, go in all different directions, but they have to all coordinate with one another in order to support the processing of the Fallen through the Air Force Mortuary Affairs Office.

The chain of command at the Joint Personal Effects Depot goes through to the Army Adjutant General. This organization is responsible not only for the personal effects of the Fallen to be inventoried and properly disposed of and, most important, is to return the personal effects of the Fallen to their families -- you can imagine how important that is -- but they also take care of the large number

of wounded who have personal effects as well that end up in different hospitals and different places all over the world, and they ensure that those personal effects get either to the family members or to the Soldier, Sailor, Airman, or Marine that has been affected by the wound.

We talked about the Armed Forces Medical Examiner. Captain Mallak is the commander, by the way, and he happens to be here with us. This organization, I talked about how important it is, what great work it does, and it reports up through a medical chain of command, in particular, an Army medical chain of command, with the Army acting as Executive Agency and an Army Medical Commander, Major General Gilman, oversees their activities. There's an awful lot of oversight, by the way, here that takes place in the Armed Forces Medical Examiner System. There's a lot of medical oversight, there's a lot of credentialing oversight, and the chain of command oversight provided by General Gilman of the United States Army at the Medical Research & Materiel Command is, I think, very important.

Over here, the Service liaisons, which

represent various groups of members of the Army, the Navy, the Air Force, the Marine Corps, that are liaison groups that are manned differently, trained differently, organized differently, dealing with certain different policies, procedures from their own Services, interface directly with the families, and they do so in a way where they have absolutely no command relationship with the Air Force Mortuary Affairs Office.

And we'll talk about the historical chain of command and we'll talk about the current chain of command, but right now, AFMAO reports to the Assistant A1 in the Pentagon and then to the A1 in the Pentagon, and the A1 is the Personnel Director of the United States Air Force, and we believe that that doesn't provide this organization -- although, it does currently, but we believe that it did not provide this organization with proper oversight.

Over here is a very, very important organization that's called the Central Joint Mortuary Affairs Board, the CJMAB you'll hear it referred to. It's composed of O6 Captain- and

Colonel-level officers of some of these organizations; indeed of groups that are highly interested in a positive outcome on what goes on at AFMAO and elsewhere in this operation. And the Central Joint Mortuary Affairs Board does not have what I would call command authority, nor do they have directive authority; they have coordinating authority.

So what they're doing is they're looking out to see what's going on within the processes, techniques, procedures, et cetera in the mortuary affairs business and they are making recommendations to their various chains of command independently in order to close policy gaps, close technique gaps, or procedural gaps. This Board obviously had to deal with burgeoning casualties that took place after 9/11. They went from a peacetime establishment to a wartime establishment. There were an awful lot of policies, procedures, techniques, et cetera that essentially had to be worked through as casualties increased, and this group did a fair job in ensuring that it kept pace with that.

Up in the Department of Defense at the

USD, the Under Secretary of Defense, for Personnel and Readiness, there was policy oversight, and policy oversight would flow from here to the Services down into these various organizations. Now, one of the things that we're going to talk about is policy oversight, and I think many of you are familiar with the notion of "Executive Agency," where the Department of Defense asks a Service -- because the Department of Defense doesn't have the ability to oversee something specifically itself, it will ask a Service to be an Executive Agent. In the case of mortuary affairs, the Department of Defense has designated the Department of the Army to be overall responsible for mortuary affairs.

Now, it's also important for us to understand that, while we're focused on AFMAO, which is the Port Mortuary, the only Port Mortuary for the United States Armed Forces, there's a tremendous amount of work going on in the field with deceased soldiers that takes place primarily in the land forces, as you would imagine, through organizations that are very large, very varied and complex within the U.S. Army. So this notion

of Executive Agency with the Army, I think, is consistent with the broader issues of ensuring that the Fallen are taken care of on the battlefield, processed properly, and arrive here at the mortuary properly. And I think understanding this entire sort of architecture is essential, as we make our recommendations, to understand how we propose that we fix it.

Next slide. This is the historic Air Force mortuary chain of command. I won't belabor it too much, other than to say, this is an Air Force slide. You can see what some of its conclusions were. This took place, and was in place, before 2008. The Air Force came to regard it as having too many command channels, too many overlapping authorities that the mortuary was buried in the respective organizations, and that there were just too many difficulties in sorting this out for the people in the mortuary to effectively do their job, understand policy, and understand oversight. However, what is important is that, previously, the commander of the mortuary reported to another commander.

Next slide. In 2008, the Air Force

decided to make a change to the chain of command and instituted it in January of 2009. And here is the commander of the Air Force Mortuary Affairs Office here, who reports to the Assistant A1 in the Pentagon. It shows a one star. At the time when the various allegations of misconduct were raised, this was a civilian executive service, SES, that served in that position. Now it's currently a uniformed officer, a one-star, who then reported up to the A1 three-star responsible for personnel, who, in turn, reports to the Chief of Staff of the Air Force.

Now, it's the opinion of the Committee that this is a problematic chain of command. It's problematic for several different reasons. Number one, the commander here lacked Uniform Code of Military Justice authority. In other words, he was a commander in name only, but a commander without authority. He was not centrally selected, nor was he centrally or specially trained. And so he then reported from Dover to the Pentagon.

Now, those of you who have served in the Pentagon, I would ask you the question

rhetorically: How much level of oversight do you think will come out of the Pentagon office when that office is charged with personnel actions and Services actions for the entire Air Force of the United States?

In other words, we have saddled disposition here with an oversight requirement that it would only probably exercise in time of crisis, which it is doing right now and quite ably right now. And then, of course, the A1 of the Air Force - you all know what kind of a job that is. The A1 of the Air Force has one of the most complex and difficult jobs in the Armed Forces. Again, the amount of time that this person and this person can provide to this commander is problematic. Moreover, there is no ability of this position, or this position, at least there was not, and, in fact, no sort of oversight was really exercised within this chain to inspect to see how things were going here.

There were inspections that happened internally and they happened on several occasions, but the inspections that happened internally unfortunately did not result in any

corrective action being taken, primarily because this chain of -- and I won't even call it a command, because there was no command here; not a commander, not a commander, not a commander, not a commander.

This chain of authority was, in my view and the view of the subcommittee, unable to properly oversight -- show oversight -- command oversight of this officer here, who, regardless how good he is or she is, needs to have the ability of other commanders to oversee what they're doing, to make recommendations, to provide opportunities for redress, et cetera, et cetera, and conduct inspections.

So while the previous chain of command was not really very capable of producing the oversight that was needed, this reorganization inadvertently -- and I will emphasize inadvertently. This organization inadvertently provided even less oversight.

Next slide. I have to hand the director of the subcommittee here this highly technical piece of equipment in order to make sure this gets done right.

So you see here that we think that the commander of AFMAO requires special selection, special training, Uniform Code of Military Justice authority, and has to have oversight of higher commands and others to get the job done, which is technical, and we'll talk about that as we go through the briefing.

Next. The Secretary of the Air Force should direct these things to happen.

Now, if you will recall the slide that we showed on the overall chain of command, you remember how the various command authorities flow. As a matter of fact, I'm going to go back to that in order for you to understand number two properly.

You see here that this chain of command, which is the one that we talked about which was not effective going from AFMAO to the Assistant A1 and then on up, we believe that the Air Force needs to either designate a new command, which, in this period of austerity, may be difficult for them to do, or designate an appropriate command to oversee this, and this should be a flag officer command. It says two-star here, but we think it

needs to be a flag officer that is going to oversee AFMAO directly and may have other authorities assigned to him or her as necessary. And this is a Services sort of command here in the Air Force parlance.

Yes, General Franks.

GEN (Ret) FRANKS: The Air Force, through separate analysis, had briefed to us on the panel that the AI reached a similar conclusion, so it's not a surprise to the Air Force. I mean they, through their own investigation and their own analysis, reached the same conclusion General Abizaid just briefed.

GEN (Ret) ABIZAID: So recommendation Number Two is that, in addition to ensuring that we have the proper command authority over here within AFMAO directly, that a command authority be either established or designated for AFMAO at the flag officer level. That's Recommendation Two.

Now, there was some discussion about making all of these various organizations that we talked about into a Joint organization or Joint operating agency. And I have to admit, as a

former Joint Commander, and General Franks as well, as a former Joint Commander, we both talked about why that might be very attractive, but as we got deeper and deeper into understanding the various missions of these organizations, in particular the Armed Forces Medical Examiner System, and AFMAO, JPED, and the various Service liaison units, it became clear to us that we can strengthen oversight by ensuring that the chain of command of each of these organizations is properly resourced, properly given the levels of authority that they require, and then tied together at the top through the CJMAB that is given what I would call enhanced authorities.

You see here that the Armed Forces Medical Examiner, in particular, is a group that does the autopsies, that does the identification, that does drug testing, toxicology, examining wounds, et cetera. We talked about this before, but we saw that there was probably only about 10 percent of the effort of the Armed Forces Medical Examining System that really supported AFMAO. It's more than sufficient for AFMAO to get its job done, but we also found that, in the scene between

the handoff of remains between the Armed Forces Medical Examiner and AFMAO, there were problems, and there were problems with accountability of remains and there were problems of other types with regard to accountability that sometimes could not be resolved. This happened very, very rarely. I want to make sure you understand that. It happened very rarely, but that it happened at all is important for us to know.

And in the civilian world, the people that do the medical examining business, as I understand from the professionals on our Board, that is a separate and distinct sort of job from what happens at the mortuary or the coroner. And this really firm line between the two does not necessarily take place in the same way in the Armed Forces, where, previous to the reorganization that took place, the Armed Forces Medical Examiner and their people were doing work inside the domain of the Air Force of AFMAO.

And in this two disparate organizations working closely together, which did not have a workable memorandum of understanding -- in other words, no policy governing how they were each to

do their individual missions in a mixed manner -- it's clear that they have to be operated. That doesn't mean, though, that we form a joint command that includes them together in an unnecessary marriage. It does mean, though, that these commands have to have strong memorandums of understandings that are empowered by Executive Agency from the Army and policy from DoD that leaves no doubt about who does what to whom.

And the Armed Forces Medical Examiner, even though it wasn't the subject of our look, we had to look at as well, because it's a large Tri-Service organization which reports up through the chain of command to General Gilman, and we noticed in our discussion with Captain Mallak that he also did not have Uniform Code of Military Justice authority.

And, again, our predisposition is to want to have commanders be designated as commander, be selected as commanders, and be given UCMJ authority, as any commander deserves, and so we make the recommendation that the Secretary of Defense, in conjunction with the

Secretary of the Army, make the Armed Forces Medical Examiner a command position, that that person be centrally selected, and that they be given the necessary UCMJ authority of any commander.

Next finding. Overall, informal command relationships right now -- and I would say they're very informal; although, now they are more formal than they used to be. In other words, they're making good progress on developing memorandums of understanding, Department of Defense instructions, et cetera, et cetera. And it's highly dependent right now on the fact that the commander at AFMAO and the commander at the Medical Examiner and the various Service liaisons and the JPED all get along well together, they like one another, they understand what has to be done, but the panel felt that wasn't good enough. We had to make sure that there was going to be a system of policy Executive Agency, et cetera, that establishes standards that can withstand personality-dependent sorts of manning. So, in other words, it's got to be a long-term solution to the problem.

In particular, we were very concerned about the fact that each service had what I would call a very informal liaison to AFMAO. They were manned differently, trained differently, had different rules of engagement with the families coming from their Services, had different sorts of interpretations of what the personnel authorized to direct this position can do or not do. And it is clear to us that the Secretary of the Army, as the Executive Agent, should say what the minimum standards are for these teams, ensure that they are on tour for the same amount of time, that they're trained properly, that they're manned properly, and then we can add whatever the specific Services need them to do for Service-specific activity, but that these teams be placed under the tactical control of the AFMAO commander so, like any commander, he can direct them to do certain things to assist him in the accomplishment of his commission.

Now, it's very important that you understand that these Service liaison teams are the point of friction between the mortuary business, the final resting of our Fallen, and the

families. That's hugely sensitive. You can imagine how sensitive it is. And so we think that more effort needs to be made to put them in the right place in the chain of command and to ensure that they are adequately trained, resourced, et cetera.

Command, oversight and policy. I'll let General Franks talk a bit about our concern about inspection, our lack of inspections, lack of routine oversight.

Again, you know, General Franks said to me something very important and to the entire Committee. He said: Look, when you look at an organization that has a zero tolerance for mistakes, there's one great place to look, and that's the United States Air Force, and that's within their command oversight inspection and operational readiness inspections that they conduct in support of a nuclear surety mission. You can't have a mistake there. True, they've happened occasionally, but you can't have a mistake there. You can't have a mistake here, and that's why it's so important so ensure that every level of oversight has the ability to

conduct inspections and ensure that internal after-action reviews are conducted and that constant learning is taking place.

General Franks.

GEN (Ret) FRANKS: As General Abizaid said, we, and the subcommittee, felt as though this mission touches all of the Department of Defense. And even though the Army is designated as the Executive Agent and that the Department of the Air Force is responsible for operation of the Dover Port Mortuary, the mission touches the entire Department of Defense.

So starting with AFMAO, we looked to see what command and technical oversight systems were in place and we found that, prior to the service of the current AFMAO commander, inside the organization, there did not seem to be any ongoing or systematic -- what the Army calls and the Services call after-action reviews, where all participants are invited to discuss processes and procedures; things you want to sustain and those things you want to improve, and this is internal organizational methods used as a self-correcting process. That's going on now, and it includes

all members of the team there at AFMAO.

Beyond that, though, within the Air Force chain of command, with this two-star headquarters that General Abizaid briefed, there also needs to be systematic command and technical systems visits and also inspection visits; that certainly the Air Force and all the Service departments do very well on a daily basis and know how to do and certainly need no instruction from us on that.

Beyond that, though, there's the department level systematic command and technical oversight as well because this does touch all the seams between the Service departments, the Joint Staff, and, therefore, we felt that there was a role of the Department of Defense also in these oversight methods to be used in command and technical inspection. And so we felt that that also required Department of Defense Inspector General and, as you'll see in a minute here in the recommendation, that a board of visitors that would essentially be made up similar to the subcommittee that was formed to do this mission. We shared command and technical

oversight and could report to the Defense Health Board, would be a compelling addition to the oversight mechanisms that begin at the organization with AARs in the Service departments and at the DoD level. So we felt that all of that oversight certainly needed to be reviewed and that needed to be put into place.

GEN (Ret) ABIZAID: And that leads us to the next slide and Recommendation Number Five: That the Department of Defense IG conducts an annual inspection of AFMAO and its supporting non-Air Force supporting organizations and the Service liaison unit.

Now, we understand how difficult it can be to get the DoD IG to operate on a fast schedule because of the workload that they have. We understand that they have other reporting relationships, et cetera, but we think that, in order to know that we have fixed the problems, that this year the Secretary of Defense needs to get an organization involved to conduct this oversight inspection that covers the whole range of things, not just Air Force specific issues, and we believe that the best organization to do that,

in our view, is DoD, but we would certainly consider others.

We also believe that this technical oversight -- we've already talked about fixing command oversight. Now we think, whatever we call it -- a board of visitors, a board of advisors, whatever the proper terminology is -- but we think a board of people, such as what were on this committee, this subcommittee, reporting through you, Dr. Dickey, would be a very valuable thing for AFMAO and for the supporting organizations.

Next slide. That leads us to policy. I will not brief this slide because it is a headache slide. It is to say what we all know; policy and Department of Defense moves slowly. It's subject to an awful lot of roadblocks. It's bureaucratic. It takes a lot of time, but in ten years of war, we should have sorted out the policy by now. And we do not believe that policy oversight was appropriate to get the job done. We also believe that the person that was given the responsibility to ensure that policies were implemented, drafted, et cetera, et cetera,

was -- we understand that that person was only one deep.

Whatever we need to do to resource that particular node within the Department of Defense P&R bureaucracy, we need to do so that we can speedily get the right policies in place, agreed upon by the Services, and empowering the various organizational nodes to exercise the authority of inspection and oversight that AFMAO deserves.

Next slide. This is what we say. This is what we believe. In particular, we think it's important to make sure that the Army's Executive Agency is clarified and strengthened and that the CJMAB is given authority to deal with important policy decisions as opposed to going into yet another staffing process.

Next slide. This is the last of our recommendations in command, oversight and policy. Let's dust off all of the requirements. Let's look at them at the proper level and within the next 60 days get them approved and to the field. They're still not approved. They need to get approved. That we get these offices manned properly so that they're not one person

deep so that the movement of policies can be expedited; that the Army review its Executive Agency. And, by the way, even an Executive Agent needs some oversight and the Department of Defense needs to oversee how the Army is doing and should review that yearly, or at least every other year, and that the CJMAB essentially exercise that enhanced authority through the senior uniformed Army officer or Senior Assistant Secretary of the Army so that the proper policy oversight and decision making can take place with regard to Department of Defense Mortuary Affairs issues.

Next slide. So what have we recommended? Command oversight changes by giving this person command authority, which is very important, the Armed Forces Medical Examiner command authority, UCMJ authority; have them not report to staff agencies but report to another commander; put these organizations under the tactical control of the commander of AFMAO; ensure that the CJMAB is brought up to the next level of manning at the flag officer level and given authority for certain levels of policy

decisions that can be delegated from here, policy responsible; and that this area of policymaking be properly resourced.

The memorandums of understandings between this organization, these organizations, these organizations need to be published, reviewed, and approved. And they can't just be memorandums of understandings between two O6 Colonel- and Captain-level commanders who don't have command authority.

Okay, so that completes that. And, Dr. Dickey, if you would like to pause for questions, since this is so complex, maybe that might be better than moving on to the next. I'm at your disposal.

DR. DICKEY: That's why the General served so successfully and so long; he reads minds. I do think you've been presented a tremendous amount of information and this is an appropriate time to break. Now, mind you, there are two more parts of the briefing you have to come; one on AFMAO and one on the Medical Examiner office, so if you can keep your comments and questions to the command, oversight and policy

piece, then you'll have options for the other in a few minutes.

Dr. Jenkins.

DR. JENKINS: Don Jenkins. General Abizaid, thank you so much to you and your subcommittee for the hard work that you put into this report. We really, really appreciate it. It's quite thorough, quite well explained.

One of the questions I had, Sir, was: Did you run across any instances where the TTP's used in theater to handle the remains resulted in any issues, once those casualty remains got to Dover, in terms of, you know, command control, handling of those remains, as any sort of an issue?

I visit a lot of those places out there. In fact, every surgical site I went to visit while under your command, I always went out and visited with those folks at the Mortuary Affairs because of the importance of the work that they do and how undervalued they seem to be in the field. These kids did a fantastic job of handling those remains, and I think that, if there's an opportunity to say that, in fact, things were so

well done, that that's, you know, a gold star we can put on this. Perhaps that should be emphasized.

GEN (Ret) ABIZAIID: Thank you, Dr. Jenkins, and also thank you for your service out in the field. I believe I saw you under some extreme conditions out there in Balad working on our troops, and I want to thank you and other members of the panel who have done that sort of thing in the past as well.

No, we did not specifically examine what went on in the field. We could infer that what goes on in the field is a very tough job, as you have personally observed; that it is done with care and dignity to the extent that it can be; that it is a work that sometimes enemy action will interrupt for long periods of time, so it's not unusual for different sets of remains of the same Fallen Soldier, Sailor, Airman, or Marine to come in at different times, which gives you some idea of how difficult the job can be for AFMAO and for the medical examiners as well.

As a matter of fact, the forensic work that the medical examiner does, I think, is one

that is quite remarkable, and they're assisted, of course, by the AFMAO people in a way in this. And I would hesitate to say anything other than my own personal experience in the field about how well I think the job is conducted out there, but we did not specifically review those issues. I do believe that those issues are frequently inspected by the Department of the Army through the Army AG and through the Army J4, in particular, and also the J1 in coordination with that, in a way that leads me to believe that these issues are being performed well.

DR. HOVDA: Thank you for an outstanding presentation, Sir.

DR. DICKEY: Give us your name, if you will, Doctor.

DR. HOVDA: David Hovda, UCLA. And I think this is kind of covered under Recommendation Five -- and correct me if I'm wrong -- with regards to command oversight and policy, you refer to the board of visitors to conduct command and technical reviews. Is that vetted through the concept of having either civilian expertise or academic expertise or

scientific expertise, not to override, but essentially to provide support for updating things; like DNA analysis and identification of remains and updated forensic expertise?

GEN (Ret) ABIZAID: Sir, thanks for that question.

When we looked at Armed Forces Medical Examiner with regard to the autopsy work and the pathology work and the identification of remains, et cetera, we found that they had what I would term -- and, members of the Board, you know, correct me if you disagree -- but I think they have robust oversight. Where the oversight was not robust, and in some cases inexistent, was at the Mortuary Affairs Office.

And so the board of visitors that we envision are people really designed to not only ensure that the work that's going on in the seam here is as transparent as possible and clearly delineates what has to be done by the medical examiner and the mortuary, but that the work done by morticians, embalmers, and the other technical experts at AFMAO be overseen by people such as members of the subcommittee that looked at

mortuary operations.

So, in other words, we're saying: We think this oversight line is strong, we think this oversight is weak, but because the mission performed here is really the only place where it's performed in the Armed Forces of the United States and because it's done by a very, very small subset of the population of the Armed Forces, that it's got to have some sort of routine civilian expert oversight.

We probably aren't smart enough to precisely determine what that might be, but we think that that oversight is essential because, as you'll hear later in the report, there were technical problems that took place at the mortuary as well and we believe that good professionals, such as represented on by subcommittee board, could help oversee that.

DR. HOVDA: Thank you, Sir.

GEN (Ret) ABIZAID: Thank you, Sir.

DR. HIGGINBOTHAM: Eve Higginbotham; Defense Health Board. Thank you for your expert review and insight in a very short period of time in a very important area.

My question relates to a refinement on Recommendation Five, and, you know, I do believe that the oversight of this operation is critically important and will drive everything, but it's the quality that's critically important for us to maximize here, and whether or not the Committee considered recommending that this advisory group, which I certainly endorse, would go one step further and actually develop a dashboard of metrics that we can more objectively assess the quality of this effectiveness of this organization -- because it is a very complex organization that's being proposed and with the influx of individuals, the changes of leadership, the changes of just the dynamics of how organizations evolve -- to really ensure that we're maximizing our ability to track institutional or organizational effectiveness by developing perhaps a dashboard -- or encouraging this group to develop a dashboard of metrics.

GEN (Ret) ABIZAID: Thank you, Doctor. I think that's a great recommendation, by the way. We did not specifically -- due to the time involved, we did not specifically recommend what

those metrics should be, but I think the technical experts on the panel would agree that there needs to be metrics and that this board of visitors, advisors, whatever we call, as their first order of business probably ought to make sure that, if we agree and the Secretary of Defense agrees to establish it, that those metrics be established, and then they'd would be a living set of metrics, by the way, as science and art progresses.

So we take your recommendation and I believe, with the Committee's approval, the subcommittee's approval, we'll include that in our report. Thank you.

DR. DICKEY: Admiral Mateczun.

VADM MATECZUN: Thanks, General Abizaid and General Franks for a terrific report.

One point of small clarification. You're recommending command authority be given to certain individuals, including UCMJ authority. It would be an assumption that you intend that they be able to exercise that authority over all of the assigned personnel. Sometimes in the Tri-Service environment, a commander may have assigned personnel over which they are not able

to direct UCMJ authority, and so that's possibly an area of clarification.

GEN (Ret) ABIZAID: Thank you, Sir. Having suffered from that myself, like I believe you might be, I agree with you, and we'll clarify that.

DR. DICKEY: Dr. Anderson.

DR. ANDERSON: George Anderson; Defense Health Board. General Abizaid, General Franks, prior to the most recent round of the Base Realignment and Closure Commission, the Office of the Armed Forces Medical Examiner was an element of the Armed Forces Institute of Pathology. Were there any implications regarding that realignment in which you found?

GEN (Ret) ABIZAID: Anybody on the panel want to help me on that one? I feel comfortable answering it.

