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CAPTAIN PAUL HAMMER
JOHN HOLCOMB
HOWARD JAFFE
KENNETH KIZER
COLONEL JOANNE McPHERSON
MAJOR GENERAL DOUGLAS ROBB
JONATHAN WOODSON

* * * * *
PROCEEDINGS

(9:00 a.m.)

DR. DICKEY: Welcome, everyone, to this meeting of the Defense Health Board. And I want to extend a special welcome to our new Board members. We have several important topics for our agenda today, so we're going to get started. Mr. Middleton, would you please call the meeting to order?

MR. MIDDLETON: Thank you, Dr. Dickey.

As a designated federal official for the Defense Health Board, the Federal Advisory Committee, and a continuing independent scientific advisory 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 like us to stand for one minute of silence to honor those that we're here to serve.
(Moment of silence.)

DR. DICKEY: 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 and would request that the new Board members tell us just a little bit about yourselves to put your representation in perspective, I guess. I'm Nancy Dickey, I'm presiding over this meeting, and I am the President of the Texas A&M Health Science Center.

MR. MIDDLETON: I'm Allen Middleton, the deputy assistant secretary for health budgets and financial policy and the designated federal official for the Defense Health Board.

MR. HACHEY: Wayne Hachey, executive secretary, Defense Health Board.

DR. GANDY: I'm John Gandy. I'm an emergency medicine physician, retired Air Force, and a member of the Committee on Tactical Combat Casualty Care.

MR. RICE: I'm Charles Rice, the
president of the uniform services, University of
the Health Sciences in Bethesda.

DR. ANDERSON: George Anderson, retired
Air Force medical officer, executive director of
AMSUS, which is the Society of the Federal Health
Agencies.

DR. BULLOCK: Ross Bullock, director of
Neurotrauma Care of the University of Miami, and
president of the U.S. National Neurotrauma
Society.

DR. DELANY: I'm Pete Delany. I'm the
director for the Center for Behavioral Health
Statistics and Quality at the Substance Abuse and
Mental Health Services Administration.

DR. HOVDA: I'm Dave Hovda. I'm a
professor of neurosurgery and of molecular and
medical pharmacology, and the director of the UCLA
Brain Injury Research Center, and the president of
the International Neurotrauma Society.

DR. JENKINS: Don Jenkins, retired Air
Force trauma director, St. Mary's Hospital,
Rochester, Minnesota, and I'm with the Trauma and
Injury Subcommittee.

DR. TRAVIS: Tom Travis, deputy surgeon general, United States Air Force.

DR. OXMAN: Mike Oxman, professor of medicine and pathology at the University of California San Diego, a retiring Board member and a member of the Infectious Diseases Subcommittee.

DR. PARKINSON: Mike Parkinson, I'm a friend of Mike Oxman's. I am former Air Force preventative medicine physician, was one of the founders of Luminosic Consumer Directed Health Plan acquired by WellPoint, president of the American College of Preventative Medicine, and now working with health care organizations on innovation.

DR. SHAMOO: Adil Shamoo, professor, University of Maryland School of Medicine and Medical Ethics Subcommittee.

DR. SILVA: Joe Silva, professor of internal medicine, University of California Davis, and dean emeritus, and outgoing Board member, and a member of the Infectious Disease Subcommittee.
MR. KAPLAN: Ed Kaplan, professor of pediatrics, University of Minnesota Medical School in Minneapolis, an outgoing Board member.

DR. BUTLER: Hi, Frank Butler, retired Navy and Technical Combat Casualty Care Committee.

MR. DEAL: Tom Deal, command surgeon for U.S. Special Operations Command.

DR. KRUkar: Good morning, Michael Kruk, director of the Military Vaccine Agency.

DR. MOTT: Bob Mott, preventative medicine staff officer at Army Surgeon General's Office and the Army Liaison to the Board.

DR. PADGETT: Commander Bill Padgett, Headquarters, Marine Corps Health Services.