I mean, very often, we reorganize ourselves into organizations that are not properly given oversight that they need to have, and we reorganized the Armed Forces Medical Examiner, and then, not only did we reorganize them and give them a different title, then we

BRAC'd them, and we moved them to Dover. And somehow or other, we've had people conflate the idea that the Armed Forces Medical Examiner and AFMAO have the same mission and, therefore, they should be collocated together. We came to the conclusion that collocation was not what we really wanted because you have a medical job being done at one place and a Services job being done at the other place, and they should stay in separate lines of command authority, oversight, and policy. So, yes, I believe that there was some confusion caused by the movement of the Armed Forces Medical Examiner System from the old Institute of Pathology that contributed, to a certain extent, to some of the difficulties.

Now, I believe both commanders out there of these two organizations, given strong chain of commands above them, can overcome this notion of somehow or other being commingled. That's not what we're trying to do -- or collocated. We're trying to provide strong chains of command to each.

Does that answer your question, Sir?

DR. ANDERSON: Yes, Sir.

GEN (Ret) ABIZAID: Thank you.

DR. DICKEY: Dr. Jenkins.

DR. JENKINS: Don Jenkins. General Abizaid, in your report, as I've read through it, by its very nature of the work done, is a lot about change. I think that there is just something you mentioned earlier that is of great importance that I would hope wouldn't change, and that is specifically related to the element of the work done at the AFMAO related to the feedback to the field. That work is presented on a quarterly basis at the Committee on Tactical Combat Casualty Care. The Trauma and Injury Subcommittee of the Defense Health Board sees great value in that work. That feedback is provided to operators in the field in near real time, and if there were one important function that I think should be preserved and perhaps highlighted in your report, it might just be the feedback to the field element.

GEN (Ret) ABIZAID: Yeah, thanks, Dr. Jenkins. As a matter of fact, Christine, again with the permission of our subcommittee, I think we should put one of those reports in the appendix

of our report so that people looking at it will understand the huge value that that report provides to the field.

So thank you for that, Dr. Jenkins. I think it's very important that people understand what a great service is being done in that regard and that this feedback mechanism is essential.

As a matter of fact, when we were at Dover, we met one of the doctors that works the feedback mechanism report, West Point Class of 1960; even older than my class. Imagine, you know, this guy is out there working on that and taking his time and doing his duty in that way, and I was quite proud to see him and I was very, very impressed with their insight.

So, look, whatever we do, we don't want to fix what's not broken, and not only is that not broken, but it's essential. And as we analyze casualties, we fix the problems; we can't get caught in a bureaucratic loop that would cost us lives in the battlefield. So thank you.

With your permission, ma'am --

DR. DICKEY: One last question from Dr. Gandy and then we'll move on to the next section.

GEN (Ret) ABIZAID: Thank you, ma'am.

DR. GANDY: Dr. John Gandy. In Recommendation Number Five -- and I am -- I think we're all in agreement that we have to have outside technical expertise to come in and look at this process because, outside of Dover, we don't have that expertise in the military. That's the only place we really have it. You know, if you're out at Eglin and you have a casualty, the local medical examiner and coroner is going to be your expert, right, not necessarily Dover for some time?

So I'm just a little concerned about, you know, we're going to make these guys commanders and give them command authority, but when we're reporting these findings, we're reporting them back to the Defense Health Board rather than to their chain of command. You know, from my experience, the stick that causes us to do really good on our inspections comes from that chain of command. Not that we wouldn't want to hear it here at the Defense Health Board, I just don't see that it says that it's reported through their chain of command.

GEN (Ret) ABIZAID: Well, Dr. Gandy, thanks. It's very important that we give this board of visitors or advisors the right home, and I think we thought that this -- being a subcommittee of this Board would give them independence and it would give them professional oversight on their own right, but your point is well taken.

I think it's easy for us to say that, in the formation of this Board, that it also be required to not only report through the Defense Health Board, but its findings be made available to the appropriate level of the chain of command. I think that's a good point you bring up and I thank you for it.

So, Dr. Dickey, with your permission, I'll move on to the Armed Forces Medical Examiner service discussion by Dr. Parks and Dr. Snyder.

DR. PARKS: Bruce Parks here. We've already gone through some detail about the Medical Examiner System and its different divisions under it; including the toxicology laboratory, the DNA laboratory, the repository for DNA samples and specimens. This office has

been responsible for autopsying all the combat and non-combat related fatalities for the first time in any conflict. They've also, as was said, identified every single Fallen in this conflict, which has also never been done before. They consider one of their primary missions to identify people as quickly as possible and get the loved one returned to their families.

Currently, there is a Joint operation within the examination process that we'll go into a little more detail. It's already been mentioned before. And when remains are recovered within the field within the theater, they are placed in pouches, and due to the nature of the conflict and the IEDs and aircraft mishaps, we often have fragmentation out in theater. And so coming into the Dover Port Mortuary are various sizes of fragments, sometimes complete individuals that often have fragmented remains, and within the facility, they refer to those fragmented remains as portions. So when people talk about portions, they're talking about the fragments of tissue that are recovered in the field.

These, as I said, are placed in the pouches. They're transferred over to Dover Port Mortuary where physical custody of the remains goes to the AFMAO, the Mortuary Affairs people. And then the processing currently is a combined project, where both the Mortuary Affairs personnel and the Medical Examiner personnel will inspect the remains.

The remains will be entered into the Mortuary Affairs database. It's something called MOMS. It's the Mortuary Operations Management System. And then some of the Mortuary Affairs people will move the remains down through the different stations. That is under change as of last year's corrective action that was issued, and the transition is taking place and should be completed in October of this year.

There is concern that the transition might create some morale problems among the Mortuary Affairs staff because this is a domain that used to be theirs and they were part of the processing and they were among the first to see what was coming their way, they could perhaps plan a little better. There's a concern that the

Mortuary Affairs people might have some hard feelings, and we think that it's important that the leadership of both the Mortuary Affairs Office and the Medical Examiner System recognize that this could happen and that they make sure they keep lines of communication open and address potential morale issues which could lead to other kinds of problems.

DR. SNYDER: To keep General Myers on his toes, we're going to go back -- Bruce and I are going to go back and forth. I'm Vic Snyder.

AFMES, the medical examiners, and AFMAO, the morticians, have different -- currently have different statutory authorities to deal with decedents. AFMES does not only deal with the Fallen and U.S. Government employees, but they also do examinations and work on foreign nationals, DoD contractors, Somalian pirates. Whatever comes to Dover, they work with.

Partly because of the events of the last year and some legal analysis, AFMAO is now convinced that they only have statutory authority to process, in the mortuary, our military Fallen

and U.S. government employees; that everyone else -- DoD contractors, foreign nationals, Somalian pirates, whatever -- that they can't even -- literally, they told us they can't even help with a phone call to help arrange shipping back to wherever that person is ultimately going to end up.

My report refers to tension. I think that's probably a fair statement. The reality is, somebody is coming in -- a decedent is coming in that AFMES finishes with, but then they have to make the arrangements for shipping, and our recommendation is, we think DoD should consider expanding the authority of AFMAO, the morticians, to cover the same decedents that AFMES has to deal with.

DR. PARKS: This is Bruce Parks again. This slide here is a layout of the examination portion of the Dover Port Mortuary, and you can see that it's color coded. The yellow is currently the Mortuary Affairs turf, so to speak; whereas the red or red/brown -- I guess it's pink, red, something like that -- anyway, that is the Medical Examiner's -- their ownership,

basically, of the operation. That is going to change and is in the process of changing, so that the new authority of the Medical Examiners will cover this entire area now in the pink color.

And so if you look at the upper left-hand, this is where the loading dock is, where their transfer cases are brought into receiving, and so all through this process, the medical examiner will have control. And the purpose of this was to improve the flow of work and the control of the work for the entire process instead of having several different departments in there lacking proper structure. So all along the way, with the current system and with the future system, their remains will be moved through the processing.

You see this is for -- EOD stands for the explosive ordinance detection area -- move into the photo FBI section, where fingerprints are obtained, or they try to obtain fingerprints; moving into dental suites. The x-ray unit, which has a CT scanner, and one of the few places in the country that has such a device. And there is that radiologist who is working there full time who

performs 3D imagining on these individuals and gathers some very useful information for determining extent of injury and providing material for injury analysis and perhaps prevention. And then, finally, the individuals go into the autopsy area where that examination takes place.

Over here is where the refrigeration units are, and the Medical Examiner's office will have control of three of the four refrigeration units and they will place the remains inside the refrigeration units and they will remain there until those are ready to be released. So the goal is to, again, keep the medical examiner side and the mortuary side as separate.

As I mentioned, as the remains are moving through the facility, it is very important to maintain chain of custody and make sure that everyone knows at all times who is escorting or transferring a particular remain, be it the body or fragments. And currently there is a bar code system in place where, as the individual transferring the remains and remains are being transferred, both are scanned into the system at

each station, so we have a good idea of where people are.

There have been some other corrective actions taken, and this is all written up in the Joint Standard Operating Procedures which were developed between Captain Mallak and Colonel Joyce, to specify clearly what procedures are to take place. There are other changes that were made, corrective actions, which include placing locks on refrigerator doors and for people to scan -- place their card through that area, which logs them into the system and it's known who is going in and out of those refrigeration units, and that wasn't there before. They also have surveillance cameras now inside the hallways to monitor the traffic in those areas.

The Medical Examiner's Office has a very robust software system that they use to make sure that all the documents are received that need to be received; that a checklist is used to make sure that every single part of the examination part of the process has been marked off and handled appropriately before the individual is released. Currently, the Mortuary Affairs

Office, as I mentioned, is using another system, so two systems are being used currently. Once the transition takes place, then the AFMES system will be the system used for tracking the specimens.

So the Recommendation Nine is basically to call for continued work with maintaining chain of custody throughout the examination process and now in the hands of the Medical Examiner System, which will be developing their own standard operating procedures apart from -- different than the Joint procedures which existed, and still do, while the two of them are working together.

I'm sorry, this is also -- this slide here is in reference to one of the whistleblower complaints of the problems with contagious remains and how those -- potentially contagious remains and how those were handled within the facility. Part of the corrective action that was taken by Colonel Joyce when he came in was to establish an exposure control plan, and this was done in conjunction or with the help of the Medical Examiner Assistant. So now the Department has an exposure control plan which

lays out specifically what steps will be taken. They basically use universal precautions. They certainly have personal protective equipment.

If it's determined that an individual might have a contagious disease that is a little more worrisome, then the leadership will get together and develop a plan of action for how to deal with those remains and would limit the contact of those remains with the general staff and make sure that the entire office is notified, at least through e-mail, that there is a situation now within the facility that might cause some extra concern. I think that's about it from there.

All of us were very impressed with the work ethic, the quality, the dedication of the Medical Examiners and the work that they do. It's also very clear, however, that at some point, their facility could be overwhelmed by large sustained numbers of military losses or sustained losses in the military augmented by a natural disaster, and we would use this as an example of what happens.

I've reported crews to command

isolation. If you have a command and it's isolated and you don't really know who to go to and a good way to get attention, it's difficult to plan for extraordinary events, and our recommendation is that, at the highest levels, probably under the new command and control structure, the AFMES need to prepare for the possibility of extraordinary numbers of losses, whether from the military or nonmilitary.

GEN (Ret) FRANKS: Fred Franks. Just to reinforce what we just said. One of the things the higher headquarters does is, I mean, set conditions for success of their subordinate units by a variety of methods, and this is one of them. And we felt that the two-star headquarters would be in a much better position to do this type of contingency planning throughout the Department of Defense to ensure that resources are either in place or targeted at least to prepare for such a contingency, as opposed to leaving that as a responsibility of the colonel commanding the Dover Port Mortuary.

DR. PARKS: The staff of the Medical Examiner's System are professionals who are

accredited in their fields. The laboratories themselves are accredited. The DNA laboratory is accredited. The toxicology lab is accredited. The Medical Examiner's Office, they're trying to get that accredited through the only body that does so within the United States, and that's the National Association of Medical Examiners. Captain Mallak is trying to get that organization to waive some of its requirements due to the unique nature of the Medical Examiner System and the fact that there are multiple locations of where the work is carried out and not a single one.

They have 10 board certified (inaudible) working in that field. They have multiple PhD toxicologists. They have to undergo incredible scrutiny to pass the lab accreditation standards that they have. So we felt that this was very adequate and are hopeful that the National Association of Medical Examiners will also accredit the office.

DR. SNYDER: I want to spend -- this is Vic Snyder again -- a couple of minutes on the bottom half of this slide. The AFMES portion,

the medical examiners, are probably the best in the world at doing what they do. Number one, their mission is to accurately identify scientifically the Fallen so that families have no doubt about what happened to their loved ones.

And the second part of it, they want to do it in a timely way so that the remains of the Fallen can get home to the family and the family can carry on with whatever kind of services they want to do. But as you know, there's been horrific injuries. And, in fact, about 500 times, decedents have been identified only by DNA analysis because of the nature of the injuries. It's also important to the medical examiners that no portion goes home to a family without having been scientifically identified.

Now, here's what has happened and the practices I want to talk about. Several years ago, both because of the number of Fallen that came in, but also because of the fragmentation of the injury, we had a period there where there were thousands of very small portions backed up in refrigeration units. The DNA lab, while it's the best in the world, when you're talking about doing

DNA analysis, sometimes degraded tissue, very small portions of tissue, was overwhelming the system. And what was happening is, main portions were being sent home to families, but then, as days and weeks went by, families were getting phone calls that another portion, a small portion, has been identified, which created a lot of family stress.

Now, I want you to understand, most of the time, these portions were very, very small, a gram or two or three, and at some point, not as a matter of a formal, you know, approved policy, but just the practice of medicine, the medical examiners decided that they needed to use their judgment. And so, generally, if portions are smaller than 500 grams -- and most of them are very, very small -- they do not send those portions for testing. If they are something smaller than 500 grams but it's identified as a specific anatomical part, it will be sent for testing.

That has allowed there not to be such a tremendous backlog in the mortuary and it has cut down on these kinds of phones calls to

families to be advised of a very, very small portion having been identified. And we found no reason to recommend a change to that practice and appreciate their judgment and compassion.

DR. DICKEY: I want to thank Drs. Parks and Snyder for an excellent presentation of the second part.

Let's go ahead and take a few questions in discussion, then take a 15-minute break, and then come back for the final part.

Dr. Baldwin, I believe you had a question.

DR. BALDWIN: Yes. I'd like to thank General Abizaid and his Committee for very fine work in a wrenching and indescribably difficult task. And I think all of us feel strongly about how the remains of our Fallen are treated and the respect with which they have been treated.

I did have a question from Dr. Snyder's comments, and that is in relation to non-uniformed combatants and other people working for the war effort. I noticed in several news reports -- several news reports in the last few weeks. The last year, there were more

non-uniformed deaths than there were uniformed deaths in the Afghan war, and I wondered what the Committee's -- what your group's response is to Dr. Snyder's comments in terms of how the remains for contracted or other combatants who are not uniformed military will be handled in this process.

DR. PARKS: Thank you, Sir. I think Dr. Snyder can handle that one and I'll give you kind of my overall judgment about it.

DR. SNYDER: I'll just augment what I said earlier. First of all, our Medical Examiners, they want to identify American Fallen, American U.S. Government employees, and so if there is an incident in which U.S. military die, U.S. Government die, foreign nationals die, other nations' military die, maybe unidentified perhaps -- you know, they even have problems with animals being involved -- they want those decedent's remains sent to them so they can sort it out. That's part of the reason why they have not discouraged the sending of those additional remains, because they don't want to have any material lost that could help a family sort out

what happened to them.

GEN (Ret) ABIZAIID: Sir, I'd say that the rules are, of course, extremely clear with regard to members of the Armed Forces. They're somewhat clear with regard to other government agencies that are in support of the Armed Forces in missions in a combat zone, but when it comes down to contractors, depending upon how the contract works and flows, and certainly when it comes to third-party nationals or people that we're unable to identify, it becomes extremely difficult to sort it out.

And what's important here, I think, is, I think it's beyond the scope of what we were able to sort out to recommend a specific policy, but it is necessary that the policy be clarified and it be clarified in a way that allows for the Armed Forces Medical Examiner to not become overwhelmed with casualties and Fallen remains of people not associated with the Armed Forces. There needs to be an outlet of some sort that's resourced.

And, really, part of the problem, I'd say, Dr. Snyder, as I understand it, the biggest part of the problem is who pays for what when it's

not a DoD person. We need to figure that out quickly. I believe that the policymakers can do that; allocate the necessary resources and then move forward.

DR. DICKEY: Dr. Bullock.

DR. BULLOCK: Ross Bullock from the University of Miami. During the earlier years of the war, one of the biggest limiting factors in trying to develop an understanding of the mechanisms that damaged the brain in blast injury was that there was not -- it didn't appear that there was access to the autopsy material that was flowing through these facilities we've heard about.

Now, the AFIP -- everybody knows that the AFIP are the world's premier nerve pathologists. So we had all this material coming through, we had the best pathologists, but they couldn't get that together, and, to this day, I think that we've never seen reports of that material. Is there any way that this can be changed at a policy level?

GEN (Ret) ABIZAID: I mean, Sir, you've said something to me that -- I think that there

is a feedback mechanism in the way that we discussed the work that's being done there with Dr. Jenkins that's clearly available to the broader medical community, and I've looked at some of those reports. They weren't the specific autopsies, but I would have to go back and ask the question of the Armed Forces Medical Examiner. Let me see if, over the break, I can find a better answer to that and see if I can give you an answer.

But we did not -- we thought that there was what I would call adequate feedback, but if you don't think there is, we're quite interested in understanding that.

DR. SNYDER: In fact, one of the things that's included in our report and one of the things that we like about current practice is that, when autopsies are done and medical specimens are taken, they are saved in perpetuity. And, in fact, you saw in the last -- I guess it was a year or so, work done on influenza from World War I because the samples are still being saved, and they began that practice even before World War I.

Our understanding from Ms. Ruth

Stonesifer, sitting next to me, is that, in her discussion with families of the Fallen, they have appreciated the fact that their loved ones continue to contribute to medical research because those samples are saved forever.

DR. DICKEY: Perhaps a clarification of Dr. Baldwin's request might be to include -- because we have a number of things here that will roll out over the next couple of years, maybe we need some clarified process so academic entities who want to partner with the AFMES would have a process that was clearly laid out and able to tap into.

DR. ANDERSON: Just a footnote from George Anderson. This relates to the BRAC comment in question from before. The AFIP doesn't exist anymore. We do have the issue before this Board of the Joint Pathology Center and this might be a good footnote for that area.

DR. DICKEY: Dr. Hovda.

DR. HOVDA: This is Dr. Hovda; Defense Health Board. I'd like to re-emphasize what Dr. Bullock had just stated. You know, as both of us have been President of the National Neurotrauma

Society and the International Neurotrauma Society, and there's a big effort trying to make sure that the scientific modeling of blast injury is appropriate. And the way we learned about car accidents is through the pathology from car accidents, from many years ago from the pathology that was given from David Graham and Scott Lyndon, also from the brain banks.

This connection, although is separate from your report, is a really, really important scientific connection to make sure that the money and the resources are being appropriately delegated for the right type of modeling and the right type of questions that can help individuals for treatment and therapy after head injuries.

DR. PARKS: Yeah, they now have detectors on helmets and I think elsewhere in the bodies, so they're measuring the amount of force that the Fallen have received, and I know they're doing some work on that, but we can clarify that. I'm sure they have neuropathology consultants, but I don't know. As General Abizaid said, maybe we can find out more, if there's an ongoing effort.

DR. HOVDA: Yeah, the accelerometers in the helmets are a little difficult because they don't provide the same sort of information that the brain actually sees, which is work, which is force over distance. Accelerometers have also been placed on the chest in terms of -- just to see what sort of blast they're exposed to. But you learn so much by the actual -- as you know, Doctor, by the actual pathology of the brain, in terms of the types of torque and displacement that the brain has actually received.

It's very rare that we ever get a chance to see just a blast injury. It's always a blast injury plus something else. And that information would really be important for us to study that injury, specifically closed-head injuries.

DR. HIGGINBOTHAM: This is Eve Higginbotham; Defense Health Board. I'd like to echo the remarks of my colleagues, you know, regarding how difficult this report, I'm sure, was in pulling it together, but, certainly, the high quality that -- our colleagues have actually done an exceptional job of assessing the current

practice.

My comment relates to this slide, 44. When I initially read this comment in the report on 10-16, page 32, it struck me as being just very arbitrary, but now that I have the context of expediency as one explanation, it makes sense. But this is the sort of thing I think that this advisory group could take on going forward in its ongoing assessment of whether or not this 500 grams makes sense.

I'm sure that it's going to vary, depending upon the work flow of what's going on in the area, but as an ophthalmologist, 500 grams seems like a large amount, and, certainly, if the workflow can accommodate it, it would seem to be a better practice to allow the family to get as much of the remains as they could and maybe a lower threshold would make sense over time. But this is the sort of thing that the advisory group can comment on over time, but 500 grams seems like a significant amount.

DR. SNYDER: Let me make just one comment. The great majority of them are dramatically smaller than that, and I didn't get

into the details earlier, but it also is partly depended on the quality. The medical examiner has a sense of how degraded tissue is. If they know from looking at it, even though it may be, say, a 300-gram portion or more, that it's going to be weeks before it would be reported out, they make, I think, a judgment on the spot. Part of their -- you know, as a medical professional, is, is the family going to really benefit from this prolonged period, given what the portion actually is.

DR. DICKEY: I think that there will be some further conversation in the next section that also helps address some of this.

Dr. Gandy.

DR. GANDY: This is Dr. John Gandy. I was going to -- in answer to Dr. Bullock and Dr. Hovda's concerns, as the TCCC committee had members go to access the Armed Forces Examiner's databases to ask very specific questions about answers we wanted to know, and we've always been able to access it. I'm not sure what the policy is for other researchers to go in there, but, of course, these people were paying their own way and

doing the work themselves to access the database, but we've gotten some good information back out of it. So I'm not sure what the process is for other researchers to get in there and be able to access that data, but we've gotten a lot of good information, and I think at our next meeting, we are going to have even more -- I want to say, a review of all the causes of death of all the people that have died in this conflict. So the information is there; it's just how do you gain access, I think.

DR. DICKEY: If I hear no further questions on this section, let's take a 15-minute break. From my watch, that gets us back about 11:20. We'll do the last section, then, before we break for lunch.

(Recess)

MS. BADER: We would now like to reconvene the meeting. I will turn the next portion of the Dover Port Mortuary report over to Dr. Taylor, Mr. Fountain, and Mr. Huey. Please note that there are new slides that have been placed on top of your binders, and Dr. Taylor will speak from some notes, so please follow the slides

as closely as you can. The important element here is that the findings and recommendations are verbatim and they are what you will be voting on regarding the final report. Thank you.

DR. TAYLOR: In the interest of brevity, so that there's ample time for the open discussion, I'm going to just touch on a few of the key ideas. I'm not going to be following the slides verbatim. I'll try to give Christine a signal when I'm shifting slides, but I'll be very brief.

I want to reiterate for emphasis that the Department of Mortuary Affairs in general and Dover Port Mortuary in particular have undergone significant change over the past decade, and I'll reiterate that the some of the things that happened have been mentioned before: the unique nature of the combat, which has changed the types of cases that are coming into the mortuary; BRAC realignment of operations from other locations, not just the medical examiner but other operations, other mortuary operations, national and worldwide; the addition of the Dignified Transfer function and functions such as the

Campus for Families of the Fallen at Dover Port Mortuary. And these are just some of the situations that have resulted in additional stressors on this system.

The AFMAO personnel have continued to meet their crucial mission despite these stressors, and the personnel at Dover Port Mortuary are adamant that the only real stress that they feel is their self-imposed requirement to be perfect all the time. But there's an overarching need to augment their status and, thus, our findings focused primarily on personnel and training.

Christine, I'm on the second slide. This mission requires the highest skill levels and the scope of practice of minimally qualified personnel is of concern. And I have to say as an aside that, unlike in the medical field, in the field of mortuary science, the scope of practice of various job statuses and functions is not as clear, and so that -- we can talk about that during the discussion, but I think that's one of the complications in staffing.

Slide number three, Christine. As it

currently exists, this mortuary is understaffed for large scale events on the mortuary side. Staffing should be reviewed to ensure that it reflects the Dover Port Mortuary mission.

Next slide. Training and credentials throughout AFMAO is of concern. There needs to be advanced training in embalming and restorative art.

Some of the training issues -- slide five. Some of the training issues that we identified are advanced training in embalming and restorative art; health and safety training, particularly in the area of OSHA, to clarify the operational, the applied health and safety standards; advanced training for all personnel involved in the interface with families; training in standard operating procedures development to improve internal communication, again to streamline this interface between families and the mortuary and back.

It should be slide five or six. The line of communication, this stream of communication, is fraught with opportunities for miscommunication and for problems; both as it

flows out to the family and back to the mortuary staff. We reviewed things like the authorization and disclosure forms, which are used by Service liaisons and Casualty Assistance Officers rather than by people specifically trained in funeral arrangements.

Slide seven, Christine. So the authorization and disclosure forms need to be improved. We made a recommendation that there need to be more options for families when they are being given -- when these forms are being reviewed; however, more options leads to a requirement for more sophisticated levels of communication, leads to the need for even more training.

And that should take us through slide seven, eight, and nine. And as has been noted previously, all of this training needs to be measured against -- benchmarks needs to be measured against competency evaluations that should be developed with professional expertise.

And I'll turn to my colleague Caleb Cage.

MR. CAGE: Good morning, Dr. Dickey,

and members of the Board. Again, my name is Caleb Cage. Along with Ruth Stonesifer sitting here to my right, we were responsible for taking on Casualty and Mortuary Affairs Operations as well as Service liaisons for this committee, this subcommittee, rather.

Specifically this morning, I'd like to discuss options for the disposition of cremated remains that are declined by the Person Authorized to Direct Disposition, or the PADD. Currently, cremated portions of the remains -- and this is per the written report -- that the PADD declines to claim are transported either by the Coast Guard or the U.S. Navy in sea salt urns and retired at sea. While this is a suitable option, we believe that there are better, or at least more, options that are more in line with the guiding principles we set forth for this report, specifically Guiding Principles Two and Four.

Conversations between the subcommittee and representatives of the Department of Veterans Affairs involved and Memorial Affairs revealed that the possibility of additional options for

cremated remains exist. These options include ossuary gardens at current VA cemeteries that allow for commingling of remains; scattered gardens at current VA National Cemetery Administration cemeteries. And they've even recommended the possibility of building a new ossuary at the Washington Crossing National Cemetery in Bucks County, Pennsylvania, which is the closest to the Dover Port Mortuary, in order to facilitate that relationship better.

Next slide, please. I'd like to turn now to our Recommendations 18 and 19. Here, as you see on the slide, we recommended two, both referring to this matter. The first is that the Department of Defense should work with the Department of the Veterans Administration to assess the feasibility of alternatives to retirement at sea; such as interment or inurnment at VA facilities that I just discussed. And the second recommendation is to ensure ongoing discussions of ways in which the VA might assist in interment or inurnment of portions of remains.

The Department of Defense should work with the Department of Veterans Affairs to create

a permanent slot for the VA on the CJMAB. We believe this is important because we are dealing with Fallen Service members who are automatically, by virtue of their service, eligible for the National Cemetery Administration and other benefits under the VA and that the VA is particularly well qualified and capable of bestowing honor, dignity, and respect on our Fallen.

Barring any questions, that concludes my portion. I'll be followed by Dr. Taylor.

DR. TAYLOR: Thank you. There were two additional events which, while isolated, raised policy concerns. One involved the use of the Dover Port Mortuary Crematory where a Service member was cremated in the wrong -- using a cremation container instead of the casket that the family had selected and -- you got the finding slide, thank you -- this underscores the lack of standards, the, lack of policies around the crematory, the lack of understanding about the crematory's proper use at Dover Port Mortuary. And so our recommendation is that Dover Port mortuary should not be conducting whole-body

cremations at all; that the Fallen should be sent home to their families and then final disposition can be arranged at home.

And then the final -- the other incident involved shipment of fetal remains from Landstuhl Regional Medical Center in Germany, and there was a report of one incident in which these fetal remains were sent in inappropriate containers. The investigation disclosed that that was an isolated incident in which the proper caskets that had been ordered were not shipped, did not arrive, and that expediency required that these bodies be transported quickly. And we believe, to the best of our ability to confirm, that the proper containers are now in place and that that wouldn't happen again.

This concludes my portion of the report.

DR. DICKEY: Thank you, Dr. Taylor and Mr. Cage, and for the remainder of your group. Are there questions or comments on the AFME portion, then, of the -- I'm sorry -- the AFMAO portion of the report?

Dr. Jenkins. Oh, let me reiterate:

Please, our court reporter is trying really hard to keep up with all of us, but as we get these short back and forths going -- I know it feels like everybody should know who is talking, but as you resume a mic, just give us your last name so that we appropriately credit your brilliant comments to the right person.

Dr. Jenkins.

DR. JENKINS: Don Jenkins. And I apologize, you'll be very disappointed, Dr. Dickey. My question would be -- this is far out of my element of expertise, but I'm going to suppose that, as it relates to Recommendation 13 and 14, that there is some civilian standard and/or accreditation that an individual would achieve in a civilian setting. If that's accurate, should those two recommendations be even further enhanced, bolstered to say that these individuals should be certified to that standard?

DR. DICKEY: Dr. Taylor.

DR. TAYLOR: Regrettably, there are not a lot of external accreditation bodies in the field. However, there is -- on the embalmer

restorative art side, there is expertise available. There is advanced technical training that is available and does not appear to have been available significantly at all. On the communication with families' side, it's my belief that there is certification training that's available on that side; for example, certificates in thanatology and bereavement counseling and so forth. One could look at licensed funeral arranger counseling and that kind of thing on that side.

So, again, in making our recommendation, we were trying to be as broad as we could so that it could be explored more thoroughly.

DR. JENKINS: My comment would be that --

DR. DICKEY: Jenkins.

DR. JENKINS: Yeah, Jenkins. -- is that, left too broadly to interpretation may result, because some training could be accomplished on an annual basis wouldn't necessarily still meet the standard I think you're looking for. Within military medicine in

decades gone by, there was a general sense that perhaps we had our own standard, that we didn't need to meet the civilian Joint Commission, perhaps, level of accreditation, and that era has gone by. And every physician who wants to go to the battlefield is a card-carrying American College of Surgeons, advanced trauma life support trained, accredited individual. And I would put that out there because, if there is not that established requirement, then you can't resource to that level.

So if it's a certain certification that would be necessary, then that's a dollar figure in man-hours that can be -- at the command level, say this is the number of people we need, this is the money, and this is the time that it requires. I think, if left too broadly, it might not have the effect you're looking for.

DR. DICKEY: Dr. O'Leary.

DR. O'LEARY: I think these are great comments. I do think we ought to be sure we distinguish between accreditation and certification. Accreditation is more of an agency or an organization, where certification is

usually of an individual. And while that's -- the distinction is important, the critical issue here is the competency assessment, and that can be defined and worked against. And there are a number of areas in the military where it's the competency assessment that is missing, and if you define that or work to that standard, I think you can achieve the desired end.

MR. CAGE: Thank you, Sir. That's a great comment.

DR. DICKEY: Are there additional comments or questions?

I want to thank the entire panel. There were no written comments received prior to the meeting. We do have an opportunity for public comment. If there is anyone -- if there are any speakers from the public who would like to speak, we would limit that to three minutes per. But have we had any indication that there may be someone from the public who chooses to address the issue?

Yes, ma'am.

COL RICHARDSON: Colonel Richardson. It's more of a question to the subcommittee just

to follow up on one of their recommendations, in terms of the requirement, or the decision that remains of less than 500 grams perhaps shouldn't necessarily routinely be identified and passed to the families.

I can understand the rationale for that in terms of that drip-feeding of these remains back to the family might be upsetting, but did the subcommittee consider the flip recommendation; that actually -- that you ask the family first and then they determine whether or not they want those remains, if that were a possibility? Or was that part of the subcommittee's findings?

DR. DICKEY: Dr. Taylor.

DR. TAYLOR: It's Jackie Taylor. That is the current practice, is that families are asked what their wish would be in the event that there are subsequent portions identified. However, that can -- as I think has been alluded to, that can happen up to 14 or 15 times, and we're not sure that that is being communicated to families. That's part one of those seams that we've discovered in the communication with families.

Nor, in my opinion, in my view, would a family be in a position to really get their head around what that's going to mean at the time of this first notification. When they are making these very important decisions, they might say no and later on regret it; they might say yes and later on regret it. So it's really something that does have to be looked at, and it's -- as we've all acknowledged, it's a new development with this war. It's a new set of circumstances for these Casualty Assistance Officers and these Service liaisons and chaplains and so forth to encounter when they're dealing with families.

DR. DICKEY: Dr. Snyder.

DR. SNYDER: One of the issues is, if you have an incident involving several people -- not just U.S. Fallen, but local nationals, foreign nationals -- and you have, you know, 500 very, very small, several gram, fragmented remains, I don't think anybody would want a Service liaison to call up their family and say: We have 500 unidentified remains. What would you like us to do with it?

You're only going to call a family with

something that's subsequently identified. They can't make a decision about something that has not been determined to be of their loved one, and so that's why this, I think, was part of the background of this policy also, because I consider it the practice of medicine. Because at that point -- Dr. Mallak and the medical examiners can tell you, they have had multiple times when they think that something belonged to a certain decedent that turned out not to be after they had done the testing, so they can't be calling the family about something that has not been identified as associated with that family.

Does that make sense, Jackie?

DR. DICKEY: Any additional comments? If not, I'll call on Dr. Abizaid to kind of lay out the way ahead. And then we have before this group, the -- before the Defense Health Board, a vote on the recommendations.

And I'll remind you: The recommendations are verbatim from the report and the report is continuing to be tweaked; as you have seen some of the presentation change as we go through the morning, but the recommendations

have not changed. And so what you've heard this morning through Recommendation 20 is the item of action after Dr. Abizaid's last comments -- General Abizaid. Sorry.

General.

GEN (Ret) ABIZAID: My mother would be so proud to know that I just wasn't an infantryman anymore; it would be great. Well, thank you for that compliment, and I do regard it as a compliment.

So the question before us is, are we able to fix the problems that transpired at Dover? And the answer is yes. But the single most important thing that we can do to fix the problem is to ensure that the proper command oversight and technical oversight takes place; that policies are approved expeditiously and clearly; and that the proper advisory boards be given authority to act, act in a decisive manner to solve problems as opposed to look for a bureaucratic solution to an important problem.

It's so important that everybody understand that the people that are out there at Dover are working very, very hard to do the right

thing. I can attest to that without any qualification whatsoever. It's also important for us to understand what the failures were, and there were many failures largely caused by the absence of oversight in both the technical and a command means and, in addition, the lack of policy flowing in a proper and expeditious manner.

The technical matters that the panel discussed are quite important as well and, in many respects, I regard this notion of a technical advisory board, or board of visitors, as one of the most important innovations that we can bring forward to interface with you and interface with the chain of command that allows for expeditious and transparent information to be exchanged, that allows the processes to be constantly improved.

We know that our Armed Forces can accept missions of perfection and accomplish them. That should be the standard that we demand in this particular business that we've been discussing all day. That we failed to do it on several different occasions doesn't mean that there were people that were derelict in their duty; it means that there were systems that failed us when they

needed to provide us with the right level of oversight.

We think that this is a first step to improving the situation, but it is not the only step, and we would urge you, in the great work that your panel does, Dr. Dickey, to help us and help the mortuary and help the Medical Examiner System, et cetera, to ensure that information flows that can not only benefit the Armed Forces, retain the trust of our families, but also help all of us that are interested in our medical system, gaining knowledge, and making corrections in a way that's good for our country.

So thank you, Dr. Dickey, for allowing us to present today. There are many things that we didn't talk about that are within the body of our report. There are, undoubtedly, going to be interesting sessions ahead with the press interpreting what we've said. We stand by our recommendations, our conclusions, and our words. And we appreciate some of the comments that your panel members made, that we'll incorporate into some of the verbiage here to make sure that we close some of the gaps that were identified, and

I'll also include some of the great ideas that were put into the discussions.

So I'd also personally like, in front of your panel, to thank my panel. This is a great bunch of people that came together only for one reason, that's love of country, to do the right thing and to fix a system that they knew needed to be fixed, and so I want to thank them. They did a great job. Thank you for your personal education of -- General Franks and I, we needed it greatly.

I also want to thank Christine Bader and her team for the wonderful job that they did spending many, many late nights getting the report in English that could be understood outside the infantry community.

So thank you, Dr. Dickey; thank you members of my team; and thank you members of the Defense Health Board. It was an honor to brief you today.

DR. DICKEY: I want to thank all of your subcommittee, General, for an excellent body of work done in an extraordinary short period of time, which would have been a challenge in and of

itself, but if you looked at the calendar, it included a number of holidays that they managed to somehow work through.

And, Christine, and your staff, obviously. We thought we already had them full-time employed; somehow they've managed to do this as well.

But Defense Health Board, you're not done yet. This is before you as an action item. I will open it up for discussion or for recommendation. I might suggest that one way to deal with this would be to take the 20 recommendations -- I believe that's the correct number -- as a consent calendar, were someone to recommend approval, and that would allow you to, should you choose to or need to, remove individual recommendations if you want a discussion without having to go through each of these one by one.

What are your wishes?

DR. ANDERSON: George Anderson; Defense Health Board. I move acceptance of this report and approval of its recommendations as suggested, as a consent panel.

DR. DICKEY: Is there a second?

DR. BALDWIN: Second.

DR. DICKEY: Dr. Baldwin has seconded. All right. Is there a discussion or is there a desire to remove any of the recommendations from a consent vote, which would mean you wouldn't ultimately accept them but it would give you a chance, if you chose to, to discuss one or more in detail?

Hearing no further discussion, all in favor of the recommendation of accepting the report and approving the recommendations as presented to you, please say "aye."

Opposed, same sign. Any abstentions? Dr. Abizaid? Dr. Franks?

GEN (Ret) FRANKS: I probably --

DR. DICKEY: Would you like to abstain?

GEN (Ret) FRANKS: Being a member of the subpanel, I did not voice my vote. I think that probably is appropriate.

DR. DICKEY: Would the record please indicate that General Franks has abstained, having participated in presenting the report.

Nonetheless, it passes, General Franks. Again, I think we all thank General

Abizaid and the subcommittee for this diligent and dedicated effort. This is a complex and difficult issue and we recognize both the critical and sacred nature of the work done by the Dover Port Mortuary's mission and we look forward, frankly, to seeing the excellent work already done only get better as a result of your recommendations.

Everybody take a deep breath. We're going to now break for a working lunch, but just because you've been efficient this morning does not mean we'll reward you. We have a really busy afternoon, and so if we can resume at 12:45, which will give you not quite an hour but more than you were actually on the agenda to have.

It is a working lunch, so members of the Defense Health Board, please plan to attend the lunch. The rest of you, as noted by Christine earlier, know who is invited to the lunch. And we'll resume here at 12:45 for an open meeting.

(Whereupon, at 11:52 p.m., a luncheon recess was taken.)

A F T E R N O O N S E S S I O N

(1:04 p.m.)

DR. DICKEY: Welcome back, everybody. And thank you for your flexibility, as our schedule kind of waxes and wanes a bit, but we're right back on schedule as we welcome our next speaker, Major General David Rubenstein.

General Rubenstein is the Commanding General of the U.S. Army Medical Department Center and School and is currently Chief of the U.S. Army Medical Service Corps. Perhaps more important than all of that, he's an Aggie. So without further delay, General Rubenstein.

MAJ GEN RUBENSTEIN: Thank you. I'm going to cause -- that was not paid, by the way. And, John, why didn't you -- no.

I'm going to cause your calendar to neither wax nor wane. My goal this morning -- or this afternoon is spending about four, five, six, seven, eight minutes of my fifteen minutes to welcome you and to help you appreciate the complexity of health care in San Antonio -- you got a briefing this morning about a piece of that -- and answering any questions that you might

have. But first and foremost, my job is to thank you for allowing me, Nancy, to have a few minutes on your calendar. And it's not because we're both Aggies, one a ring-wearing Aggie and the other one an adopted Aggie, but the opportunity to welcome you.

You had a great meeting this morning, I heard. You've got some excitement tomorrow. Tomorrow you're going to be spending time with the Institute for Surgical Research, the Naval Medical Research Unit, the Battlefield Health and Trauma Research Unit; the research that's going into taking care of Warriors and other wounded and ill and injured people, as we learn lessons from what's down range.

As you come here to San Antonio, you're in "Military City USA." That is one of the formal nicknames of this city. It has been treating and taking care of military medicine since 1845. The Second Dragoons came to San Antonio in 1845. In August, the Congress of the United States passed a bill saying that the Republic of Texas would be invited in as a state. In October, the Second Dragoons came into town.

And on the Riverwalk, right across the street from where we are, is a manmade loop of the Riverwalk. Where that manmade loop of the Riverwalk was, was a private house. The house was rented by the Army in 1845 and served as the first hospital in San Antonio before moving on to what then became called The Post at Fort Sam Houston.

Health care in San Antonio is dramatically complex. You heard this morning from General Hepburn what goes on with the 59th Medical Air Wing; and Brooke Army Medical Center with its subordinates; the clinics that run under BAMC; the San Antonio Military Medical Center, which is a subordinate of BAMC. In addition to that, we have a whole array of health care and, at your opportunity, I'd be happy to answer any questions.

We do medical recruiting out of San Antonio. We do education and training out of San Antonio. There are four particular organizations that I'd chat with you about education and training. I don't know if you're going to have the Center for the Intrepid on your

schedule for tomorrow as you do the research institutes, but the Center for the Intrepid, built by the Fisher Foundation and then proffered to the government, is a world-renowned, now world-class -- and I'm not sure what that word means, by the way, "world-class" -- but opportunity and location for the rehabilitation of Warriors who have been wounded or injured in a variety of ways, and it's focused on limb rehabilitation, primarily.

The Medical Command -- the United States Army Medical Command, which owns all brick and mortar health care for the United States Army, is based out of San Antonio -- and our Chief of Staff is with you today, Mr. Herb Coley -- so is the Dental Command, which owns all of dental care.

The education and training, I'd like to touch on just for a few minutes. There are two major education and training opportunities in San Antonio above and beyond what happens out of Wilford Hall and Brooke Army Medical Center with Graduate Medical Education and Graduate Dental Education. We have the Medical Education and Training Campus at Fort Sam Houston and the Army

Medical Department Center and School at Fort Sam Houston. The Medical Education and Training Campus follows the edict of BRAC '05, which says, Army, Navy, and Air Force, conduct all of your occupational enlisted medical training and education at Fort Sam Houston.

So the Air Force moved its education and training, the production of Airmen, enlisted Airmen, from Sheppard Air Force Base to San Antonio. The Navy moved its Navy enlisted medical training, or health training, out of Great Lakes in Illinois; the East Coast, Port Smith; the West Coast, San Diego, and moved their enlisted education and training here to San Antonio, beyond already having its education and training here for our enlisted soldiers.

And so the Medical Education and Training Campus is a series of buildings, schoolrooms, a five-building campus, where Soldiers, Sailors, and Airmen march off to receive instruction to become radiology techs, laboratory techs, combat medics, or hospital corpsmen, or hospital technicians, all manner of enlisted skills. About 5,000 students a day

attend class in these buildings, under the Medical Education and Training Campus. At the end of the day, they march back to their Army, their Naval, and their Air Force commands, their organizations.

For example, soldiers wake up in the morning in their 32nd Medical Brigade, march off -- after PT in the morning, they march off to class in the Joint or Tri-Service classroom. In some of your classrooms, we will find Soldiers, Sailors, and Airmen sitting together just like you are; a radiology technician course, for example; a surgery technician course; a laboratory technician course. Because there's only so many ways for a pharmacy tech -- actually there's only one way for a pharmacy tech to count and pull, or to produce a product that goes into a patient, and so why not train Soldiers, Sailors, and Airmen in the same way?

Other courses are different. The animal technician course, only the Soldiers -- only the Army has animal technicians, so that's an Army-only course taught at the Medical Education Tri-Service Campus. That's

the METC, Medical Education and Training Campus. You may hear about that in your visits tomorrow.

The other education and training organization at Fort Sam Houston in San Antonio is the Army Medical Department Center and School, and that's the brochure that -- the two documents that I've put in front of you for today. This is just a view book for you to take away. This, I'd like to talk about for just a second, this trifold.

If you open the trifold, on the right-hand side where it says "strategic planning," what I'd like you to focus on just for a second are the three words at the top, "envision, design, and train." What the Army Medical Department Center and School does is envisions what health care should be on the battlefield. We then design that health care; the doctrine, the organizations, and the equipment. Combat Support Hospital, a 294-bed hospital. Who says it's a 294-bed hospital? Well, the AMEDD Center and School says it.

Based on what? We have a "lessons learned" cell; we are working with the field;

we're looking and seeing what happened historically; we're looking to see what's happening currently; and we envision what's over the horizon. What does health care on the battlefield need to look like in the future? And so envision and design is tied to our doctrine, organizations, and equipment.

Then "train." Now, the AMEDD Center and School has 315 programs of instruction ranging from two-week refresher courses up to multi-year doctoral programs. We have seven doctoral programs and seven master's degree programs ranging from hands-on kind of care doctoral programs to administrative. Four of our programs are rated in the top of their league by U.S. News and World Report. Our Nurse Anesthetist Program, a Masters Degree in Nurse Anesthesia, is ranked number one in the entire Nation. Our Masters of Health Administration, for example, is ranked number 11 out of 200 Masters of Health Administration programs that are in the United States.

What I wanted to do today was to just share with you a little bit about health care in

San Antonio, which supports all three Services -- the Naval Services; the ground Services, the Army; the Air Services, the Air Force -- in producing enlisted medics, producing leaders at the commission level, producing clinicians, and administrators. The complexity of health care that's provided among the three Services here, you'll see a very small piece of that tomorrow. I just wanted you to have an appreciation for the bigger piece.

And then what I wanted to do is to welcome you to San Antonio, Military City U.S.A., a city that prides itself on its relationship with the military. And that's what I wanted to share with you for a few minutes as you started your afternoon sessions and then rolled into tomorrow's visits.

Nancy, thank you very much for the opportunity.

DR. DICKEY: Thank you, General. Some of you may have questions. You heard an excellent presentation over lunch about the extraordinary impact of military on the city and health care in San Antonio. Now you've heard the

impact in terms of training. Anybody have any questions for Dr. Rubenstein?

A superb teacher when you answer them all before you stop.

MAJ GEN RUBENSTEIN: Absolutely.

There are plenty of people that will get you my e-mail address if you have a question you'd like to research later or any work that you'd like to do or questions you'd like to ask. It's good to see some of you, some of which -- some of whom I visit out in -- some of you who have grilled me and counseled me and developed me. Thank you very much for that opportunity. Have a wonderful rest of your meeting. Thank you very much.

DR. DICKEY: Let me take just a moment, if I can, before we move on to the next issue. Now, one of the joys of being a member of a group like this is the friends you meet. Obviously some of you know each other from other intersections in life, and for some of us, many of you are new friends and people we'll continue to hopefully work with in different capacities over the years, but that also means that at the conclusion of any given person's time and tenure,

we have to say farewell to them, at least in terms of meeting around the Board.

So, Reverend Certain, if you would come up for just a moment. I tried to do this in the lunchroom, so I dragged him away from his book.

Bob, you were one of the first people I spent time with on the Board. You've always welcomed new folks. You've always had thoughtful things to say, and it's going to be very hard to replace you, but, unfortunately, the government says you get four years and no more. So a plaque doesn't come close, but, hopefully, when you look at it, you'll think of the friends you've made.

REV CERTAIN: Thank you. Thank you. I'll put it in the proper place on my "I love you" wall.

DR. DICKEY: It might have been his homily, but -- oh, no, sermon? No.