DR. JAFFE: I'm Harold Jaffee. I'm a liaison member, I'm the associate director for science at the Centers for Disease Control and Prevention in Atlanta.

DR. SLAUNWHITE: Good morning, I'm Commander Cathy Slaunwhite, I'm a Canadian Forces general practitioner in a liaison role at the embassy in Washington, D.C.
DR. COWAN: Alan Cowan, I'm the British medical liaison officer with Department of Defense.

DR. SCHWARTZ: Hi, I'm Erica Schwartz, the Coast Guard preventative medicine liaison.

DR. HOLCOMB: John Holcomb, professor of surgery at UT Houston and a member of the Tactical Combat Casualty Care Committee.

DR. FOGELMAN: Good morning, I'm Charlie Fogelman. I'm chair of the Psychological Health Subcommittee, and I operate as an independent consultant and clinical organization development, leadership development and related activities.

DR. CLEMENTS: I'm John Clements. I'm the chair of microbiology and immunology at Tulane University School of Medicine, and director of the Tulane University Center for Infectious Diseases, and an outgoing Board member.

DR. ENNIS: Good morning, I'm Frank Ennis. I'm a professor of medicine, molecular genetics, and director of the Infectious Disease and Vaccine Research Center at the University of
Massachusetts Medical Center; I'm an outgoing Board member.

DR. LUEPKER: I'm Russell Luepker and I am professor of epidemiology and medicine at the University of Minnesota, and I am an outgoing Board member.

DR. LEDNAR: Wayne Lednar, global chief medical officer of Dupont, and former co-vice president of the Defense Health Board.

DR. POLAND: Greg Poland, professor of medicine, director of the Vaccine Research Group at the Mayo Clinic in Rochester, Minnesota, and retiring co-vice president.

GENERAL ROBB: Doug Robb, Joint Staff surgeon at the Pentagon.

DR. CARMONA: Rich Carmona, a new Board member, former SFAT Delta, trauma surgeon, and previously a TCCC member, and United States Surgeon General.

DR. CLIFTON: Guy Clifton, professor of surgery, Uniform Services University, and civilian advisor to Tricare Management Activity.
DR. O'LEARY: Dennis O'Leary, president emeritus of the Joint Commission and continuing Board member.

DR. JOHANNIGMAN: Jay Johannigman, trauma surgery from Cincinnati, Ohio.

DR. FRANK: Good morning, my name is Bob Frank, I'm a new member of the Board and very pleased to be here. I'm the provost and senior vice president for Academic Affairs at Kent State University. Previously I was the dean of public health and health professions at the University of Florida, I'm clinically trained as a psychologist, did my work in rehabilitation in brain injury and spinal cord injury.

MR. MYERS: Dick Myers, Board member, retired military, involved in a variety of things.

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

DR. WOODSON: Good morning, John Woodson, assistant secretary of defense for health affairs.

DR. Dickey: And if we could -- there's
a microphone I think we'll pass around for you there.

MS. KLEVENOW: Jen Klevenow, DHB support staff.

MR. LOUGHLIN: Larry Loughlin, dean, School of Medicine, Uniform Services University.

MR. GOULD: Philip Gould, preventative medicine liaison to the Defense Health Board.

MR. ERDTMANN: Good morning, Rick Erdtmann. I direct the Board on the health of select populations at the Institute of Medicine.

DR. UMHAU: Good morning, William Umhau, travel medicine, Occupational Health,
Environmental Safety Services, NSAW Fort Meade.

DR. PALMER: Good morning, Ben Palmer, general preventative medicine resident at the Walter Reed Army Institute of Research.

DR. HALL: Good morning, I'm Toni Hall. I'm the military assistant to Dr. Woodson.

DR. DANIEL: Good morning, Chris Daniel, Navy family physician, and the deputy commander at the Army Medical Research and Material Command.
MR. MALCOM: Good morning, Perry Malcom with the Rapid Fielding Directorate in OSD.

DR. NAITO: Good morning, Neal Naito, director of Public Health, Navy Medicine, and Navy Liaison to the Defense Health Board.

MS. BELTRA: Good morning, Linda Beltra. I'm the BUMED Trauma Care Advisory Board lead officer.

MR. LEE: Good morning, I'm Major Roger Lee. I work for the Joint Staff surgeon and the J-4 Health Services Board Division in the Pentagon. I'm the Joint Staff liaison to the Defense Health Board.

MS. COATES: Good morning, Marianne Coates, I'm the contracted consultant for communications for the Defense Health Board.

MS. JOVANOVIC: Good morning, I'm Olivera Jovanovic. I'm senior analyst at the Defense Health Board, CCSI contractor.

MS. MCPHERSON: Hi, Colonel McPherson, I assist Colonel Bader with the Defense Health Board and work with Dr. Clifton on the project that he's
doing for Health Affairs.

MS. MARTIN: I'm Liz Martin, I am also DHB support staff contracted.

MS. PEABODY: Good morning, Hillary Peabody, also DHB support staff, contract with CTA.

DR. DICKEY: Thank you, everyone. We are pleased to have everyone here with us today and look forward to a productive day. We're also extremely honored to welcome a distinguished guest, Dr. Jonathan Woodson, the assistant secretary of defense for health affairs and director of Tricare Management Activity. In this role, he administers the military health system budget and serves as the principal advisor to the Secretary of Defense for Health Issues. Dr. Woodson ensures the effective execution of the Department of Defense's medical mission. He oversees the development of medical policies, analyses and recommendations to the Secretary of Defense, and the under secretary for personnel and readiness, and issues guidance to DOD components.
Dr. Woodson also serves as the principal advisor to the under secretary for personnel and readiness on matters pertaining to chemical, biological, radiologic and nuclear medical defense programs and deployment issues concerning forced health.

Dr. Woodson co-chairs the Armed Services Biomedical Research Evaluation and Management Committee, which facilitates oversight of the DOD biomedical research. In addition, he exercises authority, direction and control over the Uniform Services University of Health Sciences, the Armed Forces Radiobiology Research Institute, the Defense Center of Excellence for Psychological Health and Traumatic Brain Injury, the Armed Forces Institute of Pathology, and the Armed Services Blood Program Office. As TMA director, Dr. Woodson is responsible for managing all Tricare health and medical resources, and supervising and administering Tricare medical and dental programs, which serve more than 9.6 million
beneficiaries.

Dr. Woodson also oversees the Tricare budget, information technology systems, contracting process, and directs Tricare regional offices. In addition, he manages the Defense Health Program and the DOD Unified Medical Program as Tricare director.

Prior to his appointment by President Obama, Dr. Woodson served as associate dean for diversity and multicultural affairs and professor of surgery at the Boston University School of Medicine, and senior attending vascular surgeon at Boston Medical Center.

Dr. Woodson holds the rank of brigadier general in the U.S. Army Reserve, and served as assistant surgeon general to the Reserve Affairs, Force Structure and Mobilization in the Office of the Surgeon General, and is deputy commander of the Army Reserve Medical Command.

Dr. Woodson's military awards and declarations include the Legion of Merit, the Bronze Star Medal, the Meritorious Service Medal
with oak leaf cluster. In 2007, he was named one
of the top vascular surgeons in Boston, and in
2008, was listed as one of the top surgeons in the
U.S. Dr. Woodson is the recipient of the 2009
Gold Humanism and Medicine Award from the
Association of American Medical Colleges. And in
your spare time -- I am extraordinarily pleased to
present to you Dr. Jonathan Woodson. Dr. Woodson.

DR. WOODSON: Thank you, Dr. Dickey, for
that very, very kind introduction. You know, I
always say that if my mother and father were alive
and in the room today, it would be the kind of
thing that my father -- that kind of bio would be
the kind of thing that my father would be pleased
to hear, but only my mother would believe, and so,
you know, thank God for mothers that will believe
anything of their kids.