REV CERTAIN: Well, I have to leave this afternoon because at 7:00 tomorrow morning in Atlanta, I have to be telling people that they are dust and unto dust they shall return. The Ash Wednesday starts a busy time for us in the clergy,

in the Episcopal Church, anyway.

It's been a real joy to be on this Board. It's been a real eye-opener, a huge learning experience, and I just hope that I've given something back for all of it. As an old military guy, it's important for me to take care of the people out there today that are putting their lives on the line day after day after day, multiple, multiple times, and all those Veterans out there who have done that and come home and are seeking to re-incorporate themselves into a civilian world that probably doesn't appreciate them passed clapping for them at the airport.

So keep up the good work, folks, and I'll be around, you know, for as long as my boss allows that to happen, and be available to you. Thank you.

DR. DICKEY: Thank you, Bob. And, again, a tremendous service over the time, so we'll look for other ways to keep you involved.

All right. Our next presentation is going to be delivered by Vice Admiral John Mateczun, the Commander of the Joint Task Force National Capital Region, who does know what

"world-class" is because they defined it for us. Right? They completed the largest and most complex Base Realignment And Closure project in the history of the DoD, merging the National Naval and Medical Center and Walter Reed Army Medical Center into the Walter Reed National Military Medical Center -- you could have at least made the acronym shorter -- but now the Nation's largest military hospital, and he's going to give us an update.

Admiral Mateczun.

VADM MATECZUN: Thank you. Hello.

DR. DICKEY: For some reason, they don't like that mic. Maybe we can get the lavalier that General Rubenstein used.

VADM MATECZUN: It's some closure for me today to come here. This is, I think, the ninth time that I've been before the -- visited with the Defense Health Board, after the formation of the committee on "How do we get to world-class?" and the NCR Congressionally-mandated Committee. And so, yes, world-class is not just an aspiration in the NCR; it's the law and it is enshrined in statute.

And I can tell you a lot about it, but we won't be doing that today.

But I am here to tell you a little bit about where we are in that journey to world-class, where we've got yet to go. And I'm ready to face the challenge of being here as your postprandial speaker, and so I'll try to show you enough pictures to keep things interesting.

This is a little bit of a summary about what happened with the JTF. We did the BRAC. We also have other missions; establish integrated health delivery system with two hospitals, and then we're responsible for health care delivery in the National Capital Region.

This is a summary of the BRAC. Took four inpatient facilities, consolidated them into two. \$2.8 billion in construction, moving 4400 civilian personnel, relocating a lot of wounded warriors, migration of a lot of staff. Largest and most complex BRAC project in the history of the Department. Dr. Hepburn and I get a chance to talk in forums and sort of compare San Antonio and the NCR periodically.

And, yeah, this is a picture of the old

Walter Reed, the old Bethesda, the new Walter Reed National Military Medical Center, and then land at Fort Belvoir; and the new Fort Belvoir Community Hospital.

And so I say, so what's the -- what do you see as the common element here? And people will look for a little while and it takes them a moment to think, but these were both golf courses at one time. So that is why I think transformation -- medical transformation in the Air Force would be a very difficult project. You just wouldn't be able to get the buy in that you have to; to take up nine holes of a golf course here, 18 holes there. It's San Antonio. What can I say?

All right. So what were the projects? So three million square feet of new and renovated construction. That's larger than the Pentagon itself, in case you're wondering about the scope. That new Walter Reed National Military Medical Center has the footprint of the Mall of the Americas, the Mall of the Americas, and so that's how big it is. And I'll tell you, there are challenges in operating a medical center that

big. How many code-teams do you have to have to move around that many square feet? And so we've had to devise whole new ways of responding to medical emergencies over here in the new outpatient building, because inpatient is over here and it's a long way to traverse, if you're going to rely on code-teams. The emergency room is over here. And so a lot of new ways of doing business that we had to kind of work with.

There was new lodging that we had to build. You know, lodging was not part of the original projects, but as part of the Department's response to the Washington Post articles in 2007, we built basically what's an intermediate rehabilitation facility, in terms of lodging. Parking, never enough parking. Wow, who would have thought? Nothing there. So we did a lot of things in terms of outfitting.

Patient reassignment, we had to reassign 34,000 beneficiaries. You know, we have about 300,000 that are enrolled into the Capital Region, so ten percent of our enrollees had to be reassigned to a new care site as they were moved out of Walter Reed. They did

establish that single-appointment phone number, and we now have a lot of appointing and management for referrals going on.

And so that's what it took to move out of those four in-patient facilities and into two. Manpower is a big part of it. IM/IT is a big part of it. If you're going to put together a regional system, you have to look at where your people go, how they fit into your organization, and how you're going to put together a joint medical network, as we call it, to be able to move data. Before we put together this Joint medical network, I could drive an extra -- around the beltway quicker than I could send it, you know, via IM/IT. If you think I'm exaggerating -- you know, we're not quite finished with the joint medical network -- and come on by and we'll go down and sit at the Fort Belvoir Hospital and we'll request an x-ray from Bethesda and you'll see how long it takes.

You know, IM/IT is something that people think is an easy answer. So let's get together with this joint record between the VA and DoD. You know, I can't even move it within our

own system because it's not a system; it is a conglomeration of previously-existing systems and legacy systems that's out there.

So this is it. You just heard Dr. Hepburn say that he had the largest hospital in the DoD. It's true. It's not the largest hospital system in the DoD, which we have in the NCR, because we've got 480 beds. It's got about 400 there total within the San Antonio BAMC complex, but this is a substantially -- it's a big complex and you can see some of the capabilities that are over there. These are new capabilities that didn't exist on the Bethesda Campus before the BRAC, and now we took a very sleepy community hospital, and it's a very busy community hospital, and so, you know, before, we had two medical centers, Bethesda and Walter Reed.

Dueling medical centers is not a way to run an integrated delivery system, period, end of story. And so now we have an integrated community hospital and a medical center. We're able to find efficiencies across those. Just as in, say, you know, SAMMC, when Wilford Hall and BAMC competed, it was inefficient. And so any

try to return to kind of the past, which is always, you know, an urge to do, both in-patients and in organizations, you're going to repeat those old mistakes of the past.

Okay. Here's kind of my story today. You know, we're just finishing up "Lessons Learned." You heard General Abizaid and General Franks talk about lessons learned and their criticality in going into a system where we try to become a knowledge-based learning organization. Here's what we learned -- and we got 504 lessons learned that we gathered. We compiled them into six principle areas.

Number One, not surprisingly, just as you heard about, you know, the Mortuary Affairs today, is governance. So how do you run the thing if you're going to do it? You know, the Defense Health Board Subcommittee on World-Class said that "foundational to achieving world-class is a singular organizational and budgetary authority." "Foundational to achieving world-class is a singular organizational and budgetary authority," and that is so true, I can't even begin to tell you; that without having the

authorities to actually teach your mission, you're not going to succeed, much less be world-class.

Requirements. If you're going to build something, you better know the requirements early, otherwise, it gets more expensive to change as each day passes, so no surprise, I think, to anybody. But what I think was surprising was the decision point that doesn't incur cost and requirements came before we were in existence as a JTF. So 18 months into the BRAC process, if you didn't lock down requirements, everything you did after that cost you money, more money than it was going to. Clearly requirements is something that we need to focus on.

Communication. Boy, you can't communicate enough, no matter what you do, with everybody, particularly with Capitol Hill and within the Department itself.

Resources. That "singular organizational and budgetary authority," this is where it comes into play. I can't tell -- you know, we got a \$1.3 billion operating and maintenance budget between these two hospitals,

and so I can't tell you how many sources that money was in before we consolidated it. And I can tell you, a lot of that money did come into the consolidation, because it existed in those other lanes that were out there. And so as you consolidate things, there's every opportunity for money and people to disappear into other organizational structures. You've got to have a really strong program management authority to be able to take care of the complexity of these projects.

We went around -- I spent many months when we first came into existence looking for a program management capability that was equal to the task that we had, and we went around and talked to everybody. The closest we came to finding one was in the Ballistic Missile Defense Management Activity, and so those people are trying to make missiles to shoot down missiles. But, hey, that's almost as complex as we are. Actually, what they said was, wow, we've got some great programs but this is a lot more complex than what we're doing. And so, you know, the ability to move all of those clinical programs, to

understand the effect of changing the service delivery and orthopedic care, one institution and what happens in the clinics that you own is not a trivial question.

And then culture. Sustained emphasis on cultural integration is important. And I'll bottom line this message; it's less about culture than it is about business practice. What color uniform you wear turns out to be a trivial comparison to what form do you fill out to get supplies. Talk about culture; people are still talking about culture every day. It's less about culture than it is about understanding the system that you work in to be able to go get money, supplies, and whatever else it is that you need.

So that's kind of the BRAC lessons learned. We're getting ready to send that forward, publish it. A lot of people are building hospitals now. There's seven new hospitals being built, I think, in the next five years. These lessons are applicable to each and every one of them; I have no doubt at all.

We're also, as well as the BRAC lessons learned, doing a history of the organization.

We've contracted with the Kennedy School at Harvard to write a history and do case studies on what it is that we have done, you know, in this process and how other people can learn from it. The Kennedy School is excited, because they work with public and governmental organizations primarily. And something that's this size is hard to come by in terms of a lesson.

So we're still left running this integrated delivery system. And I do have operational and fiscal control of the hospitals that are there. A lot of clinics, a lot of hospitals. I think that there's a point here, and that is that, you know, if you take a look at the National Capital Region and San Antonio combined, you know, the Willie Sutton Rule applies. If you're looking for efficiencies, you know, go where the money is, and that's where the money is.

And so if we're able to find efficiencies and operational effectiveness through consolidation, if we don't do it in those two places, we're not going to do it at all. Those are the opportunities. You're not going to

find much in the way of operational efficiencies at Minot, North Dakota, at Oak Harbor in Washington, or any of those smaller hospitals and clinics that we have out there. And so these are areas where we can find efficiencies.

A lot of trainees, a lot of GME programs; the same as in San Antonio. And a lot of enrollees to our hospitals. This is the Quadruple Aim. This is what we had for -- whatever you do, it's got to relate back to, you know, this Quadruple Aim and the Military Health System today.

So this is how the NCR delivery system relates to each of those areas. There's no surprise here. Everybody that wants to run an integrated delivery system has these goals. It's not a shocker. But the bottom line is, without a standard system and common processes, you're not going to be able to achieve much in the way of an integration, and so that's the challenge. We are our own enemy in integration. The current systems that we have are what stands between us and the most efficient organizational structure that's out there.

Here are some things that we have consolidated. And I know San Antonio has done a couple of these things. We're still working on them. Actually, we communicate frequently and a fair amount about how it is that we can use each of these areas to find consolidation efficiencies. You know, putting together an Integrative Referral Management Appointing Center, no brainer; hey, let do that.

But when you've got 37 hospitals and clinics and four hospitals that own their own and have not been able to consolidate them before, unless you are that single organizational and budgetary authority, you've got the power of the purse and the power of decision making, you're not going to be able to do it, because each of them will optimize themselves at the expense of the overall system. Two hospitals in the same areas, unless they have some overarching authority, will still optimize each other, invariably. It's an organizational fact of life. You know, we see it all the time.

And I come out of the hospital command system. I am part of it and I'm still struggling

to try to understand the integrated delivery of care across systems and clinics, because my whole life, I optimized my command. Now here I am trying to optimize overall operations, and what I find is, you have to have the power to consolidate. Unless I can consolidate these, I'm not going to find efficiencies and I'm not going to be able to achieve operational effectiveness.

So human resources, IM/IT, supply chain, programming analysis and evaluation. Look, it's not rocket science, but it takes authority to be able to consolidate these across the operating systems that we've got out there today.

Comprehensive Master Plan is another Congressional mandate. This is the follow along to world-class, so we do have, in statute, what the world-class requirements are. Congress came back the next year and said, okay, we want a comprehensive master mind that shows us how you're going to achieve those mandates in the National Capital Region. And so we went back and we took a look at the infrastructure mandates in

particular, which included single-patient beds, operating rooms of a certain size, a lot of facilities things that we had to do, and so these are all facilities-related measures, and brought this forward in the Comprehensive Master Plan two and a half years ago. Gave it to Congress. \$829 million was in that plan. It's been through extraordinary budget reviews in the Department on a yearly basis, and it's still in the President's budget. So it went forward this year again in the President's budget.

And in Fiscal Year 12, these are the projects that are being funded for the Bethesda campus primarily. And then design awards for Fiscal Year 13 are underway. And the Fiscal Year 14 project design awards are awaiting completion of Congressional notification, which is required by Title 10. And so these are the primary parts of what the Comprehensive Master Plan will do.

Electrical capacity and cooling towers, parking garages, and the new central clinical building. And I'll go back and show you where that is, in case you weren't at some of those other briefings. That is the space that is

behind the tower. This chassis, this hospital was built, and this part was built in the '40s and '50s, and so this part is red on facility condition index. And so it is a new central clinical building that will go back in there, all the way back from the tower back to the road. It meets the mandates for world-class care, way finding, patient amenities, simulation centers, but, in particular, it allows us to expand the in-patient part of the campus to get to that single patient bed and operating rooms of a sufficient size. And so it continues to provide renovations on the rest of the campus for Wounded Warriors.

You know, we met all of the ADA requirements, but we found out we didn't meet all the requirements of Wounded Warriors as they came in. ADA is primarily something that, you know, is applicable to mostly older people, and we've got a lot of younger people that really want to move around and do other things on that campus, and so we're transforming the rest of the campus now as well as part of this Comprehensive Master Plan.

They're not shy about telling us what they want, and I'll give you a couple of examples. You know, a lot of them are amputees, and so we have showers that you can wheel into on a wheelchair, but many of them want a tub because they want to soak, and they want to soak their limbs in the tub, so now we're going back and retrofitting a certain number of rooms with those tubs, even though they're ADA compliant rooms. And so it's just an example of how, you know, we constantly have to adapt to the needs of our patients, not our idea of what a standard is that meets their needs as well.

This is my last slide, and this is a slide that we show a lot of times. I stole this slide from the Counterinsurgency Manual that General Petraeus offered. He doesn't have direct care or private sector care, you know, in there, but he did have unity of effort in there, and so this is the magic that it takes to work a system. If you want to run an integrated delivery system and do these things, then you have to achieve this. Otherwise, you're going to have this, this, this, and this, and all those other

strands operating independently and optimizing themselves rather than the rope that you're trying to get to and that unity of effort. I like that slide. And we think that the model that we've had has inherent advantages in being able to achieve that singular organizational and budgetary authority.

This is my last time here working with you. I'm getting ready to retire. The Secretary has approved my retirement for the First of April. And so I want to thank the members of the Defense Health Board, and particularly those that are still here from the subcommittee that came and worked so hard with us on achieving world -class. I will tell you, the Department is intent on having world-class facilities for Wounded Warriors so that we can keep our covenant with America's sons and daughters coming back from the war, and you have helped with that effort, so my thanks to you.

Dr. Dickey, if there are any questions, I'd be glad to answer them.

DR. DICKEY: As we've said to you in the past, we can't thank you enough for the

extraordinary efforts. Anybody who has attempted to bring unity between two or more parts can only begin to understand what you've taken on and made extraordinary progress.

Questions for the Admiral in terms of where we are, how we got there, where we're going next, his presentation today?

Dr. O'Leary.

DR. O'LEARY: Since I was on the original task force, I really congratulate you for this extraordinary, successful effort. You know, a project like this has many endpoints, and you are right on target and, in many respects, going above and beyond what we recommended. But part of this is a journey also, and that's the cultural integration, which is kind of step one, and then the building of a culture, safety and quality, which people who live in that world know you're never there; you're always on your way. But I think you've got a great beginning there eventually. Congratulations.

VADM MATECZUN: Thank you.

DR. DICKEY: That actually raises a question in my mind, though. We have found -- I

found in other walks that sometimes a single personality can accomplish things that others said couldn't be done. Have we put in place necessary processes -- somebody said earlier, TTP; techniques, tactics, and procedures or something. I'm going to get this down yet. Have we put that adequately in place so that, as you step down to retirement, there won't be an opportunity for somebody to come along and begin to disassemble that which you and your team have worked so hard to assemble?

VADM MATECZUN: The Department has been reviewing governance for the Military Health System and has not made a decision at this point on what that governance model will be. Congress has asked to review the governance models that the Department has taken a look at, and I believe there's always opportunity to try to -- in organizations to go back to the way that things are, but here, I don't think it's going to be as easy to go back. You can't go back to the way things were. It was completely different.

And part of the transformation, I believe, is that no matter what people do, the

Walter Reed National Military Medical Center and the Fort Belvoir Community Hospital are fundamentally transformed. And so if we want to achieve world-class and stay on that track, then we must pay attention to that singular organizational and budgetary authority. But knowing organizations and people as I do -- I spent 20 years working with people and change -- change is hard. People will take every opportunity to kind of go back to the way things were.

DR. DICKEY: It is human nature, is it not?

Other questions for the Admiral? Then I think you'll have our thanks for --

GEN (Ret) MYERS: Maybe just from afar --

DR. DICKEY: Oh, I'm sorry.

GEN (Ret) MYERS: -- I think what the Admiral has done has been --

DR. DICKEY: General Myers, you're so soft spoken. You have a comment or a question?

GEN (Ret) MYERS: Nancy, Dick Myers. Can you hear?

DR. DICKEY: Yes.

GEN (Ret) MYERS: I just want to say kudos to the Admiral. I think what he's done is historic in scope. And, you know, a self-effacing briefing there that made it all sound like, well, we did this, we did that, belies how much hard work and courage it took to do the right thing, and he did. And a great example of leadership and public service.

VADM MATECZUN: Thank you, General Myers. General Myers was here when I was on the Joint Staff. He was the Chairman when we did Operation ENDURING and Operation IRAQI FREEDOM.

DR. DICKEY: Again, thank you, Admiral, for all that you've done for us.

All right. I've got to somehow get back to my agenda. Too many stacks of paper. You know, I'm sorry for all of you who are coming yet today because you've got tremendous briefings you're following.

On that note, our next briefing of the today is going to be delivered by Colonel Lorne Blackbourne. Colonel Blackbourne currently serves as the Commander of the U.S. Army Institute

of Surgical Research. Previously he served as the Chief of Trauma Services at Brooke Army Medical Center as well as on a classified U.S. Special Operations Medical Contingency Force connecting worldwide missions in support of counterterrorism operations. He's going to provide an overview of in-theater data collection.

And the slides are under Tab Five. I'll also remind the group that, those of you who are touring tomorrow, we're going to go to the ISR.

Colonel Blackbourne.

COL BLACKBOURNE: Good afternoon. I'm going to give a quick five-minute overview of the ISR and then I want to introduce Colonel Bailey, who is the new director of JTS, and Dr. Dave Baer, who is the director of Research at the ISR. And they'll be talking about data acquisition and then data research.

So United States Army Institute of Surgical Research, also known as the ISR.

Everything we do. This is our mission: Simply "optimizing combat casualty care." A

long history. World War II, antibiotics; Cold War, thermal injury; and now today, burn and trauma research. And we are known internationally because of the 27 years of work by Dr. Pruitt as the Commander. So we are a subcommand of MRMC and our CG is Major General Gilman. And of all the different research focuses at MRMC, ours is combat casualties; except for the central nervous system and TBI, everything else. So we have a very unique mission in the DoD; in that, we have a clinical mission, and we do the burn clinical care, have the world's only dedicated burn flight team, the Joint Trauma System, and combat casualty care research.

So, functionally, we work for Major General Wong for burn care, the clinical piece, and Major General Gilman for the research piece. And you may say, why do you have this complicated setup? And that is to foster and to really force translational research between combat experience trauma surgeons, orthopedic surgeons, nurses with the scientists; and also translational communication, which is just as important.

So this is the big picture. Dr. Baer will go into more detail. But we take data from combat, you know, JTTR; and then you translate it to the laboratory; then you translate it to a clinical research; put it back on the battlefield; and then make sure it actually works with PI and research.

And this, by the way, is the real magic of the ISR. So we have these three areas all under one command and there's no stove-piping, and it really fosters a one-team approach.

So BRAC Law of 2005 established the Battlefield Health and Trauma Research Institute mandating all the combat casualty care research programs for the Army, Air Force, and Navy under one roof in San Antonio. Now, it's not a truly Joint institute; it's more a Tri-Service academic village, but we do coordinate and collaborate with three different commands.

So we're unique. The DoD's only CONUS Level One trauma center, the DoD's only burn center, combat casualty care research from all three Services, the JTS with the JTTR. And across the street, we have all the medic training

at Fort Sam. So this, we think, is a perfect storm for optimizing and advancing combat casualty care.

And now I will be followed by Colonel Jeff Bailey, who is going to talk about how we get this data. And it's very important that you meet him, because I'll be leaving command in a couple months and he will be around for the next several years.

DR. BAILEY: So President Dickey and members of the Board, distinguished guests, thank you for the invitation to present this information on behalf of the Joint Trauma System -- let me see if I can get this right -- which is located here in San Antonio, as Colonel Blackburne described, but also on behalf of the U.S. CENTCOM Joint Theater Trauma System, which is the deployed component. These are two separate organizations, but very much interdependent and interrelated.

Slide. I guess I can do it. So we have a shared vision that I think folks have seen before and understand. We have a shared history. And, really, you know, that history dates back to

watershed years 2004 or 2005, where a trauma system was stood up in the Theater of Operations and a component of that trauma system, a very important component, the backbone of it, is the Joint Theater Trauma Registry, which, again, Colonel Blackbourne has described.

So if 2004 or 5 were watershed years from the JTTS, the Joint Theater Trauma System, 2010 was the watershed for the Joint Trauma System. And that's a function of the realization that this effort is important irrespective of region or conflict or contingency. It's an effort that needs to be sustained beyond that, and that really was the idea underlying the concept of the enduring Joint Trauma System, which now is now a Program of Record of directory in the Institute of Surgical Research and is programmed for funding.

Colonel Blackbourne has discussed this. Our mission really is the collection of important, relevant clinical information; the evaluation of that information; and to translate that into improved patient outcomes.

These are our goals. One of the most

difficult goals is to capture that information all the way across the continuum, as far forward and closest to the point of injuries we can get, all the way into the rehab setting, and that is something that we've been pushing out over the last 10 years in order to accomplish that. Obviously these are other important goals, including using that information to understand what it is we're doing; how we need to train; and then, again, how to maintain our trauma care currency and competency.

This is the diagram of the Joint Trauma System located here in San Antonio. I won't go through all the wire diagrams; just to say that, you know, there is a large component of this organization which is dedicated to processing information and translating that information into improved outcomes for our patients.

We have a dotted line relationship with the U.S. Central Command Joint Theater Trauma System, which is now in theater, which this organizational diagram represents. Basically, we have trauma nurse coordinators at each of the large facilities in Afghanistan, all of the Role

Threes, and then there's a trauma director as well as a trauma program manager and a MEDEVAC team.

These are the core functions of both of these organizations: Really to sense -- intelligently sense information from the theater, to aggregate that information meaningfully, evaluate it, and then disseminate it in the form of these types of reports. And, again, it's a Joint effort. It's an effort to involve both the Joint Trauma System and the Joint Theater Trauma System.

A busy diagram, but the question of "Where do the data come from?" is answered on it. So I can break it down for you. So everything to the left here, behind this store and forward, is data that comes from the theater, so these data are abstracted from patient medical records. And, again, if you look here, you can see the medical records include hospital records and they also include out-of-hospital records.

It's not an upload where you just scan the information into the Registry; there's an intelligent, human component to that process, where trained individuals are going through these

records and meaningfully extracting information and recording that in what we call the Registry, which separates it from a simple database, and that's the human element involved. We have these folks fielded at the Role Threes in the theater, and that information needs to make it to those Role Threes in order to make it into the Joint Trauma Registry, and that speaks to some of the challenge of reaching forward of the Role Threes to get that information to us.

A very important component of that effort in theater is the MEDEVAC team, which was put into theater a couple of years ago to facilitate that mission, to interact with the out-of-hospital component to get that information into the Registry so that we can use it to make decisions that are meaningful. So this store and forward is what's happening in theater, and it represents about 60 percent of what's in the Registry.

The other 40 percent actually comes from a web-based application. These are the fives, the participating Level Fives in the CONUS, that jitter information into the Registry,

so that's about 20 percent. And the other 20 percent actually comes from the folks here in San Antonio reaching into the archived information that would be found in these different repositories that you'll recognize and then aggregating that into the Joint Theater Trauma Registry.

The other component of this is that about 10 percent of the data that gets entered into the JTTR undergoes a quality assurance review. So these are, again, data -- the goal is to get the data from across the continuum into that Registry in order to make decisions about optimal patient care.

This basically just describes what's in that Registry; about 26,000 patients; 110,000 records. If you do the math, you recognize that there may be more than one record per patient, and that is, in fact, the case. In addition to just, you know, listing what diagnosis and procedures patients have, in that Registry, there's also information about the extent of injury and the outcomes the patients have benefited by.

What do we use it for? So, really, I

don't have a lot of time to talk about it, but these are really the two big things that we do, JTS and JTTS, which is continual, concurrent performance improvement and the development of evidenced-based clinical practice guidelines. The other product of JTTS and JTS are the concurrent reports, which you may have seen in the form of the monthly Theater Directors Report, which basically talks about what's going on in theater, in terms of who we're admitting to our facilities and how we're caring for them. And then we have other special projects and reports, which really speak to the fact that the Joint Theater Trauma Registry cannot collect all of the information. There's some information that may not be in there; we have to go into other sources to obtain.

This is just a list of some current performance improvement projects that are going on in the theater. And, again, for the purposes of time, I won't go through all of them, but, essentially, what we're doing is, we're using the Registry to understand what it is we're doing, how we may be able to do that better.

If you look at this one, this is the Vacuum Spine Board usage in theater. What this investigation -- as opposed to the concept of research, this is clinical investigation, but the purpose is not publication and peer-reviewed literature; the purpose is publication in the form of guidelines, translation of this information into actual patient care.

So what they found was, when they looked at the Vacuum Spine Board usage, was that it seemed like we were using the Vacuum Spine Board and documenting that patients were getting pressure-related skin changes, which were a concern to us, but this project led to the discovery that actually a lot of the problem wasn't pressure-related ulcers or pressure-related skin changes, it was just about describing accurately what people were finding and translating that in the record accurately to reflect what were, in fact, pressure-related ulcers. So before and after, and you see that that number decreased.

And their effort is focused on, really, trying to -- what you can do is train folks to

recognize what should be documented as a pressure ulcer or a pressure sore and what should not be documented. That can happen in theater, no question about it. We can do on-the-job training to do that. Probably the most effective way to do that is before folks get into theater. And that's what I was talking about in terms of our role in trying to help design, craft pre-deployment training, which includes information about clinical practice guidelines.

I came out of a training platform in St. Louis. I spent ten years there doing this job, and what we did -- we did not try to teach, you know, the chapter and verse of every CPG. We wanted to teach the range of clinical practice guidelines that were there and then give the folks a chance to look at those themselves and understand in greater detail on a personal level what they were there to learn about.

So the last thing I want to talk about is, again, using the Registry to evaluate the effectiveness of an intervention that we have rolled out in theater in a clinical practice guideline. So this talks about the use of TXA,

which is essentially a procoagulant agent, which we're using in theater now. It's based on information that came out of peer-reviewed literature that demonstrated that patients in a very large study had a survival advantage.

We looked at these data. There were 20,000 patients enrolled. Our concern about it was there were only like 14 or 15 patients excluded from that study and they really didn't report any significant serious adverse events. So we were just a little bit worried about the safety monitoring strategy, and so we weren't quite ready to roll this out into our DCR, Damage Control Clinical Practice Guideline, until we got a chance to really look at this ourselves.

This is the MATTERS trial which was done. Essentially it was looking at UK data. It was done by Colonel Rasmussen, who is here at the ISR. Essentially what they found was that, you know, patients that got this agent seemed to have this survival advantage, patients that got this agent in theater. And they did find also that there was a little bit increased risk of venous thromboembolism complications. But looking at

all of that, we decided that the benefit of this agent outweighed the risk of it, and this was incorporated into our Damage Control Resuscitation CPG back in August of 2011.

So how do we use the Registry and how do we use the data to evaluate this agent? And so we started collecting data about TXA in October of 2010. It speaks also to how you have to kind of design a Registry. You have to craft it to catch what you want to catch from the theater, and so we started doing that in October of 2010. We incorporated TXA use into the Damage Control Resuscitation CPG in August of 2011. And this represents data basically in calendar year 2011 which essentially showed in our patient population. So these are performance improvement data derived from the Joint Theater Trauma Registry.

In our patient population, what we found in patients that just received a blood transfusion, there didn't appear to be any significant increase in survival in this group of about 420-odd patients, but when we broke it down and looked at the most severely injured patients

in that cohort, those that got massive transfusions, we did find that this agent appeared to have a survival advantage. Sorry for the small numbers. This is 7.2 percent mortality versus 5.3 percent, so about a 2 percent overall survival advantage in the patients who had a massive transfusion who got TXA.

So we're using the data to see, how is that agent performing? Is it doing what we expect it to do? Now, these have not achieved yet statistical significance. We will continue to accrue these data into the Registry. We will continue to evaluate and monitor it.

In terms of safety, again, we found about what Colonel Rasmussen found. We did see some increased burden of VTE in this patient population, but these are very small numbers balanced against the advantage, a mortality advantage, in the sickest patient population. Where there are so few discrete therapeutic interventions that can make a difference, we think it still makes sense to continue to use this agent.

So that basically is an overview of the

JTS piece of the ISR story, which is really focused on performance improvement utilizing clinical investigation to derive information that we could use and evaluate to improve the outcomes of our patients in theater.

That concludes my portion of this. Do you want to have me take questions now or after Dr. Baer?

DR. DICKEY: Are there any questions?
Dr. Higginbotham.

DR. HIGGINBOTHAM: I just want to -- well, thank you for your presentation. And I appreciate your objective to do performance improvement and not necessarily to do everything that's based on peer-reviewed information. But my question is whether or not you distinguished the quality of the evidence in your publications? So, you know, some of it seems anecdotal. I mean, do you actually provide the reader -- because I just want to be sure that we're not mixing, you know, the quality of the evidence and making sure that it's evident what the quality of the evidence is based on?

DR. BAILEY: Yes, ma'am. So to

develop a clinical practice guideline, we're using all of the evidence that we have available to us, which includes peer-review literature. So when a clinical practical guideline is published, we're basing that on what information we have available in the greater body of scientific knowledge to stand upon. That also includes information that we've been able to obtain from our Registry, which is more relevant to our patient population.

In addition to -- and that's what I was trying to get at. Maybe I didn't do a very good job of it. But the point was, is that all that went into the evaluation of TXA as an agent in this CPG. What we do is, these CPGs are reviewed annually. We review that body of literature that's out there in peer review but then also use our own tools, which are sort of more focused on our patients and how that agent is performing in terms of efficacy and safety. That information is included in the body of the CPG.

So if you read a CPG, you'll get all the references that speak to peer-review literature that supported it, in addition to -- in our CPGs,

what we're incorporating now are the monitoring strategies, in terms the JTTR audit filters, et cetera, that go in to see how that CPG is performing in terms of safety and efficiency.

DR. DICKEY: Dr. Bullock.

DR. BULLOCK: Ross Bullock. That was a great presentation. I think it's great that you're able to capture the data. In civilian practice, the big nemesis of trying to do this type of research is HIPAA confidentiality and these kind of issues. How did you deal with that?

DR. BAILEY: All of those apply in terms of the stewardship of this information. So all of the HIPAA requirements, all of the Protected Patient Information, Protected Health Information apply. If folks want to get information out of this Joint Theater Trauma Registry, there's an appropriate process that they have to go through to be able to get that.

DR. DICKEY: General Franks.

GEN (Ret) FRANKS: This morning, you may know, our subcommittee on the Dover Mortuary gave our presentation. As part of that, one of the things in our visit to the Dover Port Mortuary

was that we were very impressed with what the Armed Forces Medical Examiner did in terms of forensic pathology and determination of cause of death and feeding that back into research for, perhaps, your use and for those who design protective clothing and equipment and so forth. I didn't see that highlighted anywhere.

DR. BAILEY: Listen, so, again, the basis -- these are patients that are entered into our Registry that have made it alive or die immediately after arrival to a Level Three in the theater. And then other information from the greater body of information in patients' records is also aggregated into that. That may include information from the OAFME, but that really is on the page more of special projects where we may be looking at something discrete and we're using a combination of different sources of information to be able to make decisions.

That's very important in terms understanding potential preventability of death, which this tool, the JTTR, may not be as facile at letting us do.

GEN (Ret) FRANKS: Excuse me, but -- so

you don't get that information from the Armed Forces Medical Examiner? Is that what I heard?

DR. BAILEY: We can, but -- I think he's asking do we aggregate that into the Joint Theater Trauma Registry. And the answer to that, Sir, is no. What I'm saying is, that exists as a separate body of information that we may be able to draw from in terms of answering questions that we need to answer, but it doesn't get entered into this patient registry.

DR. DICKEY: Two separate databases?

GEN (Ret) FRANKS: Well, you both work for General Gilman. Right?

DR. BAILEY: Say again, Sir.

GEN (Ret) FRANKS: You both work for General Gilman?

DR. BAILEY: Yes, Sir. If you could --

GEN (Ret) FRANKS: All right. I'm still not -- I still don't quite understand why -- I mean, this is fairly impressive and new and the only place it's done anywhere, really, in the world, the type of scientific analysis of cause of death, to include tissue analysis and so forth, and why that wouldn't be available to you

with your mission, I don't quite understand.

DR. BAILEY: It is available to us if we ask for it, but it's not aggregated into this Registry. Now it could be --

GEN (Ret) FRANKS: Why wouldn't it be? If you get it from a Level Three, somebody who died of wounds in a Level Three hospital in the theater, what's the difference?

DR. BAILEY: Yes, Sir.

GEN (Ret) FRANKS: If they come back to Dover, what's the difference?

DR. BAILEY: Some of it has to do with the chronology of when this information is entered, because the information -- if someone dies at a Level Three, it's being entered by a trauma nurse coordinator at that Level Three. There may be other information that becomes available to us later that gets pulled into the Registry, but, to date, that doesn't include the information from the Medical Examiner, to the best of my knowledge.

Now, it may be something that could exist as a module, a separate module, off of the JTTR. It just hasn't been integrated.

COL BLACKBOURNE: General Franks, I understand the point you're making. Let us take this offline with the MRMC folks and MEDCOM and we'll take a look and see if there's any useful information about that, but I understand your point.

DR. DICKEY: Jeff, if you'd comment just briefly on the vision to this. I kind of passed by that.

DR. BAILEY: There are different modules. We're trying to pull all of that information. So this is a database of information -- patient information that's been collected by the Critical Care Air Transport Team. We would like to aggregate that into the Joint Theater Trauma Registry, much like you were just speaking about, General. It's a possibility that you may be able to aggregate postmortem information in the Registry. This is something we've been working on actively. Hopefully, we'll have that rolled out, I hope, within the next six to eight months.

SPEAKER: (off mike)

DR. BAILEY: Absolutely. So in other

words, are you asking, are there elements of the JTS, JTTS in these facilities in theater?

SPEAKER: (off mike)

DR. BAILEY: Yes. I mean, so we have relationships with our NATO partners, including Canada. Obviously, we have a very strong relationship with the UK in the Role Three at Bastion. Our TNCs essentially -- our trauma nurses coordinators -- the Joint Theater Trauma System trauma nurse coordinators work side by side with those teams.

DR. DICKEY: Colonel, at earlier Defense Board meetings, it seems to me that we have heard that there's some difficulty in getting pre-hospital information. Am I over-reading your presentation; that we have, perhaps, begun to improve upon the pre-hospital data collection?

DR. BAILEY: Yes, ma'am, we have. In fact, that's a component of one of the returning reports, which is the Theater Directors Report. This past fall, they started reporting their rate of capture of out-of-hospital information, which into the JTTR, three years ago, two years ago

even, it was on the order of about five percent. Now it's on the order of about 80 percent. That includes POI missions and in route, so intra-facility, intra-theater transfer patients. And when I say -- those are trauma patients, ma'am, trauma patients.

DR. DICKEY: Are there additional comments or questions?

Colonel, thank you very much. And I know we have a second presentation from the ISR.

Mr. Baer.

DR. BAER: Good afternoon. I'm going to build on the story that Colonel Bailey just told you about the process improvement that goes on using the Joint Theater Trauma System and the databases and talk about the research that ensues from this. And to do this -- you've already seen the mission of the ISR. It's very simply optimizing combat casualty care, and so the research staff is dedicated to do this.

You've seen this diagram from Colonel Blackbourne. I'd like to highlight this, "data driven questions." So we always start with a battlefield medical problem. When you're entire

laboratory focus is on combat casualty care and we've been at war for over ten years, there's really no excuse for working on theoretical problems. There's enough problems out there with patients who can benefit to work on. And so we start by identifying these battlefield medical problems through a variety of mechanisms, not the least of which is the active duty component of the ISR, who regularly deploy to theater and observe and participate in delivery and care on the battlefield.

When we've identified a battlefield medical problem, we use various databases, largely the Joint Theater Trauma Registry, to develop the data to identify the scope of the problem and potential ways that we can intervene in this problem in order to solve it. We then use this information to drive both laboratory and clinical research and, most importantly, get the solutions we develop back out to those who need them; get them back to the battlefield. So this paradigm is really how we integrate the data that's generated out of the Registry into our medical research in developing solutions for the

Warfighter. And so that's the paradigm.

This is an example that I think is instructive. Tourniquets on the battlefield have a long history. It's really not a new device. Tourniquets date back about as far as you care to look, clear documentation in the 1700s, but they had been in and out of use based on how useful people thought they would be. So in the early parts of this war, there was a camp that thought tourniquets would be very useful and a camp that thought they would be not very useful and very dangerous, and so we developed a set of data to address the question of what tourniquets could work and how do we field them. And in the period of about 2004, 5 and 6, tourniquets were widely fielded on the battlefield, to the point that, eventually, they were in every individual first aid kit in CENTCOM.

A member of the ISR, Colonel Craig, who has now since retired, deployed from the ISR, as part of a combat support hospital, and conducted a research project to observe the efficacy of these tourniquets in actual use on the battlefield. And so in Panel A here, you see a

survival graph; tourniquets used versus tourniquets not used. And so the "tourniquets used," line is here and the mortality is -- the survivorship is about 86 percent. So if you got a tourniquet, if you had an injury that required a tourniquet and got one, about 86 percent of these people survived. This line rocketing towards zero is those who needed a tourniquet and never got one. So, clearly, the devices could work and they were effective.

And Panel B elaborates this story. So this looks at, not was a tourniquet used but when was it used. And so Colonel Craig used data out of the Joint Theater Trauma Registry to determine whether the tourniquet was used before the onset of shock or after the onset of shock. So after the onset of shock, often was a tourniquet applied in the hospital by a caregiver in the hospital after a significant blood loss had happened. And, here again, the mortality is actually a little better, but the survivorship is about 86, 87 percent for those who got a tourniquet before shock, the onset of shock. For those who didn't, the survival is not zero, but it settles in down

here at the, sort of, 13, 15 percent.

So what these two graphs together say is that tourniquets work, but they're not magic. They're just temporary hemostasis. They don't do anything to put the blood that's fallen out back in. They don't give you new blood. It needs to get put on before you lose a lot of blood. And so when that happens, you get a lot better survival. And this drives that fielding solution of, every soldier, medical or nonmedical, every Warfighter, medical or nonmedical, on the battlefield needs that tourniquet so they can either self-apply or apply it to their buddies. If you wait until somebody gets to the hospital, you're really not getting the big impact on mortality that you want.

This was a heroic effort by Colonel Craig that went on over several years. There's an entire body of evidence that he developed out of this. One of the crucial questions is, well, sure, you're saving lives, but are you costing limbs? And so he looked at amputation-free survival over time. And the punch line here is that there are a few complications that derive

from using tourniquets. Those complications are temporary and minor. And so, certainly, well worth the benefit we see in this associative study.

So that's sort of an overview of the data. This is a highlight of the story behind this data. So triple amputation in prior wars had a mortality of somewhere around 90 percent. You weren't guaranteed to die from this, but it was highly likely. My physiologist friend was telling me that your entire blood volume will circulate through a femoral artery in really just a matter of a few minutes, so triple amputation was always associated with high mortality.

Brian Anderson is alive today because his buddies had tourniquets that they applied to his limbs, after they were traumatically amputated, and kept him from bleeding to death until he could get to a hospital and get surgical hemostasis.

Yes, Sir.

SPEAKER: Thank you. The tourniquet has really been a good news story, I know, for amputees. Recent wounds up around the pelvic

area or groin, where you can't put a tourniquet, can you talk about devices or techniques to prevent bleeding there, where tourniquets cannot be applied?

DR. BAER: Yes, Sir, that's a great question. So tourniquets won't work for every wound. The higher it is, the harder it is to get a tourniquet around it. I don't have slides in this deck with it, but we've had, really, a 20-year program working on improved hemostatic dressings, so those dressings can work where tourniquets can't. And so we've been through a spiral development, where we started with gauze -- which is a 2,000 year old technology, a great technology; you know, things don't persist that long that don't work well -- replaced that with a chitosan dressing, and then continued development and came with combat gauze, which had even higher efficacy. So improved hemostatic dressings are one solution to that problem.

A second solution that's just recently won FDA approval, it's been in the news a little bit, it's been fielded in select units on the battlefield is a device designed to put pressure

on these transition zones in the groin and the axilla called a Combat Ready Clamp™. It's deployed on the battlefield mostly with Special Operations Forces.

At the ISR, we have research efforts ongoing to look at some intervenous hemostasis. So the beautiful thing of having clinicians and scientists together, you have a vascular surgeon that says, "Hey, doesn't bleeding come from vessels?" Well, of course. It does. So looking at threading a catheter into an uninjured femoral up past the iliac junction, inflating that to stop blood flow distally and control hemorrhage, for example, in the pelvis.

The TXA work you saw, that's amenable for the non-compressible hemorrhage, so we have a lot of lines of research directed at that specific problem. So thank you for that question.

So that's one example -- I know you're all familiar with tourniquets and it's been a good news story. I actually quit adding things to this slide about three years ago as the text kept getting smaller and smaller, but some good

examples of the things we worked on. I mentioned the dressings, so you see a couple of dressing projects listed here; Army greatest inventions, the tourniquet, Combat Gauze™. And all of these things -- tourniquets, dressings, all of them -- take the input of a lot of different people to move the system to get what -- to get the troops on the battlefield what they need.

So these are all -- none of these are exclusively ISR projects, but these are projects that ISR had a significant impact on and they involve a lot of hemostasis interventions; what to resuscitate combat casualties with, a fair amount in burns. We do all the burn patients that you'll -- you'll see the Burn Center tomorrow, those of you who haven't been. You'll see that all the burnt Warfighters come to San Antonio. So we get a, sort of, global view of the injury patterns and have had a set of collaborations -- that Colonel Renz, the Director of the Burn Center, will tell you about -- to develop clothing to better protect.

At the beginning of the war, the first aid kit that was in a lot of the vehicles was not

really different than the first aid kit that may be in your car. That's clearly not appropriate for combat casualty care, so those were all replaced with things like tourniquets, Hextend[®], hemostatic dressings, and stretchers. And so, like I said, this is now a few years out of date, but I think it illustrates the core of what we do.

Perhaps, in the interest of time, I have a slide or two on each of the things we work on, but I think I'll jump forward, with your permission, if you're -- we can look at any of these that you want, but I think to summarize this, data drive is what we do. The ISR is dedicated to improving the care of combat casualties on the battlefield. We use data to make sure we're addressing real problems; that we'll only put something on the battlefield, whether it's tourniquets, TXA, blood products, that our intent is met and that we actually improve care.

Our interaction with the Defense Health Board, and especially the Committee on Tactical Combat Casualty Care, has been an important part of doing that and has really let us innovate

quickly and move those innovations to the battlefield where they'll help those in need.

So, with that, I think I'll just conclude and answer any other questions you may have.

DR. DICKEY: Thank you for the excellent report.

Are there questions for Dr. Baer? Dr. Jenkins.

DR. JENKINS: Dr. Baer, so what's on the horizon? I know you've talked a little bit about the intravenous, you know, occlusion device and such. Any other, you know, resuscitation tools you're looking at; electronic data capture, you know, waveform analysis, et cetera?

DR. BAER: Yeah, thanks for that question. Yeah, it's really an exciting time. We have a lot going on. We have done a lot to address hemorrhage on the battlefield; however, that project is not done. Troops still die of hemorrhage on the battlefield. We had a discussion about junctional hemorrhage and truncal hemorrhage, which is an important part of that.

Additionally, you know, we're at a point where we have a real revolution on our hands in terms of turning data into information. In some sense, we're asking a lot out of a medic. We have a fairly young person who probably has had 16 weeks of training plus the training they get as they go and we're asking them to make life and death decisions. Computer technology is available and good and can really help with those decisions.

So we have a set of projects applying information technology to medicine all the way from the field level into the ICU. You'll go see the Burn Center tomorrow. There's reams and reams of data available on every patient. The key is taking all that data and turning it into information and acting on it in a timely manner. So we're working on ways to, as an example, do a computer analysis of characteristics of the individual heart rate or individual beats of the heart to determine probability of ongoing hemorrhage and highlight that: Hey, this patient is probably stable and okay for now. This patient, you really need to pay attention;

they're degrading quickly.

You know, one thing I didn't highlight here is that the majority of the injuries are to the extremities. That's just a fact of body surface area and what's not behind body armor. Those injuries are not only the most common, they're the largest source of hospitalization costs and the largest source of disability, and we've done a series of data analysis projects to show that.

So we have -- and this probably matches what you know about soldiers either at retirement or getting close to it, is that a lot of joint injuries and problems in those sent. So there's a tale here of orthopedic injuries, both traumatic as well as, sort of, just the use and overuse injuries, that are going to follow from this effort that really take -- that really require our attention.

We're doing that through collaboration with the Armed Forces Institute of Regenerative Medicine and work at the ISR to address those orthopedic injuries.

DR. DICKEY: Any questions? All

right. We thank the entire team from the ISR and we look forward to actually seeing the facilities and the opportunity for more exchange tomorrow. Thank you very much.

Why don't we take a 15-minute break. That leaves us two briefings after the break. Okay? I know we have real difficulty with time here, but let's try to be back at 2:45 Central Standard Time and we'll see if we can get our last two done.

(Recess)

DR. DICKEY: I've assured Ms. Bader that this is not all lighthearted; that, in fact, some of our best work gets done in the opportunity to interface with one another during the breaks. Nonetheless, we still have two briefings yet to go.

Our next briefing of the day will be delivered by two of our very own; Dr. George Anderson and Dr. Eve Higginbotham. Dr. Anderson is the Executive Director of the Association of Military Surgeons of the United States; a nonprofit society of Federal health agencies. Following his medical and public health

education, he began his professional career as an Air Force flight surgeon. His military service included overseas duty in Korea and Germany as well as aerospace medicine leadership positions in the United States.

As Commander of the Human Systems Center, he directed Air Force organizations responsible for life science research, development, acquisition, and education. Dr. Anderson also served as the Deputy Assistant Secretary of Defense for Health Service Operations and Readiness.

Dr. Higginbotham is a Visiting Scholar for Health Equity at the Association of American Medical Colleges in Washington, D.C. Recently, she served as Senior Vice President and Executive Dean for Health Sciences at Howard University, where she provided oversight for the Howard University Hospital, the College of Medicine, the College of Dentistry, the College of Pharmacy, Nursing and Allied Health, and the Health Sciences Library.

Dr. Anderson and Dr. Higginbotham conducted site visits to the Department of

Defense Centers for Deployment Health and are going to present their findings and proposed recommendations. Board members may find the presentations under seven. We're one tab off here.

Without further delay, Dr. Anderson, I understand you're going to lead off.

DR. ANDERSON: Yes. Thank you, Dr. Dickey.