I can't tell you what an honor and
privilege it is to be here today, to be in this
room of committed citizens with great specialty,
intellect and abilities to assist us in the job
that we need to do, improving the care for
servicemen and women. So I want to thank you all for your dedicated service first and foremost. And I appreciate the sacrifices that all of you make to be part of this endeavor, taking time away from your professions, coming, deliberating, helping us sort through the thorny issues that are involved with the care of servicemen and women. So thank you so much for your contributions.

I also want to acknowledge the fact that I know it's a time of transition for the Board, that there are new members coming on and old members leaving, and so I want to acknowledge the contributions of the members that are leaving, welcome the new members into the fold. I think you should find this an exciting endeavor, and it is very, very important work, I can't stress that enough.

I just want to briefly talk about three things this morning, and they are, particularly for the new Board members, the historical context of military medicine and its contribution to
society, the military health system strategic
framework, and then the issue of what this Board
can do to engender, facilitate, grow trust in the
military and military medicine as a whole, which I
think is a very important issue.

Now, I've only had eight weeks on this
job and I'm learning every day, there's no doubt
about it, and so I'm going to talk a little bit
also about some lessons learned. But before I
begin that, I want to let you know that when I
walked in the conference hall today, I was
immediately taken back because I ran into some old
friends. And I need to tell the stories of my
connection with a few folks here because it also
tells very important lessons in terms of the
importance of the military and the connection to,
how can I say, the civilian world, but more
importantly, what is so great about the military,
which is the people you meet.

And I'm going to pick on Dr. Deal, Tom
Deal over there to begin with, because I ran into
him first during my mobilization to Desert Storm,
and I had been snatched up at the last minute and
sent initially to Walter Reed, and then overseas.

And, you know, I ran into someone
recently, they were sort of talking about the
issues that we never follow our doctrine, and I
told a little story about my experience in Desert
Storm, where I got there as a young surgeon, and
we knew the war was going to progress rapidly, and
so they gave us some trays of equipment and said
kind of go follow the war, and that was the
beginning of forward surgical teams, but the issue
was really that, at that time, things had moved so
quickly, we eventually made our way back to the
86th EVAC Hospital at that time, and Tom Deal was
the chief of professional services there, and we
kind of dragged our sorry rear ends into the 86th,
having been out in the desert for a few days, and
Tom took us under his wing, and he provided such a
great role model for leadership at the battalion
level, and I want to thank you so much for that
initial experience.

More stories about Tom later, and maybe
some of them can't be told in mixed company, but
Tom has really grown and served as hospital
commander and now SOCOM commander in that special
operations community, which we can't say enough
about in terms of what they contribute to
innovation in medicine, and, of course, their
courage and spirit in terms of the jobs that they
do.

I want to turn next to this side of the
room and talk about John Holcomb. John and I have
crossed paths over the years, but a seminal story
there is, during open salvos days of OIF-1, I was
in charge of a combat support hospital at that
time, I had been snatched up again sort of
unceremoniously and quickly to be sent over to
help bring a combat support hospital that was
struggling a little bit up to full mission, combat
readiness mission, and the war started, and we
were trying to solve problems every day, and John
came by to see me, it was really in the first
days, first week of the war, and we sat down and
talked about trauma care, and I knew already that
John was on the right track. He was talking about making sure that we could learn from our experience as quickly as possible, to make improvements in care, and get it back to the field so that we could save as many lives as possible.

And I want to publicly acknowledge John for his work in terms of the trauma registry and the joint theater trauma system, which has contributed so much in terms of improvement and care that, in fact, we are now setting the standard for the civilian world, and this is a point that I'll return to a little bit later.

I want to turn up here to the table to Jay Johannigman. Jay and I also, over the course of years, have intersected. I was at Landstuhl one year, another mobilization, having come back from down range, and I had been up all night taking care of patients, and Jay came in on a flight, a CCAT mission, and we had a chance to talk in the ICU, and we were talking about sort of a wonderful experience that we had individually in terms of serving our country in uniform.
I confided in him that the Air Force had taken a chance on me, and I had been the first Army officer to go through CCAT training, and we talked about that experience, but it migrated really into the issue of how do we tell the story to the civilian community, and more importantly, how do we get senior mentors involved with teaching young surgeons what needed to be done.

So it was the ying and the yang, how do we improve care in the military, how do we tell the story, and also how do we hone the experience in the civilian community to catalyze and accelerate the care and the change that needed to be made as we were delivering care to trauma victims.

Well, to make a long story short, John and I had this conversation, I mean Jay and I had this conversation, and Jay being the kind of person he is that you meet so often in the military, didn't let it go there, he seized on the idea and he organized what we call now the Senior Mentor's Program, which has been so successful in creating that important nexus between the civilian
world and the military mentoring that has worked
so well at Landstuhl. And we've now had a number
of senior surgical mentors go over and provide
valuable experience.

   I could go on with a few other folks in
this room, but I won't do that. I want to get to
a couple of other comments, and that really brings
me to this issue of the important work you do in
terms of the historical context. Military
medicine, through the experience of war, has
always contributed to improvements in care in the
civilian world, and you can go back as far as you
want, you know.

   Hippocrates once said that if you want
to be a surgeon, you should go to war. The phrase
is a little bit different in the actual
translation, but the idea was that he knew that
the experience of war, in fact, contributed to
improving the strategies for care that eventually
would go back into the civilian population.

   And you can look at experiences in the
Civil War, you can look at experiences from
Letterman's work, Walter Reed's work, World War I in fielding labs and transfusion, World War II in Vietnam transport and the like, and many, many, many other improvements have found its way into the civilian world. So the important issue is that we inform civilian practice.

Over the last 10 years, this has been very true, and we have looked at improvements in transfusion and resuscitation, hemostasis, and the management of brain trauma, and we're still looking at producing even further advances, of course, in the management of brain injury. So what you do on the Defense Health Board is of vital interest not only to the military, but to the civilian practice and advancement of medicine, as well.

I just want to transition right now to the issue of the military health system strategic aim so you can frame how we look at things in the work you do. You know, we have a strategic aim that is borrowed from Don Berwick's Institute for Health Care Improvement, the so-called Triple Aim,
and we've added to it this concept of readiness, because, of course, that's at the core of what we do in terms of being mission ready and supporting national defense, but it includes improvement in population health, improvement in the experience of care, and being good stewards of cost, being good stewards of the public resources.

We accept this mission wholeheartedly because it is important, and it's important in terms of the priorities of the nation. And you are going to be important in terms of determining what works, what works well, and how to be efficient with, indeed, that care.

The last issue I want to address is that the work you do helps build trust. Trust is so important in terms of medicine in general, but it's really important in terms of military medicine, because if we do it right, if we get the best evidence about what works and what does not, we can make sound decisions, and we build trust with the service members that we serve who go in harm's way and pay the ultimate price of any
operation that we're in.

We also build trust with the leaders of
the country, the Congress, the President, senior
leaders within the Department of Defense, and we
build trust, of course, with the civilian
community, again, because we add to their
competencies based upon what we learn.

So the work you do is extraordinarily
important. And I can't say enough about how
honored I am to be here to listen and learn from
you. I look forward to interacting with all of
you over the next months and years as we try and
shape what should be the research program, and, in
fact, answer very difficult questions. So I'm
going to stop there, and again, thank you so much
for your service to this important effort.

DR. DICKEY: Thank you, Dr. Woodson.

We're grateful for your dedicated support. We do
look forward to working with you, and we're
appreciative of the time that you're going to
spend with us this morning listening to at least a
bit of our deliberations, and hopefully
contributing. From the bio I read, you clearly have insights that would help us move forward. We appreciate your assisting the department with optimizing health safety and mission readiness.

And before we continue, Ms. Bader is going to provide us some administrative remarks. Ms. Bader.