Dr. Higginbotham and I considered doing this as a duet, but we thought better of it, so she will jump into the fray here along the way. Also, this was a team of four, with Colonel Hachey and Hillary Peabody involved in all of these visits, and it was really a pleasure to work together to do this.

I will tell you, by way of informal introduction, the report is at Tab Seven and it makes some interesting reading. This is very complex and we're going to get around to talking about centers and Centers of Excellence and so on. And, you know, you've seen already today about issues related to command and control and direction and funding and so on, and they all come

to play with these centers as well. So I'll get on with it right away.

We did visit three centers and they're going to be presented along with a set of recommendations. This is the overview of the presentation this afternoon. So the focus is on Armed Forces Health Surveillance Center, Naval Health Research Center, and the Deployment Health Clinical Center. This is the question, and you'll see it relates to times past with the Armed Forces Epidemiology Board requesting oversight. And here you see the DoD Research and Clinical Centers for Deployment Health. And don't worry so much about the terminology right now; it will become more clear as we move through this.

This is the background/history, with AFEB memorandum looking for the review. And reviews at both centers. And I talked about those two previous ones in 2004 and five. And in 2006, the Defense Health Board came to be. In 2008, the Armed Forces Health Surveillance Center was established as a third Deployment Health Center. And there's a 2010 Defense Health Board report on the Naval Health Research Center, which

is the designated Defense Health Research Center, in the context of this deployment health issue. Tasking then was assigned to Dr. Higginbotham and myself to do this site visit work.

So in December, we went to the Deployment Health Clinical Center and then, on the following day, we went to the Armed Forces Health Surveillance Center, and the Naval Health Research Center in January. However, we will present them in a little different order. We used this model of Performance Driver Model. And you hear us talk about performance within each of these centers. It's a result of the model used for the analysis; strategy, process, culture/people, structure and programs. Ranking of the program value and priority was outside the scope of the report, and so with a one-day visit, it's very hard to look at the value proposition for each of those programs.

So we'll jump right in here and do the Armed Forces Health Surveillance Center first. Established in 2008, but many of its functions existed prior to that; notably, the GEIS Operation, the emerging infections operation

became part of it. A single source for DoD-level health surveillance information, and as I mentioned, legacy organizations were combined, some of which have been around for many years. The Army is the Executive Agent, and functional oversight as stated there, just as you would expect.

Mission: Comprehensive health surveillance information and support to the U.S. Military and military-associated populations. Central epidemiological research for the Armed Forces of the United States and the Military Health System.

Structure: As you might expect; data, epidemiology, communications, standards, training, GEIS Operations, which, again, were legacy, but that's emerging infections. It all fits together nicely.

Key findings. Mission and strategic goals in alignment with founding mission statement and goals. Funding is primarily Defense Health Program funds, yearly budget. Managed by the Army as Executive Agent. Oversight by the Secretary of Defense, Personnel

& Readiness, Force Health Protection Integration Council with administration by the Army. So you'll see these are positive comments.

Communications robust, regular meetings, clear organizational chart, strong external communication with Services/DoD, processes for operations and quality assurance are sound, rigorous review panel and process for reviewing requests, data feeds robust. Key words. All very positive words.

People and Culture. Staff are highly qualified, very experienced physicians, MPH/PhD researchers, collaborative culture, strong leadership. There are many contractors within the staff, but what you find is that the contractors were previous military to a large extent. So these are very well-known, nicely working community of professionals.

Key recommendations. Secure long-term funding. Again, very interesting when you ask about what's the future outlook. It gets back to, where is the money going to come from in a long-term way? And this is where the Serum Repository is and so on, so it's not something

that's going to end. There is going to be long-term function here, but they're not exactly sure, at the organizational level, about future funding.

All right. Now, the next one is complicated, but you have sometimes individual Service liaisons in these divisions. Let's say you're the Air Force liaison here and you're 1 deep. Well, if the Air Force deploys you from that position while you're the single liaison, all of a sudden, the Air Force doesn't have the contact with surveillance of the health of the Force. So this is force health protection ideas. And we believe that, even during combat times, it's important to protect the Service liaison position so that they don't get assigned there as a 1 deep representative and then get deployed. It hurts the organization and it hurts the service.

Improve data collection processes in theater. I mean, you've heard something about that, but it's true for disease surveillance and epidemiology as well as other things. Preserve GEIS laboratory network. And, again, that's the

emerging infections operation. Again, there's a lot more data in the report, a lot more information in the report, but these are the rough recommendations.

I'm going to move now quickly. We'll take questions later, if that's all right. I mean, we could handle them one at a time. This is the Naval Health Research Center in San Diego, and that picture tells a story. They've got some of the most impressive real estate. It's on Point Loma overlooking San Diego Harbor. It's absolutely a magnificent location. Again, Naval Health Research Center. It was appointed as the Deployment Health Research Center in 2001, so it maintains its title. It's the Naval Health Research Center, but it is a Deployment Health Research Center for DoD.

Added Deployment Health Research Department to achieve this mission. Reports to the Naval Medical Research Center under the Navy Bureau of Medicine and Surgery. It does conduct DoD health and medical research, development testing, evaluation and surveillance.

World-class health and medical

research solution anytime, anywhere. Conduct health and medical research, development testing, evaluation and surveillance to enhance deployment readiness of DoD personnel worldwide.

Structure. It's organized by research departments. And you can read through those. The HIV/AIDS programs, those actually are the ones that are related to the Department of State, and the people working those programs were quick to say this wouldn't necessarily have to be in this lab, but it works well here. So that's another interesting area that's funded separately and so on.

The operational infectious disease. You heard me mention already that, at the Surveillance Center, you have the GEIS operation and so on, emerging infections. Well, this is a different kind. This is infectious disease research more, so there really isn't a conflict between the surveillance operation in Silver Spring and this operation in San Diego.

Key findings. Mission and vision strongly align with ASD initial concept of operations. Funding is primarily received from

a variety of competitive sources. There is some programmed funding; notably the Millennium Cohort Study, which they manage. However, a lot of their funding comes from project-level client sources. Again, that makes funding over long-term uncertain in the minds of those who are operating the programs there. They actually get some money from GEIS, as you can see. So they work very closely together. BUMED is considering organizational realignment once again.

Central location promotes research partnerships. They really like the idea of being in San Diego. They have some agreement civilian partners that they work with out there. Strong internal communications and collaboration. Safeguards in place to protect large databases.

Staff are experienced, credentialed researchers. Collaborative culture. University and operational partnerships bring in additional staff and interns.

Key recommendations. Maintain the Naval Health Research Center stability in any future BUMED reorganization. DoD should

continue to fund key longitudinal research projects; the Millennium Cohort Study. The Millennium Cohort Study is adding the family side, but it doesn't have even the same stability of funding as the original cohort study. So those are issues regarding the future of those long-term studies.

Extend successful pilot projects that are not currently Tri-Service to all Services. These are recruit assessment studies and so on. Reassess Family Study child enrollment process. More comprehensive strategy would strengthen.

Okay. Just a reminder before we move to the next center. The Naval Health Research Center is the place where they're capable of typing influenza virus. They actually are a major feed in the CDC. Frankly, that part of their operation is a national treasure. They have the equipment and the expertise to do research level, but also, you know, internationally-acclaimed surveillance work on influenza in particular. Very impressive.

DR. HIGGINBOTHAM: They're also the ones that noted the first cases of H1N1 in the

world.

DR. CARMONA: Rich Carmona. Just a question. As we look to the future and look to the challenges that we face as a nation, where, you know, geopolitical borders sometimes become a challenge, how far have we moved, as far as Jointness, with sharing this information?

So, you know, as I look at emerging infections, we have naturally occurring emerging infections mutations, but we also have the bioagent threats that we have to work with. CDC has its own network with WHO, PAHO, and such. We're kind of tied into that. Are we moving more toward achieving true inter-agency relationships that, you know, have us functioning singly, as one large organization in sharing information in a timely fashion to be able to detect threats and challenges?

DR. ANDERSON: We didn't probe particularly that question at either the Surveillance Center or this one, but we did learn, as we went through the process of reviewing, that they are very well connected in terms of communicating. As you know, they're building

new facilities and new organizational entities at Fort Detrick. These people are all in communication. So, again, we didn't -- you know, we can't report officially that that's what we went out to look at, but they certainly report being connected.

The idea of this influenza surveillance and actually being the reporting agent for that is impressive, and that's why I say it's a national treasure. That goes straight to CDC and then right to WHO. So I think in that regard, yes.

DR. HIGGINBOTHAM: This is Eve Higginbotham. At the Naval Research Center, they talked about the PEPFAR, and you alluded to that, but that's the President's emergency preparedness related to AIDS relief, and so they're in contact with foreign governments all the time, and so, in this sense, they are actually structurally global in that sense. But I agree with the Major General, that the base organizations are well positioned to be, you know, very fluid in their communications.

DR. ANDERSON: Yeah, the HIV/AIDS

communication internationally is tremendous. I mean, they are in the relevant embassies essentially. However, I don't know how that spills over into the other more broad, global emerging infections.

DR. CARMONA: This is Rich Carmona. Just from my own experience, again, agreeing with everything you said, but there's a chronology that's just kind of lumbering along that is not as robust as it should be, especially as it relates to the threats of the Nation. And when we look at whether it's a common flu every year with the mutations that occur and trying to figure out what vaccines we're going to use, all of that information comes from overseas, as you know, a year in advance; as opposed to any of the actors internationally who may be considering using bioagents and our surveillance system to pick up any increased incidents prevalent to disease in a timely fashion, get the information back to the appropriate places.

When I was still on Active Duty, that was moving along, but still was not quite aligned. And I think that that's -- just putting for the

record, I think that there should be much more discussions so that we can act as a seamless, integrated system, for instance, as it relates to any emerging infections, whether manmade or naturally occurring, so we have all the early warning and can protect our troops. When, really, the division between protecting the troops and protecting the public is almost becoming a skill now because of how rapidly any of these challenges will come upon us.

DR. ANDERSON: Yeah, I assure you that the people at the Armed Forces Health Surveillance Center will agree with you and are lined up along that vector.

If it's okay, I'll move along with this one and then we'll get to some recommendations. I think we might take some of this as future action to look at.

So this would be the Deployment Health Clinical Center, which is, again, in Silver Spring. It was founded back in 1991, so this one, as an entity, really is now getting to be an old entity. It was re-established in 2001 and transitioned to a component center, a DCOE, in

2008.

And I will foreshadow a bit here. We actually were not aware of some GAO findings relative to DCOE when we entered into this review. Later on, we discovered those things. And we've got some follow-up slides for you after the presentation to compare what we found versus what some of the recommendations from GAO on the DCOE would be.

So this organization was located at Walter Reed in Silver Spring. Funding provided by DCOE as well as from extramural competitive research dollars.

Assigned missions by ASD, Health Affairs; clinical care, development of health care delivery strategies, risk communication, prevention. Assessment of treatments, service strategies, technology. Use of health information systems for population-based approach to Deployment Health Care. This is clinical now, Clinical Center. Continuing education, evidence-based military continuing education program for providers and patients. Clinical care, clinical research, and continuing

education.

Current mission as stated: To improve deployment-related healthcare through caring assistance and health advocacy for military personnel and families, while simultaneously serving as a Military Health System resource center and catalyst for deployment-related healthcare innovation, evaluation, and research.

Structure. Specialized care programs, Tri-Service Intensive Outpatient Program synchronization, RESPECT-Mil, health systems research and evaluation. Education and outreach. Okay, you can read more about those.

Key findings. Operational drift away from ASD, Health Affairs, assigned mission. Activities narrowly focused on mental health. Project-based focus rather than comprehensive systems approach.

Processes. Limited communication with Services other than the Army. Evaluations of research projects lack cost-effectiveness studies. Staff well qualified to meet current activity objectives. Two-thirds possess a masters or higher. Researchers are primarily

mental health specialists. DHCC lacks Tri-Service representation in its staff. It's fundamentally an Army operation supported by contractors, which are mostly under a single focus through the Henry Jackson Foundation. Nearly 90 percent are staff or contractors from one contract.

Key recommendations. Develop comprehensive strategic plan, broaden Service liaison positions to include all Services, develop standard evaluation/assessment processes, ensure staff composition supports strategic goals, assess cost-effectiveness for all research projects.

So that was the Clinical Center and, as you can see, the tone of that one was dramatically different from the previous two. And we'll give you some overarching recommendations, and then I would beg your forgiveness for moving to a couple of additional observations, which might move to another set of actions in the future.

So our overarching recommendations include Health Affairs, conduct a performance review of DoD Deployment Health Center's

activities, projects, and programs aimed at ensuring that funding levels are aligned with current operational priorities. And, clearly, you know, we're looking at overlapping responsibility areas. As I said earlier, it's very difficult for us, in a one-day visit, to determine value or, you know, relative value to programs that might have similar desired outcomes. So, really, a performance review.

Periodic review of strategic goals, funding at each center and report to the ASD, Health Affairs, specifically. Mission and vision of the centers at least every three years to ensure alignment with needs. Budgeting resources review yearly, which I think is what you do anyway, or should be doing anyway. And then metrics-drive strategic plans for each center, related to the three-year review.

A number of programs within each center that share common elements with one or more centers. Although these programs have unique missions, active interchange between the Centers to leverage mutual programmatic strengths may enhance program effectiveness. I mentioned

already that we found, in some cases, that works really well; in others, it doesn't seem to be as well connected, which is logical.

So we would like to suggest that the Defense Health Board revisit the Naval Health Research Center and the Armed Forces Health Surveillance Center in two years and the Clinical Center in one year.

And with that, maybe I'll -- we could take some questions, but I'd like to show you just a couple of these back-up slides. These are relative to DCOE, and GAO reported on DCOE in February 2011, and you can see the underlines there. And so DCOE is related to the Clinical Center, and particularly the mental health or the psychological health, and, in some cases, TBI work.

Some of the functions at the Clinical Center are currently being transferred to NICOE, the National Intrepid Center of Excellence, so there's already a move afoot to move some of the clinical performance there. Then in June 2011, establish, collect, and review data on component center funding and obligations. These are the

component centers of DCOE. Development can coordinate quality control mechanisms, obligation expense data, and psychological health and TBI projects research.

So I know that Health Affairs is well aware of these GAO findings, but what was interesting to us is that, as I said, we hadn't actually read these GAO finding sheets and recommendations until after we visited the Clinical Center, but we absolutely agree with them.

So that's it. Are there questions?

DR. DICKEY: Thank you for your work and your time commitment to achieving this. This was one of the issues that appeared to be at some risk, as we failed to have reappointment by subcommittees, and so thank you for stepping up, and Ms. Peabody and Colonel Hachey for staffing the travel and the writing.

You have before you the presentation of three important centers. You have a set of overarching recommendations. This is an attempt, I think, to -- there are some recommendations seated throughout the document

that you received. I think this is -- the recommendations that appear on the last three or four pages, slides 39, 40, 41, are an attempt to consolidate those recommendations. So are there comments or questions?

Dr. Higginbotham.

DR. HIGGINBOTHAM: I just wanted to -- I think Dr. Anderson did an extraordinary job of summarizing the findings, but I wanted to highlight a couple of data points for the Committee.

The Armed Forces Health Surveillance Center with the Serum Repository is absolutely a national resource. I mean, when you consider that they house the serum of millions of enlisted Warriors, it's just amazing. And so one of the points in the summary is that, on an ongoing basis, I think it's going to be important for the Defense Health Board to help this unit and the Department of Defense to balance the opportunities that modern technology provides to learn more about the pathophysiology of disease versus the needs of the military and the Department of Defense.

I think that's going to be an ongoing tension because, when you consider the aging of these warriors who have given their serum and the fact that we're going to learn more and more about their disease states over time, there's a great opportunity to actually augment the general knowledge about diseases, but I recognize it's critically important that the needs of the military remain central.

I think the issue of funding is an important one, because something like the Serum Repository, you just really have to make sure that that stays sacred and well protected from any volatility in the funding stream, so that's another point. But I think the first two centers that were reviewed, it's like night and day when you compare those two centers to the last center, so, you know, and that's why we're recommending going back to the last center in one year.

DR. ANDERSON: And I appreciate the comment about the overarching recommendations, but I was quite serious in our finding about protecting liaison officers. That is a serious operational impediment if 1 deep people are

deployed, so that's something to keep in mind. And I don't know how to -- you know, we need to say something about that and hardwire it in.

The other thing, from a process standpoint, it was fascinating, because Dr. Higginbotham really went into this without any preconceived notion and I knew some of the people at these various places, so it was an entirely, you know, different thing, but I think we both came out with exactly the same ideas about what we saw and what needs to be done.

DR. DICKEY: Dr. Carmona.

DR. CARMONA: Rich Carmona. Again, George and Eve and the team, excellent. Hillary, including you; I don't want to forget you back there. You guys certainly do a great job.

I agree with everything you said. I want to maybe point out a few things that are obvious. I think back to about five years ago, when George Casey called General Franks and I to help out on this concept of Comprehensive Soldier Fitness, and the whole issue, we spent two or three years trying to formulate a path forward, and there were so many of these islands of

excellence within our Services doing things and it became very complicated. A lot of well-intentioned people, but it was hard to get anything, you know, concisely -- resources aligned to move forward.

And so as I look at, for instance, the assigned mission by ASD(HA), development of health care strategies, risk, communication, prevention. Prevention itself is huge. I mean, we're dealing with everything from obesity to bioterrorism. And, as you know, one of the number one reasons our kids fail to stay on Active Duty is obesity, because of diabetes, hypertension, or failure to pass your PT test.

So I'm just wondering to both of you, is it possible to put all of this under the same tent easily and be able to meet all the needs of our Services? So, I mean, I'm not disagreeing with anything. I'm just saying that, since 1991, when this first started at the Gulf War, the world has really changed and we understand a lot more science and there's a lot more challenges, and I'm just trying to get my arms around this to say, what's the best structure that we can be lean, and

mean, affective, efficient, and address these issues.

DR. ANDERSON: Yeah. I think it's very clear from what we reported that what we saw is not the optimal way to do things. And, I guess, on the one hand, from 1991 establishment, the argument might be that, well, the operational drift of this organization is appropriate because we're now focusing on concussion and TBI and so on, psychological health more. However, the mission was much more broad and comprehensive, and we believe that that mission needs to be accomplished.

Now, we also have talked a bit about Centers of Excellence in this context, and I'm not sure the right answer, but I think Defense Health Board probably should get more deeply involved in understanding the full scope of organizational disconnects among centers and so on. We said some things about that, but we only visited three, so we can tell you about these three. I think that General Gilman could have something to say about this. And you heard a lot about command and control issues this morning, some of those same

issues probably apply in this clinical research area. And I think, for future, I mean, I would take your underpinning question -- or the concern underpinning your question as a source for an action item future. We probably need to get our arms around this.

DR. DICKEY: Thank you. Good question; good response. Questions?

This is an action report and so we do need to take action on the recommendations. Allow me -- the Chair usually does this. If you'll turn to Slide 40, which is actually page 20 of your PowerPoint. Throughout your report, I heard substantial budget -- yes, okay. So I want to briefly address Two B and Two C.

Throughout your report is threaded the concern everybody who lives on a legislated annualized budget has, and that is: Okay, so I made it through this year. Will I exist next year?

And so I read something much stronger than what I see in Two B, review budgeting, and since we are, in fact, an entity that makes recommendations to the DoD, I wonder if what your

report really wanted us to do was perhaps intertwine and flip these? So create metrics-driven strategic plans for each center every three years and encourage or -- some good, strong word there -- adequate budgetary support to accomplish that?

DR. ANDERSON: Yeah, Madam Chair, but we actually bounced the wording of these around considerably, and I guess I could refer to Mr. Middleton also on this, but we mean by this that performance related to budgeting. The whole value proposition needs to be explored on an annual basis, so we want to be sure that the allocation of resources is appropriate to these three centers. And some of them, we've made it very clear that they were functioning very well and others not so much so. We put the one-year annual -- which is probably related to the fact that we're sort of operating on a one-year budget anyway these days, but the fact is that you can't wait for three years to look at the value proposition. So that's what we intended to say there, was that you need to look at strategy and those kind of things at least three years, but the

budget -- you know, the resource implications need to be looked at much more frequently.

DR. DICKEY: I'm not sure, Mr. Middleton, we can do this, but I think I'd still urge us to choose language a little stronger than review. I hear what you're saying, you need a little longer to envision, but if we're simply reviewing it, we may be reviewing it as it disappears, as opposed to encouraging.

DR. ANDERSON: This is Anderson again. I think the team, looking over my shoulder, would accept an amended wording of that review to be re-stated as "ensure appropriate budgeting."

DR. DICKEY: There you go.

DR. ANDERSON: You know, I think that's what you do anyway.

DR. DICKEY: Sure.

DR. HOVDA: This is Dave Hovda. I've heard you use the word "value" a lot with regard to the research initiatives at some of these centers, and usually in the academic institutions, value is placed on peer review by recognition from the National Institute of Health or prominent publications and those types of

things. And I agree with Chairperson, that the language needs to be reflective of the verbiage that you used when you were presenting the slides.

It wasn't necessarily the dollar amount that you're trying to review on a yearly basis, but it's what kind of bang you're getting for your buck and are the resources there appropriate. And in some cases, they may be too much because there's a feel that it has not been moved to progressing well or designed inappropriately. In some cases, it's not given enough support because it's right on the cusp, and it's like a low-hanging fruit and it's got to be given extra emphasis.

So if there's some way we could amend it to include the word "value," since that's what you wanted -- that's what you said a lot. In terms of -- at least in terms of the research effort, I thought that would be appropriate.

DR. ANDERSON: We used that performance model, and if you look in the first sentence up there, it's really strategic goals, funding and performance, and the relationship to funding and performance was intended to give it

value, but we could certainly make that a different kind of wording. Really, we do want to signal that the DoD is getting the best value for its investment in these programs.

DR. HOVDA: Yeah, my only suggestion would be to have it reviewed by an internal. Like, it was so great to have somebody who didn't know anybody that came in, and I think that if you had an external peer review, that would help.

DR. ANDERSON: Sure. And, by the way, many of these programs are academically reviewed and they do publish a lot, but your point is well taken. And that's really for -- this actually gets back to what Dr. Carmona was talking about also. I think DHB needs to have an umbrella process by which we look at all of these centers in the value concept.

You know, this was the two of us with staff support. We spent one day at each place, so we couldn't really assess the funding versus performance and get a value, but we believe that that needs to be done systematically across all of these various centers. It's very difficult to understand when you're at one center talking

about their relationship with others and you know that there are overlapping activities going on, you know, particularly in the psychological health and TBI arena right now. So you're on the money, but how we do that, I think, is another issue.

DR. DICKEY: One of these days, I'll learn; probably about the time I finish my tenure. So one opportunity would be to vote the recommendations as they are in front of us, but we've had now several comments that have suggested that, perhaps, we need to go up a level, and it's within our purview and what we've been tasked to do to come back to an internal Board discussion now, particularly with the insight of the recent visits, and perhaps have a conversation about what our role or a subcommittee role might be in terms of attempting to -- and I'll just toss out some words -- but seeking alignment between the centers or appropriate feedback to the Assistant Secretary regarding the value proposition. It may not be center by center; it may be topic by topic, for example. And identify some best practices or

maybe some of these centers that are doing a better job seeking external funding and not depending on legislative funding, et cetera.

So one alternative to attempting to wordsmith here as a group would be to adopt the recommendations, or some subset of them as they are before you, with a commitment over the next couple of meetings to come back, hopefully, with all of our thoughts kind of aligned to where we would go next.

Dr. Carmona.

DR. CARMONA: Madam Chairperson, my intent was, once our colleagues made the recommendation to accept these with the changes, that I would suggest just that; that an addendum to that, with the information, to be able to look at this more broadly, to achieve economy to scale, give a DoD centric look, and, where possible, achieve economy to scale efficiencies that otherwise are not being appreciated, but recognizing that there are some times unique Service needs that cannot be rolled into a larger issue, and that needs to be discussed as well.

DR. DICKEY: I hope our court reporter

is collecting some of that extraordinarily good verbiage.