MS. BADER: Sure, thank you, Dr. Dickey. Good morning and welcome, everyone. Good morning, Dr. Woodson. Just a few administrative remarks, I'd like to thank the Washington Dulles Hotel and the Defense Health Board staff for assisting in arranging this meeting.

For everybody, for the folks on the Board and the folks in the audience, as well, please ensure you sign the Board attendance sheets on the table outside, and indicate if there's any changes in your contact information.

For those who are not seated at the table, there are handouts available at the table in the back of the room. Because this is an open session, it is being transcribed. Please ensure
you use a microphone and state your name prior to speaking.

Refreshments will be available for both the morning and the afternoon sessions, and we will have a catered working lunch for the Board members and guests. For those other folks looking for lunch options, the hotel restaurant is open, and there are multiple restaurants within a one mile radius of the hotel.

Please note that we will verbalize short bios for everybody prior to their speaking this morning and this afternoon, and more detailed bios can be found in your binders and at the back of the room. Dr. Dickey.

DR. DICKEY: Thank you very much. Now, if we can, we'll proceed to some interesting briefings and a couple of action items. Our first briefings of the day are going to be delivered by Dr. John Holcomb and Dr. Frank Butler.

Dr. Holcomb currently serves as the University of Texas chancellor's health fellow for trauma and injury and vice chair of surgery. In
2008, the American Heart Association recognized his leadership in this field with the award of Lifetime Achievement in Trauma Resuscitation Science. Dr. Holcomb's contributions to trauma medicine include increased hemorrhage control through dressings, tourniquets and intravenous methods, as well as trauma informatics and systems. While serving in the U.S. Army, Dr. Holcomb made significant contributions to the understanding and treatment of injured patients in war zones, as well as civilian trauma. Dr. Holcomb is the past commander of the United States Army Institute of Surgical Research at Brook Army Medical Center in San Antonio, and has served as the director of the Joint Trauma Training Center, trauma advisor to the USSOCOM and to the trauma consultant for the Army Surgeon General. He's also been recognized by the American College of Surgery's Committee on Trauma with a service award for outstanding scientific contributions to the surgery of trauma and dedication to the care of wounded warriors.
Joining Dr. Holcomb is Dr. Butler, a former Navy Seal who helped develop many of the diving techniques and procedures used by Navy SEALs today, including closed circuit oxygen diving exposure limits and decompression procedures for complex multilevel mixed gas diving operations conducted from submarines.

He's previously served as the director of biomedical research for the Naval Special Warfare Command, as the task force surgeon for Joint Special Operations Counterterrorist Task Force in Afghanistan, and was the first Navy medical officer selected to be the command surgeon at the U.S. Special Operations Command. He now serves as the chairman of the Committee for TC3. Dr. Holcomb will begin by presenting his findings regarding improvised explosive device blasts during Operation Enduring Freedom, which were collected from a recent trip to Landstuhl Regional Medical Center in Germany. And after that, Dr. Butler will present to decision briefs for our deliberation and vote regarding TC3 training for
the military and the proposed research, development, training and evaluation priorities for battlefield trauma.

The slides for both these presentations can be found under Tab 4, and without further ado, Dr. Holcomb.

DR. HOLCOMB: Thank you, Dr. Dickey.

May we present from the seat here, is that okay, or how would you --

DR. Dickey: Wherever you're comfortable.

DR. HOLCOMB: I'm fine right here if that's all right with you all, all right. Well, Dr. Dickey and Dr. Woodson, thank you, I really appreciate being here and the opportunity to present these data. And, Dr. Woodson, the program that you and Dr. Johannigman put together, the senior visiting surgeon, is actually what I participated with, and these slides come from my two weeks in Landstuhl in December from 11 to 26. The next slide, please.

You know, I retired from the Army two
and a half years ago, and had the opportunity to

go back over and take care of combat casualties in

December. This program is actually described in

the New England Journal of Medicine article from

2007. And really this is information for the
group.

What I wanted to present is something I

had never seen before. I've seen specific

injuries like this. You're pointing at something,
sir.

DR. SHAMOO: Turn this on.