DR. CARMONA: You get lucky once in a while.

DR. DICKEY: And that's about the time somebody says to me, could you repeat that? And I go, no.

Okay. So you still have before you recommendations by your --

DR. ANDERSON: Yeah, and just a quick response, and this may be the time for the duet, but, you know, the fact is, we agree, and we went out as field team and observed and reported to you. We did not come back with an overarching solution to the kind of things that you're getting at.

DR. DICKEY: It's not really what we asked you to do.

SPEAKER: That's exactly what I was going to say, but I think what you did and your team did was to open the door for the discussion, recognizing that there are broader challenges than just what you looked at?

DR. HIGGINBOTHAM: Just another

highlight that I intended to also -- Eve Higginbotham, Defense Health Board. Another highlight is that -- I mean, just getting back to your comment about, you know, just making sure that this is more collaborative, and this is really more of a partnership. The Armed Forces Health Surveillance Center, from my perspective, really is the model. I mean, they have the physical space that's very open, that encourages collaboration. They're all professionals. And, you know, certainly, the budgeting issue is an issue and that needs to be addressed, but I think there are, you know, little hopes of -- little positive lights here. Not a thousand lights, but a positive light here and there within this report that we can actually build upon for the future. But I think George and I just scratched the surface and it was very limited, and that point has been made several times.

DR. DICKEY: Okay. I will put it back to the Board. You have an action report before you and I seek your direction. What would you like to do gentlemen, ladies?

DR. HOVDA: This Dave Hovda. I move that we accept the recommendations with the appendix as suggested.

DR. DICKEY: The motion to accept the recommendations, including the additional language that Dr. Anderson gave as at the end?

DR. HOVDA: Yes, ma'am.

DR. DICKEY: Is there a second to that?

DR. BALDWIN: Second. John Baldwin.

DR. DICKEY: Seconded by Dr. Baldwin. Is there a discussion? Dr. Carmona.

DR. CARMONA: Madam Chair, I would like to add to the record a recommendation that we broaden our look, and a more comprehensive integrated look, at how we might further the work that Dr. Higginbotham and Dr. Anderson and their team have done by looking at opportunities to reduce redundancy, increase economies of scale and efficiency, but also being sensitive to the unique needs of each Service, which may direct us that they may have standalones, but let's look at how we can fit most of these needs under an overarching umbrella.

DR. DICKEY: Thank you. Is there a

second to that?

DR. HOVDA: Second. Dave Hovda.

DR. DICKEY: So you have now a motion and a second to adopt the recommendations as they appear before you, with the additional language of Dr. Anderson and the amendment suggested by Dr. Carmona. Is there further discussion?

Hearing none, all in favor, say "aye." Opposed, no? Anybody who needs to abstain?

All right. Thank you very much. This continues the really good work this group has done today, and I thank you, but you're not quite done yet. Dr. Gandy, we've done this to you a couple of times.

Our last briefing of the day will be delivered by Dr. John Gandy. Dr. Gandy is an emergency medicine physician with Shenandoah Emergency Physicians in Woodstock, Virginia. He recently retired from the U.S. Air Force, with his final duty station at the Air Force Flight Test Center, Las Vegas, Nevada, where he served as Chief of Aerospace Medicine, Detachment Three. In addition, Dr. Gandy participated in numerous world-wide deployments supporting Special Ops

Forces. Dr. Gandy will present a decision briefing regarding the addition of ketamine to Tactical Combat Casualty Care Guidelines for Board deliberation and vote. Board members can find the slide presentations under the Tab Eight.

Dr. Gandy.

DR. GANDY: All right. Well, looking at the clock, there's only about eight hours and 24 minutes left of Fat Tuesday. And those of you who are going to start your Lent, that's all the time you've got left. And I only plan to take up about half of that time with my presentation and then let you guys get out and do whatever you need to do in San Antonio.

It's always bad to start with an apology, but I apologize to all of you guys, especially those of you who are hearing this briefing for the third time. I was going to add some new jokes and then I found out there was someone recording what we say and I didn't want it to sound like the Watergate tapes with big lapses in there, so I had to take some of those out.

But I think most of you are familiar

now -- we've talked about it at the last meeting and at the TCCC meeting -- but we're discussing adding ketamine to the Tactical Combat Casualty Care Guidelines. And just to let you know, those Guidelines are pre-hospital guidelines. Those are for combat medics before they get to a BAS, before they get to a Role Three. They're not intended to extend on into clinical practice guidelines of licensed practitioners further down the road. They're meant for our combat medics in the field, point of injury backwards, to the Role Threes.

I want to talk a little bit about why it's important to have pain control, a little history, current state, and then get into the ketamine-specific information.

So what are the consequences of untreated pain? We've kind of talked about this before, but I think, you know, when we look at all the successes we've had on the battlefield, as far as saving lives and saving limbs and getting warfighters back home, maybe one of the areas that we've under-served them is the treatment of their pain while they're going through that process.

And the problems with not treating the pain are sensitization of pain pathways; chronic pain syndromes, that most of you are familiar with; short and long-term narcotic abuse; narcotic addiction; depression and suicide.

I had one of my esteemed surgical colleagues, who's not in the room at the moment, tell me recently, "Well, nobody ever died of pain." And my comment back to him was, "Well, nobody ever died of pain today, but maybe two years down the road or three years down the road, they died because they were in pain, you know, from depression and suicide and post-traumatic stress disorder."

So the history, as long as the guys have been going out and hitting each other with heavy things and causing injuries, they've been looking for ways to treat the wounded with some way to take some of the pain away. Morphine was isolated in 1803 and then became a real big battlefield hit when the hypodermic needle was put into use, and then morphine was very widely used as far back in our country as the Civil War.

And, you know, as we've gone forward,

we've made great strides, because we used it in World War One and World War Two and every war we've had since then. Morphine has been our mainstay of pre-hospital pain control, and usually as a single agent, not other agents involved; just morphine. And we'll talk some more about that in a minute. But it's been the Gold Standard. It's reigned on the battlefield for more than 150 years. Many people in the anesthesia and pain management fields think that it's an outdated medicine. Not there's not role for morphine, but that there are better options out there.

And as we introduce ketamine today, we're kind of working down that path of kind of introducing, step-wise, new medications that we feel can be used effectively and safely in the pre-hospital environment, so more to come on that as we talk about what our options are.

So I think I gave you guys this quote last time, but "Pain control in Baghdad in 2003 was the same as in the Civil War; a nurse with a syringe of morphine." So, you know, whether you got the syrette that I trained on in Corps school in 1980 or the auto-injectors that are currently

out there and still out there.

So what's wrong with morphine? You know, I use it in my clinical practice in the emergency room very often, but very few of my patients come in with both of their legs, their testicles, and an arm blown off. You know, not many of them do I see like that. I see a broken femur, and, you know, a few doses of ketamine and a little traction, they feel a lot better. But, you know, I don't see those kind of horrific ripped off limb, blast-thrown type injuries on a daily basis.

So morphine -- this is kind of redundancy here -- but it's a slow onset of action unless it's given IV, which means you have to start an IV. Right? So that takes -- I always tell the medics when I'm training medics, "How long does it take you to start an IV?" And they always tell me, "Oh, I can start an IV in three minutes." And I say, "Ready, go."

So that means you've got to get it out of your pack; you've got to flush the line; you've got to get your kit; you've got to find a vein; you've got to clean it; you've got to tourniquet;

you've got to get it started; and you've got to get it secured, and usually it's more than three minutes, even on people that get it on the first try. You know, it's easier in the trauma room where you have all that hanging. You know, you've already got the pre-hung bags, but in the field, you don't have anything hanging already; it's wrapped up in your rucksack, so it takes a while to get the IV, and then it's a slow onset unless you do it that way.

Time after time, the combat medic will tell you that they don't get good pain relief from the morphine in a severely-injured patient, especially because the majority of them are delivering this drug to the patient through the intramuscular route. And when we did the conference on -- First Responders Conference, we had all these junior medics up there talking about treating these horrendously-wounded people, and they would say -- you know, in their presentation, they'd say, "And we gave them 10 milligrams IM morphine." And at the end, Captain Butler brought them all back up and said, "Okay, when you treated that guy, his pain was what?" "Ten out

of ten." "Okay, when you transferred him an hour later to the helicopter, what was his pain?"

"Ten out of ten."

So saying that you're treating pain with something that doesn't make your pain go away is really -- you know, you're just filling a block, "Yeah, I gave him the pain medicine, boom," but you didn't treat his pain. You didn't make his pain less than it was. And it may result in hypotension and respiratory depression, like most narcotics. The therapeutic index isn't that great, especially in people that may already be hypotensive and, certainly, in our head injury patients. You know, just one episode of hypotension and hypoxia can increase your secondary brain injury pretty significantly, affecting your outcome.

So we have this -- I would like to put the slide up here that shows you exactly what the Combat Medical Medic Survey looked like with all the -- what they used, how many guys used it, what Service they're from, but for some reason, they decided to make it FOUO, so we can't put it up because, you know, who knows who might be sitting

in here and see that data, but I'm going to tell you what it says anyway.

If you look at all the combat medics who have gone online and done this survey, 350-something medics -- and they have to have treated casualties in combat. You know, you can't just be like in an "in the rear with the gear medic." You have to have actually been out and doing something. All right?

So the most used agent on the battlefield was morphine IM. The second most common was morphine IV; fentanyl lozenges; and then ketamine. Okay? So the morphine IM, most used and had the lowest rating on the rating system zero to five -- or one to five. Had the lowest rating; the most used, the lowest rating. IV, a little better. Fentanyl, a little better. The least used, the one they had the least amount of experience with, but the one that was rated the highest was ketamine. It was 4.8, something like that, out of five, as far as getting rapid pain relief in the field setting for severe pain.

So what's out there now that the guys can carry? So, you know, NSAIDS, and Tylenol[®],

IM morphine, IV morphine, fentanyl lozenges. Even those are not widely distributed to troops because of the logistics of getting them and getting them approved for use in -- mostly they're in Special Operations Units, and they work. In my experience, they work really well. If one doesn't work, the second one works better, you know, usually. If one is good and then they're not quite there, two is better.

And, you know, even with fentanyl lozenges, there's a lot of FDA pushback because it might be a dangerous drug. And if you look at the FDA data, what they're worried about -- it's a totally different setting than the combat medic who is giving one fentanyl lozenge to one patient to use right now versus going home with a box of 50, you know, from your pharmacy and eating them all that afternoon. All right?

And that's the overdoses that we -- some people cannot be trusted with 50 fentanyl lozenges, just like the patients that come in with four or five fentanyl packages spread around their body. You know, they're self-administering because they like it. All

right? So that's a totally different thing than one medic giving one patient a lozenge and letting him use it at his patient-controlled analgesia rate, you know, licking it as much as he needs to.

But, after that, you know, some of the Special Operations Units and the higher-tiered units, they're carrying other agents out there. They're carrying IV fentanyl, some Dilaudid[®], and ketamine. All right? But all these -- for the bread-and-butter combat medic, this is what he's got right here. He can't even start an IV -- or he can start an IV, but he can't give any medicine through it. All right?

And I told this story before, that one Navy Corpsman who was not allowed to give IV morphine, and his patient went from a ten to a five. And Captain Butler asked him why that was, and he said, "Well, I injected my auto-injector into a 250cc bag of normal saline and, amazingly, 30 minutes later, he felt much better than the rest of the guys. So they're smart; they figure it out, even if they have to break the rules.

So what's the future look like for combat analgesia? I think, you know, the buzz

word is "multimodal pain management;" meaning early treatment of pain with different classes of drugs so that you get decreased doses of each individual drug and don't push towards the side effect profile of any individual drug as much.

And I think new medications, if you -- like, say -- if you go out in the EMS -- if a patient comes to you on a Life Flight[®] helicopter from anywhere in the world to your hospital, the chances of them having had morphine is almost zero. They're going to have had fentanyl and they'll have Versed[®], but they're not going to have -- the nurses and the paramedics on that aircraft, they're not going to have morphine; they're not going to use morphine.

They like the fentanyl. It's quick onset and it's quicker offset. All right? So, you know if you get into trouble with respiratory depression, it's going to go away a little bit quicker maybe, and it's much more rapid onset from their experience. And then some longer-acting things, like Dilaudid[®]. And then new routes of administration for ease of use. We talked about the transbuccal or the fentanyl lozenge, or, as

we like to call it, the lollipop. And then the intranasal and transdermal is coming in the future as well.

I think we tried to cover this last time, but the administration of fentanyl and ketamine through the intranasal route is gaining popularity. In the civilian setting, they're using intranasal atomized fentanyl for pediatric fractures because it's rapid onset. They don't have to have an IV. They can get their x-ray done and have pain relief before they're ever on their way; versus stopping to start an IV, get the medicine, push it in. They just take atomizers, shoot into their nostril, and get them some pain relief pretty quick. Ketamine is being used intranasally for breakthrough pain from cancer as well as migraine headaches and some other uses as well.

Some of our European partners are using it on the battlefield now in the intranasal route. We have some folks in this country that are using it intranasally. They're having trouble getting the highly-concentrated ketamine. So, you know, you want the smallest volume atomized at the

highest dose and they're having trouble getting their hands on the higher concentration of ketamine, but they're finding ways to do that.

So what about ketamine itself?

Vitamin K is a derivative of PCP; NMDA receptor antagonist. And at lower doses, it provides analgesia and mild sedation. In higher doses, you can get dissociative anesthesia and moderate to deep sedation. It gained popularity in the U.S. in the 1990s. It's unique among anesthetics because pharyngeal-laryngeal reflexes are maintained and cardiac function is stimulated rather than depressed. Which if you've ever been in the trauma room in the old days when we'd give some of the induction agents and the young, healthy person who has been traumatized will be beating right along, and then we'd give him the induction agent and they'd drop off the edge of the table, blood pressure wise, and we'd go, "I wonder what happened." So we don't use those agents much anymore. But the ketamine will actually stimulate that rather than depress it, and it works reliably by numerous routes.

In the old days, we used to give

pediatric patients ketamine per-rectum to get them to lay still to get them over to the CT scan, you know, and without having to start an IV and go through all that. Just give it to them and they just lay still enough to go over there. They go with a tech and a pulse ox and do fine. So I don't know if we do that anymore, but we used to.

It can be used as a single agent surgical anesthesia in austere environments, anesthesia inductions, procedural sedation, perioperative pain management, cancer breakthrough pain, migraine, perioperative pain management. There's been several studies using narcotics, opioids, along with ketamine and decreasing the total amount of either one used, and decreasing the opioid as necessary to get pain relief and, in some cases, getting better pain relief.

Chronic pain syndrome, chronic severe depression. This is kind of one of those wazoo, out there kind of things, but people with severe depression, that even the ECT won't help them get out of, and then putting them in these two and three day ketamine drip comas, and right when they

wake up, they're like a new man. Not really sure why that is. It's NMDA receptor, something is going on there, but it seems to help. And if you think about -- like I always say, if you've ever seen somebody with chronic pain, usually they look like they've got chronic depression, in my experience.

Narcotic withdrawal; intubation sedation in severe asthmatics because it kind of gives you that bronchial dilatory effect. And, then, in the EMS system, if you've got somebody that's entrapped or under an aircraft or under a bus and you're trying to get them out and it's going to take a while, giving them some ketamine is a nice thing to do without lowering their blood pressure.

So, as I said, ketamine is on the battlefield. It's been on the battlefield for a while. It just hasn't been in the hands of every combat medic at this point. And much like all the other things that we recommended to TCCC, just because we recommend it doesn't mean it's going to get into the medic's hand. It took us a while to get a tourniquet into the medic's hand and get

them to use it, and we've been saying -- as you'll see earlier, we've never recommended IM morphine, but, still, that's the number one used analgesic on the battlefield. It's not even in our recommendations, but it's the number one agent that's used on the battlefield.

But here's some guys who are already using it; the anesthesia folks, the Special Operations Command tactical trauma protocols, the Rangers, and the pararescue handbook all have protocols in there for using ketamine. And most of them have them for analgesia and for procedural sedation, so a lot of times, the more advanced provider is certainly doing the procedural sedation. If they have to put a shoulder back in out in the field or put somebody's ankle where it looks like it used to be, it's a good drug to use out there.

Very favorable safety profile; few, if any, deaths attributed to ketamine as a single agent. And the ones that possibly were hundreds of times the therapeutic dose on people that were doing it for recreational purposes and so -- but as far as anybody overdosing in a clinical setting

on ketamine, it hasn't really happened. And this is from the FDA now; this is not from me. They say that ketamine has a wide margin of safety. Several instances of unintentional administration of ketamine, up to ten times that user required, had been followed by prolonged, but complete recovery. You may sleep a little longer than you would have wanted for, you know, getting your chest tube in and you're asleep for three days, but, eventually, you wake up and you do okay.

So this is a document I'd like to familiarize you with; the CPG for Emergency Department Ketamine Dissociative Sedation. This was just out in 2012. And we talked about last time some concerns about intracranial pressure and intraocular pressure, so we're going to address those just a little bit here and talk some about that.

The only absolute contraindications to using ketamine that they, in their review, have come up with is age less than three months. And as you can imagine, the airway in a less-than-three-month-old is pretty pliable, so

any time you take away any of their reflexes, there's a chance that they may have some early issues. And then known or suspected schizophrenia, so if you've got schizophrenia at all, they don't want you to use it, even if you seem to be controlled on your current meds, because you may become uncontrolled shortly afterwards.

The contraindications; relative risk may outweigh benefits. This is a change from their previous review. And, as you see, they have: in this update, they have removed head trauma as a relative contraindication for ketamine while retaining the previous concerns relating to CNS masses and hydrocephalus.

So they still are concerned if you have a mass lesion or hydrocephalus. They're still concerned about intracranial pressure issues. But if you look in the text what they said about the evidence for ICP, you know, they're saying: however, newer suggestive evidence indicates that, in most patients, the resulting pressure increases are minimal, assuming normal ventilation, and then ketamine's corresponding

cerebral vasodilatory effect may actually improve overall perfusion.

And so I think it's kind of that balancing act there, as we were talking about, with the anesthesia. There's always that balancing act that you're going to do with any medication, pros and cons, but I think it's -- oh, I'm sorry, and there's another paper here I'll show you in just a second. But in the doses that we're going to be giving them in the pre-hospital setting, I think we're pretty safe, you know, from point of injury back to fixed facility, to use ketamine in a possible TBI patient. So "possible" meaning not comatose, but blown up, ain't acting right kind of patient.

I think this was another one, best evidence topics. Is ketamine a viable induction agent for the trauma patient with potential brain injury? Basically they go through and review all the evidence on a topic, 276 articles; Level of Evidence Two; and the Emergency Medical Journal just a couple of months ago. And, once again, it's pretty strong. This is their -- their wording is: clinical bottom line is, there is no

evidence to suggest harm with ketamine as an induction agent for a patient with potential or traumatic brain injury. The drug has major advantages in patients with associated hemodynamic compromise and should potentially be regarded as the agent of choice.

That's a little stronger than what we were looking for, but the idea is that, you know, they're not seeing in the literature that there's harm, which is -- you know, our number one thing is not to cause any harm. They're not seeing any harm, and possibly a benefit. So this is, like I say, a change from the historical idea that ketamine is not to be used in TBI type patients. And I'll point out again that we're talking about very small doses of the drug compared to what they're talking about with induction. Right? So induction for anesthesia is a much higher dosing than what we're talking about with analgesia doses.

And let's talk a little about the contraindications, intraocular pressure. So with the intraocular pressure, the literature is kind of back and forth on it, and you can see in

some of the -- as you can see -- what do they call it? Conflicting evidence -- inconclusive and conflicting. Because some of the older studies, you'll see they actually did cause increased intraocular pressure. One of the studies I looked at was six mgs per kg induction in pediatric patients, it caused a significant increase in intraocular pressure. The same study was two armed and it was -- the other arm was three mgs per kg and it didn't cause significant intraocular pressure.

The problem is that most of these older studies were done with multiple anesthesia agents. They weren't just ketamine. Like, they were ketamine and halothane and ketamine and something else, so it was kind of hard to tease out that information. So that review is still calling it a relative contraindication, so the risk may outweigh the benefit of using ketamine.

Two studies -- and I don't know if all the emergency medicine residents get together at a meeting and they all go and do the exact same study, but we've got two studies -- one published and one that was just presented at Academy of

Pediatrics -- where it's just ketamine. All right? As you can see, a pretty small study. So they're just using ketamine as a procedural sedation and they didn't see any clinically meaningful levels of increase IOP.

And it's not in here because it wouldn't fit, but it went up on average of -- I think at 15 minutes, it was 1.09 millimeter of mercury in each eye. So it probably did go up, but they didn't think it was significant. But you can see it's much lower dosing, so 1.88 mgs versus six mgs per kg in some of the older studies, and it was less -- so less than four mgs per kg. So this one is actually published as of December.

The almost exact same study was the one you may in your notes. The same idea. The kids have no problem with their eye; they're just getting procedural sedation and they measure the pressure in their eyes with a Tono-Pen[®]. And, once again, 1.6 millimeters of mercury and the dose is 1.6 mgs per kg of ketamine. So I think, as the review article, the CPG, says, the -- I think the jury is still out on ketamine and intraocular pressure. I think it's going

to -- maybe as a single agent at low dose, the trend may be going where it's not as much of a concern as it was previously, when we were looking at high, high doses, but I think it's got to be, at this point, still included as a risk that we have to address in our guidelines.

Ketamine side effects. I'm just going to caveat this by saying, most of these -- a lot of these side effects, as we get further down the list, are mostly at higher doses, not at analgesic-level dosing, but there are possible side effects. I think many of you are familiar with these.

The emergence phenomena is one that's worried about a lot and it's hard to predict who's going to get it, but the hallucinations and bad dreams. And one thing our German colleagues were very insistent on is that, you know, the way they go to sleep is the way they wake up, so if you can talk to them and calm them before they go to sleep, then that's the way they wake up. Sometimes, I guess, in -- and, once again, we're not talking about doing procedural sedation on them on the battlefield; we're talking about analgesia maybe

in combination with other medications.

So not as big a concern, but if you're going to give them the drug, you might calm them a little bit prior to and let them know they may be feeling a little bit funny, but their pain should get better. And not all their dreams are bad, as I mentioned before. Some people have positive dreams, which is the reason ketamine is abused like it is out in the civilian world. So respiratory depression and apnea can occur if large doses of ketamine are given too rapidly through the IV route, so just something to think about as well.

So from a paper in 2006, from the Anesthesia Guide, I think, the ability to preserve spontaneous respirations and complete analgesia is unparalleled. However, they may do some weird stuff and cause you some operational considerations and they holler out and they move, et cetera. I think -- or they may need some restraint if they're having an emergence reaction. So, you know, I think if you're trying to keep your guy quiet, I probably wouldn't use ketamine as a single agent unless you're going to

use a whole lot of it so that he doesn't wake up at all for a while.

But it's talking about using it as an analgesia. You know, at the analgesia level, if you're mixing it with other medications, like narcotics, not quite as concerned about this, but, usually, you know, when a guy has just gotten wounded, at the point of injury, it's not real quiet at that time. It may be kind of loud and chaotic, so maybe not as big an operational consideration.

So what is the dose of ketamine? Well, it's amazing the different numbers you'll see if you look through the literature over the years, but it depends on what you want to do and how long you've been doing it and what works for you, but kind of some standard numbers that we found for induction for surgical anesthesia, you know, and then if you're doing it IM, it's really large doses.

Procedural sedation, this is kind of -- this is kind of what we go by in the emergency department for procedural sedation, kind of these numbers; a mg per kg analgesia, but less, so 0.1

to 0.5 mgs per kg and 0.4 to 1 mg per kg IM.

And I didn't mention it before, but just a caveat. You know, we were talking about how IM morphine doesn't seem to work well on hypoperfused really sick people. However, ketamine seems to work pretty good on that same group of people, so even though you're giving it IM, it seems to work more consistently than morphine does.

So this is our ketamine proposal, and you'll see that it's changed since the last time you saw it, because when I took it to the Committee originally, they thought I was under-dosing a bit, and so I kind of beefed it up a little bit from my initial swag at it. But this is -- so all this that's in black is part of what's already on the algorithm or the recommendations.

So, basically, you've got these guys that are able to fight, they're just getting Tylenol® and Mobic®, and if you don't need an IV, then you can get some fentanyl lozenge if you got one. If you don't, then that puts us here. So if you've got some ketamine, you can get some IM ketamine, go through 100 milligrams IM.

Some of the folks -- you know, I want to say they're large Germans. But the large German's contingence say, hey, start at 100, but my point is, not everybody who is out there on the battlefield is an 80 to 100-kilo operator. You know, there's small, little local nationals. There's small women on the battlefield. There's Marines. There's Rangers. I don't know if you've ever seen the Rangers when they operate, but there's always that one little kid that they make carry the mortar baseplate, you know, it's like this big around, and he has to lift up to keep it from touching the ground as he's walking to the aircraft, so there's little Rangers out there too. So not everybody is 100 kilos, so that's why the range is a little wider than what, like I said, some of our coalition partners starting dose might have liked.

The repeating is 30 minutes to an hour as necessary; and then intranasal using a nasal atomizer device. These are almost free little plastic; one time use, throw it away. It atomizes any drug that you want to put through the nasal route. And then, of course, if that's -- if

you don't have either one of those or don't want to do either one of those and you've got an IV, you can give morphine every ten minutes as needed to control your pain. And if that's not your preferred agent, or in addition to, you can give ketamine, 20 milligrams, slow IV push, and continue to monitor.

And then this is something that we've talked about several times; putting an option for some ondansetron or Zofran® in there, but nobody has been willing to champion that effort yet, so it hasn't been changed, but a lot of people are carrying other -- or anti-medics on the battlefield now.

So with that being said, I am ready to entertain your questions, maybe.

DR. DICKEY: Thank you for an excellent presentation. I occasionally take a group of students and faculty to some fairly remote places. I'm thinking maybe we should be re-thinking part of what we carry.

DR. GANDY: On their WHO's 100 required medication list, so when you go somewhere austere, take your ketamine with you.

DR. DICKEY: Okay. After Dr. Gandy's presentation, I would entertain questions or discussion or, this is an action report, recommendation for action.

General Franks.

GEN (Ret) FRANKS: Franks. Are any of our allies using this?

DR. GANDY: Yes, Sir. The British use it. The Germans use it. Dutch, Swede, Norwegians, Belgium. I don't know about the French; I can't say.

DR. JENKINS: Jenkins. We use it. We use this drug in the hospital setting on patients all the time for procedures like is being described here.

DR. DICKEY: Yes, Sir.

DR. O'LEARY: Dennis O'Leary. I'm just kind of struck by that emergence rate of 12 percent, and that's also known as anesthesia awareness. And, basically, that's not a problem for the purposes you're describing and in the manner used, but you have one reference to it being a single agent anesthesia or even using it for procedural purposes, particularly if you have

a patient intubated and they are aware and they can't talk to you, I would submit that's fine. Causes of bad dreams, the incidents may be somewhat understated, because I think general incidents of anesthesia awareness is understated.

DR. GANDY: Yeah, and I can't speak to what that number is for anesthesia, but I thought that 12 percent was high for the emergent phenomenon, but that's what the literature said.

DR. DICKEY: I have Dr. Higginbotham with a comment, but do I have two quick responses to the emergence? Is that it?

DR. HOVDA: Dave Hovda. I want to understand, would these individuals in the field be given ketamine only or would they start with ketamine originally and then eventually, or soon thereafter, be given other types of pain relief? Because ketamine itself, I know it's used in hospitals for procedures, but it is more of a disassociate, if my pharmacology is correct, than it is an analgesic.

DR. GANDY: At the higher dosing, it is, but you start getting analgesia at even very

small doses, so the analgesia starts long before the disassociate effect.

DR. HOVDA: Because when I had the same argument in front of what's called AWAK, in the United States, we're not allowed to use ketamine in an animal for analgesia. We are not allowed to use it because it's not considered an analgesic. It's one of these weird things between animal research and human beings.

So what we're proposing, what's on the drawing board -- which I have no problems from the pharmacokinetics except for the anti-NMBA receptor. That's an antagonist and that's always good for head injury at some points but maybe bad at other points, is that we would be doing something that we couldn't do if this was a non-human primate.

DR. DICKEY: Dr. Higginbotham.

DR. HIGGINBOTHAM: Thank you. This is Dr. Higginbotham. So just to clarify, are you still suggesting that it's a contraindication if there's a suspected open globe?

DR. GANDY: Yes.

DR. HIGGINBOTHAM: Okay, I just wanted

to affirm that. I'm not sure if you're aware, but I'm not only an ophthalmologist, but a glaucoma specialist with for 30 years' experience of dealing with ketamine, and just to affirm that it certainly can increase intraocular pressure. And, you know, when we start looking at studies, particularly the one that you note on slide 22, first of all, it's in children as opposed to adults, and if any of those children under 15 were three or under, the sclera in those eyes is quite pliable, so whatever the change in intraocular pressure is going to be masked by the pliability of this sclera.

So I think, we can't just rely on not peer reviewed, you know, literature to make recommendations, but I'm very pleased that, at this juncture, we're going to maintain a contraindication if we suspect an open globe, recognizing the benefits of ketamine.

DR. GANDY: And, I think, you know, those are in there to point out that they're doing more studies on ketamine as a single agent than they've really done in the past, looking at intraocular pressure and single agent ketamine.

And, once again, now we just need to put it in the adult population doing basically the same type of study.

DR. HIGGINBOTHAM: This is Dr. Higginbotham again. But, again, I think it's important for us to use adult populations and, certainly, this variability in the accuracy of intraocular pressure determination, so I would like to see ophthalmic literature, you know, as a benchmark going forward as opposed to something from the non-ophthalmic literature related to whether or not there's a rise in intraocular pressure or not.

DR. GANDY: And there's professors of ophthalmology on the -- the one that was at the American Academy of Pediatrics, Brigadier General -- from Colorado -- Enzenauer. He's an ophthalmologist and a professor of ophthalmology, and he was part of that study. But, once again, the limitations are, small study in children, you know, not moved forward. And it's a children's hospital where they are, so it's hard to extrapolate exactly, and that's why I say, I think that's the reason the guidelines still

says, you know, we just don't know enough to say it's okay, or they may never say that.

DR. BULLOCK: Russ Bullock. John, I think these are great guidelines. I'm a big fan of ketamine. I've used it myself in austere environments. But the one thing I have a big concern about here is that you took out the caveat or the concern about its use in raised intracranial pressure. I just don't think that -- the product insert of ketamine still contains that concern about raised intracranial pressure.

I mean, the evidence that there is, that I've looked at and that we've looked at here on the Internet, to support the fact that it is safe in face of intracranial pressure is weak and anecdotal. And, in particular, the situation that a combat medic might be faced with is somebody who is in coma. He doesn't know if there's a mass lesion. He doesn't know if there is a hematoma-expanding epidural.

And I would just really love to see a sentence in there that says, "Don't use it in an unconscious head injured patient" or "Don't use

it in a patient at risk of herniation" or something like that. And, you know, these studies where it's been shown to be okay in raised intracranial pressure -- when you have controlled ventilation with a tubed patient and an ICP monitor in there, it's a whole lot different than a combat medic in there.

DR. GANDY: Absolutely. And, generally speaking, you know, if they're comatose, we're not going to give them any pain medication in the field setting. If they're unconscious and they're not moaning and groaning, they're not going to get any -- you know, even though it probably would be a good practice, the combat medic is not going to -- they're going to see that as a "Don't need to give that person" -- they wouldn't give them morphine. They wouldn't give them ketamine. You know, if they're completely unconscious, they're going to do airway.

And as you'll see, I think, at our next meeting -- or our last meeting, we kind of went through the head injury guidelines of what the combat medic should do with somebody who is at

risk for herniation, and I think -- and, once again, I'm not opposed to putting that line in there to say -- because, once again, we want to control their pain but we don't want to hurt anybody if we can help it. And I think I certainly wouldn't want to stop people from getting pain control because we're, you know -- just because we're not willing to put that in there.

And, like I say, you know, I looked at all those studies and, you're right, they're done and people that have a way to measure the intracranial pressure and they're also being handled by a very good anesthesiologist at the time. Anesthesiologists aren't concerned about it. However, they have ways to adjust their ventilation and their cerebral perfusion pressure, et cetera.

And I think, like I say, I'm not against -- and the question is, do they go in the guideline or do they go in the teaching? And that's the point we kind of went back and forth on at our meeting is, that the guidelines are -- you know, they're for the guidelines, and

how many warnings, lookout, you know, asterisks do we put in there for each of the drugs? But I think, since it's new -- you know, like I say, everybody knows about morphine. You know, everybody has been using morphine for 150 years. But I think since it's a new medications for most medics on the battlefield, I think it would probably be good to put that back in there; you know, consider the risk of, you know, increased intracranial pressure with ketamine in someone who has got a closed head injury and do not use ketamine in someone who has an obvious or a suspected open globe injury. It would be a little tougher for us to figure out if they've got glaucoma or not, but there are Tono-Pens[®] out there, though.

DR. DICKEY: Dr. Franks.

DR. FRANK: I have two related questions. One is, can you describe in a little more detail the basic pain study that demonstrate the analgesia properties and the drug? And the second question is if, on any civilian circumstances, this wouldn't be the drug of choice and they would be using fentanyl and

Versed®. Why won't we just jump into that and say that soldier in the field would deserve the same level of treatment?

DR. GANDY: Well, we can't even get fentanyl lozenges on the battlefield because of FDA concerns with that drug. I mean, every time, we have a unit that says we tried to order them and they won't let us because there's a black box warning saying don't use fentanyl for acute pain, and it says that all over fentanyl in every way. It's to be used for cancer pain. That's what it says on the FDA black box warning. Obviously we've expanded the use of that drug a lot, but they're getting a lot of pushback from the FDA on fentanyl specifically.

And then the other idea is to use lower doses of the narcotics and other agents in combination to get that kind of synergistic effect, and then the -- our colleagues will use ketamine as a first-line agent for analgesia, our European colleagues, mostly. They'll use it as a single agent and then, you know -- and I don't know exactly which studies talk about the analgesic properties, but they're pretty -- their

analgesic properties are, in several states, are equivalent to or greater than morphine at the low doses.

So even though the animals don't seem to like it too much, human studies have where patients rate their pain control with ketamine, you know. You know how pain is a multi-factorial thing. If you feel better in general, your pain goes away. Right? You know, if you have a couple of Scotch and waters, your pain in your knee gets a little less.

But I think, you know, it works on the NMDA antagonist, but it also works on the knee receptors, the narcotic knee receptors, at certain levels as well. So it attacks pain from a different way and the same way as the morphine does.

You have another question?

DR. DICKEY: Jenkins.

DR. JENKINS: Jenkins. Actually to respond to Dr. Bullocks' concern, I think it's actually quite a valid concern to raise and that perhaps, in light of, you know, the ketamine discussion, this topic comes up about, you know,

we don't want to harm the brain injured patient, but you could foresee the circumstance where an unconscious patient given any of these narcotic medications potentially could develop hypotension, furthering their brain injury.

And so, in fact, I think what I'll do is, I'll take back to the Committee on Tactical Combat Casualty Care that there be a caveat statement in general in the analgesia section that any of these agents, you know, used in that setting have, you know, the potential for harm, and so you really need to consider why you would be using any of those drugs in that setting, and I think that would cover all of it.

DR. GANDY: And I'm having trouble remembering if we put it into these head injury specific -- I mean, we put a lot of emphasis on maintaining their blood pressure to maintaining their perfusion pressure, but I don't know if we, you know, specifically said to avoid any agents that could make your blood pressure go down or your intracranial pressure go up. I don't think we did.

DR. DICKEY: I suspect we'll help you

help you remember when we see them.

DR. GANDY: Say again.

DR. DICKEY: I said, I suspect we'll help you remember when we actually go through them.

DR. GANDY: Oh, yeah, I think so.

DR. DICKEY: Are there other comments or questions? Yes, Sir.

SPEAKER: (off mike)

DR. DICKEY: John, can you repeat the comment or question?

DR. GANDY: Yeah. He was saying, in Canadian forces only, their soft medics are carrying ketamine, so not their regular Army. And then comparing ketamine and morphine both through the IV route, which one gives better analgesia?

And I think the studies, the head-to-head studies, were actually done with IV ketamine and morphine, not IM. So I think the patient, you know, improvement of pain -- the studies, I believe, they were done through the IV route. But you never know what the dose of morphine was because we historically under-dose

morphine repeatedly, all the time. But the actual -- in at least two of the studies, the ketamine ranked just a little bit higher than the morphine. But, once again, I don't remember the actual dosing. If it was what it should be for morphine, then it might have been a little more of a toss-up.

DR. DICKEY: Yes, Sir. Identify yourself.

CAPT PADGETT: This is Captain Bill Padgett; Headquarters, Marine Corps Health Services.

This is kind of a related topic. I know when we tried to get the fentanyl out there, the issue was, hey, we've got IM morphine. Should the Defense Health Board be looking at sending something out from the DoD basically saying that we've moved past that. IM morphine should not be being used anymore if you've got dah, dah, dah, which then is going to help us drive, okay, if we don't have that ability, what do we have that we can use without IV access, which then may help us more with the fentanyl down there. Do you think we have enough data, really, to say that IM

morphine should not be used; it may actually be harming versus --

DR. GANDY: Well, and that's -- we actually talked about that at the last TCCC meeting. We said, maybe we need to start gathering information to show lack of effectiveness and pain control, and there's several cases, I want to say through the Falkland conflict and some other conflicts, where cold patients in shock were hypoperfused and getting repeated doses of IM morphine and not getting pain relief, and then they fly them from the mountain down to the aircraft carrier and resuscitate them and then 50 milligrams of morphine hits them all at one time, and, you know, then they've got a bunch of intubated patients that maybe did not need to be intubated.

So we've actually discussed, kind of, pushing that forward as a recommendation saying, okay, maybe we shouldn't use IM morphine, but we've got to give the guys something else to use if they can't push IV medications, and I think the fentanyl lozenge is good. I think, in the future, you know, something that's not in a vein

but in your nose might be a good way to go as well.

CAPT PADGETT: It would be identified as a gap, which then means that the Services would go figure out what to put in there. So if the Defense Health Board or DoD did come out and say that, really, we've got to stop using IM morphine, I personally think that would help drive some of this other stuff, but right now, as we try to execute it at the Service level, we hear that, well, we have IM morphine and it's real complicated and this other stuff, which really doesn't make sense, but you can pull the IM morphine away. If that's the right thing to do, I think it would drive the rest of this stuff, but you'll need to push them a little bit from a group fence outside the military saying that you shouldn't really be using that.

DR. GANDY: And I think, while the current surgeon was over there in theater, I think they were getting their fentanyl lozenges, but that may go away when he rotates back, so, you know, it just -- because it's not policy. It's one surgeon's opinion. All right?

And we have talked about that. You

know, we have not recommended it, but we've never gone to the point of saying, okay, let's un-recommend it. We have not recommended using it and now we have to recommend, let's don't do it that way. So we have not done that to this point.

SPEAKER: (off mike)

DR. GANDY: That's right, Levaquin[®], we can probably do it. Then you've got to have something else to fill the void. Right?

DR. DICKEY: All right. Voting on this issue stands between you and adjournment. I believe the recommended proposal starts on page 14, actually slide 28, 29 and 30.

The only thing I would say that I've heard through -- I've heard excellent comments to the discussion, but some discussion about whether you wanted your admonitions regarding closed head injury and potential open globe injuries to be in the protocol or in the education mantra. Is that a fair statement, John?

DR. GANDY: Yes.

DR. DICKEY: So what are your wishes? The recommendation from the Committee is approval

of the proposed protocols as they appear on pages 14 and 15.

DR. O'LEARY: Move.

DR. DICKEY: Dr. O'Leary moves approval as they appear on these pages, which I'm going to take to mean, the admonitions regarding particular caution of head injury and open globe would be in the education material. Is there a second?

DR. BALDWIN: Second. Baldwin.

DR. DICKEY: Seconded by Dr. Baldwin. Is there further discussion?

Colonel Hachey.

COL HACHEY: Just one thing to consider, that these are the recommendations, so this is the Board product. What happens after this is no longer a Board product. So those additions may wind up there, but it's not the Board's product. So if you want that section to have the Board's stamp of approval, then I would suggest you put it in here.

DR. DICKEY: That's an excellent point. We are a body that makes recommendations and then it still has additional steps before it

actually appears in the action of our soldiers. So does that change anybody's mind about whether you want the admonitions in the protocols and, therefore, in our product? No? Okay.

All right. The motion and second before you is to approve the protocols as they appear before you on pages 14 and 15. No further discussion? All in favor, say "aye." Opposed?

You want to be recorded as such?

DR. HIGGINBOTHAM: And so is Hovda and Bullock.

DR. DICKEY: So we have Drs. Hovda, Bullock, and Higginbotham opposed.

All right. Let's see, somebody do some quick counts here.

SPEAKER: Can I just talk to what Dr. Hachey was saying. So when this leaves us, it's going to get posted on a website that doesn't necessarily connect to the --

DR. DICKEY: No. When it leaves us, it goes to the Assistant Secretary, who decides whether then to move it forward as an action. Is that right?

DR. GANDY: Right, but if it gets

approved, then it goes to a -- posted on a web site where the educational material may not be directly linked. So I'm kind of, like -- Don was kind of recommending, you know, if we put it in there at the bottom of the analgesia portion, you know, not only the concerns for intraocular pressure and increased intracranial pressure, but using opioids and dropping the pressure, it might be -- it might -- because the guidelines will get out there a lot quicker than the educational material, is the point I'm trying to make.

DR. DICKEY: Okay, somebody may need more Robert's Rules than I have. Did somebody count heads here? Do we have -- all right, so it's close?

So you're actually asking us to reconsider the action we just took, and so.

DR. ANDERSON: Or you could just have a motion to add the caveats, which is what I would do.

DR. DICKEY: So George would like to make the motion to add the caveats to the protocol so that they are inextricably intertwined and

won't be somehow lost as we move forward. Is there a second to that motion?

DR. HOVDA: Yes.

DR. CARMONA: Carmona. Second.

DR. DICKEY: Seconded by Dr. Hovda.

Is there a discussion on that? Does that address your concerns as well, Dr. Higginbotham?

DR. HIGGINBOTHAM: Eve Higginbotham.

As long as someone clearly states what we're voting -- what I'm about to vote on again. I'd like to have, perhaps, someone restate it.

DR. DICKEY: It's my understanding the motion and second are that we would add to the protocol, which is on three slides on pages 14 and 15, the caveats that use of ketamine when there is a suspected open globe injury or suspected increased intracranial pressure or injury that could cause such should not be given, and that those would be included in the protocol.

Did I get it right?

DR. HOVDA: Dave Hovda. If you have somebody who is unconscious and you suspect them of having a severe head injury, you don't know whether you have an intracranial pressure problem

or not, and I would propose the word "must not" be used because it's on the side of caution as opposed to making it an option.

DR. DICKEY: Besides, we are providing protocols and guidelines for a relatively untrained, as opposed to in-hospital use, where you have a much more experienced -- if that's fair.

Okay. So the recommended language, then, would be "must not" and the two times are injuries suspecting increased intracranial pressure or potential open globe injury.

Discussion?

SPEAKER: Point of clarification. So I know we're voting on what's in the protocol, but I have a question about the education materials. Is that going to be what's in our notebooks?

DR. DICKEY: No. The education materials, I believe, are, in fact, geared again to the level of education you would expect of most of our medics and are much more -- yeah, I'm not sure what word I'm trying to get --

DR. GANDY: Yeah, so they're actually reviewed and renewed every time there's a change

and that information is peer reviewed and published in the PHTLS manual as a change, and it goes into great detail about each of the components. So, once again, it has to be reviewed by us and then it has to be reviewed by the American College of Surgeons, et cetera, before it can be --

DR. DICKEY: "Us" being the TCCC and the Trauma and Injury Subcommittee.

DR. JENKINS: Jenkins. So not only is there written information, such as what you see in this memo that has been drafted here, it is referenced, and then there is, yet, a separate -- the actual teaching modules, which are based on PowerPoint slides with notes pages, are additionally, you know, the major part of the education and training program.

And so in that -- you know, for a caveat such as this, it would arguably be a standalone slide that would preempt before you get to, you know, the discussion of the dose of the drug or, you know, it would start out with the contraindications, sort of, things. So not only would there be verbal text like that, but there's

companion teaching tools that go with. They would all carry this information.

DR. HIGGINBOTHAM: Madam Chair, this is Eve Higginbotham. I'm not sure where my comment would be appropriately inserted, but I want to be sure that we are referencing peer-reviewed literature. I mean, what was presented today was not peer-reviewed, but an abstract for a meeting, and so it's really very hard to really assess the study. So I didn't think that I would have to explicitly state that, but I think, in light of the evolving literature, it's important to really base everything on solid evidence.

DR. GANDY: This is John Gandy. One of those was a peer-reviewed journal, the second one, American Journal of Emergency Medicine.

DR. HIGGINBOTHAM: It's pediatrics.

DR. GANDY: It's still peer-reviewed. That was your point, wasn't it?

DR. DICKEY: Dr. Anderson.

DR. ANDERSON: For the record, George Anderson made that motion to accept the caveats about contraindications.

DR. DICKEY: Thank you. Okay. The motion, then, is to add to the approved protocols the caveats regarding utilization. Is there further discussion?

If not, all in favor of that addition, please say "aye." Opposed? No. And that does hopefully increase the strength of the recommendation coming forward from the Board.

All right. If you have not completed the form that we handed out to you in your brown folder, we'll make it real easy. If you'll circle your name and write "one, two, three" on top if you're interested and give it to any one of the staff, we'll -- just give it to Ms. Bader. We'll take care of those.

And, then, Ms. Bader, would you like to offer any administrative remarks before we adjourn?

MS. BADER: What a busy day. A lot of good recommendations, a lot of good material received today. So thank you, Dr. Dickey.

And for those of you parting today, a manila envelope has been provided in your binders so that you can remove the content of your

notebook and take the contents of your notebook home and then we will ship the notebooks back to DC so that we can recycle them.

For those that are headed to the airport, please know that the hotel may call a taxi service and, of course, Jen Klevenow, in the front, will always accommodate your needs as necessary.

As a reminder, the Board will be conducting a site visit tomorrow. This is considered an administrative meeting and, therefore, registration is not open to the public. We will have a working breakfast at 6:30 a.m. in Conference Room Eight and we will have a working lunch at the Brooke Army Medical Center dining facility.

Board members and invited guests, which are the Service liaisons, are kindly invited to convene in the hotel lobby at 7:15 tomorrow morning, at which time we will board a bus to the Army Institute of Surgical Research.

For those of you joining us for dinner tonight, we'll convene in the lobby at 6:00 p.m. We will walk to the restaurant located at 146 East

Houston Street, which is less than a mile, so wear comfortable shoes. If you did not RSVP for dinner but do plan to attend, please let Jen Klevenow know so that she may inform the restaurant.

And with that, that is the end of my administrative remarks. Thank you all so much for a wonderful meeting. And I will turn it over to Mr. Middleton to adjourn the meeting.

MR. MIDDLETON: Again, on behalf of the Secretary of Defense and the Assistant Secretary of Defense for Health Affairs, thank you all for attending an active and important participation in today's, I think, very momentous meeting. This meeting with the Defense Health Board is adjourned.

I thank all of you for attending. And, again, thank you for tremendous support of the Defense Health Board and for the people who serve this nation. Thank you.

(Whereupon, at 4:47 p.m., the
PROCEEDINGS were adjourned.)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA

I, Kimberlye A. Furr, notary public in and for the State of Texas, do hereby certify that the forgoing PROCEEDING was duly recorded and thereafter reduced to print under my direction; that the witnesses were sworn to tell the truth under penalty of perjury; that said transcript is a true record of the testimony given by witnesses; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this proceeding was called; and, furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

(Signature and Seal on File)

Notary Public, in and for the State of Texas

Notary Public Number 6997