DR. HOLCOMB: I have a mic on already.

If you look at this next slide, the next slide,

please, and I notice it's graphic, I apologize for

that. Those of you who have cared for combat

casualties have seen injuries like this before.

The first one I saw was in 1993 in Somalia.

What is new about this is that this is

now a normal injury coming out of Afghanistan. On

December 14th, I sat in Landstuhl's intensive care

unit. There were eight Marines in the ICU, and

those eight Marines had one leg and four
testicles. I first cared for combat casualties starting in 1989 through 2008. And again, I just want to emphasize, we've seen these injuries before, but not them over and over and over and over again, and that's what's new.

This was described this weekend in the Washington Post by Dr. David Brown. And this injury pattern is on the cover of the Stars and Stripes, in the European edition today.

If you go to the next slide, the amputation rate has been quoted, there's a lot of things been said about it. We published a paper in 2008 in the Journal of Orthopedic Trauma which went back to Vietnam, categorized the injuries in the standard fashion, and the amputation rate in most wars is about 7 percent, give or take a percentage or 2, and it hasn't changed really since the early days of Vietnam, through 2006 data from the Joint Theatre Trauma Registry. So the first half of the war, 2001 through 2006, had the same amputation rate as in Vietnam. That number of 6 to 7 percent is important to remember as we
move through this. Next slide, please.

I would emphasize that all these data were put together in about four or five days from the Joint Theatre Trauma Registry, as discussed by Dr. Woodson, allows us to look at trends and put together data, to turn that raw data into information so that people can act on it.

This slide shows a two-year trend of Marines and Army injured casualties coming to Landstuhl. The top line is the total between the two. And it really shows that diurnal variation coming out of Afghanistan in relation to weather, which you can see is a general trend upwards with the total number of Marines and soldiers going up starting in February/March of 2010. Next slide.

We then look at the number of those admissions to Landstuhl, and that's the denominator now, of Army and Marine casualties, and these are the numbers that are admitted with amputations, so with a major amputation, any major amputation. These are not toes and fingers, but above the wrist and above the ankle. And you can
see the steady rise in the Marine casualties
starting in that early 2010 time frame, with the
Army casualties being relatively stable at that 6
to 7 percent, which is the red line across the
bottom of the graph, right across here, that's
that 6 to 7 percent that we mentioned earlier.

There are occasional spikes from one month to the
other, but what the data show here is an
increasing trend. Next slide.

Specifically to that injury pattern,
documented by the picture earlier, are the number
of double amputations. So the double amputations
rate, if you look back to September, '10, is about
19 percent, and if you go farther back, that's
been relatively stable. Double amputations have
happened, they do happen, they're relatively
unusual.

What the difference is over that last 4
months of 2010 is, the double amputation rate goes
from 19 to 75 percent. So of -- now the
denominator is all amputations. So the double
amputation rate goes from 19 to 75 percent. Of
all soldiers and Marines with amputations, the
double amputation rate has gone from 19 to 75
percent, a 200 percent increase, ladies and
gentleman, unheard of, never seen before in a
consistent pattern. Next slide.

Published in 2009 is a paper describing
the rate of injury to the genitalia, testicles and
penis. Between.5 and 4 percent of all war
injuries, a single -- a pretty small, brief time
period at a combat support hospital in 2007,
although admitting 3,500, almost 3,600 casualties
in that 6-month period. This is in Iraq, at the
combat support hospital in Baghdad, a pretty busy
time frame, as you all remember. And it comes up
with a 4.7 percent rate, so pretty normal, a
review of the literature, and for current combat
casualties wearing typical modern body armor.
Next slide.

Again, if you look at -- that's that red
line, about 4-1/2 percent going across, you note
that there's a little bit of variation from month
to month, but if you average out this segment, it
comes to almost exactly that 4 percent, then you
see an increase, along with that high bilateral
amputation rate, as you would expect. So over the
last 7 months of 2010, 175 percent increase in
injuries to testicles and penis.

I will tell you that during my two weeks
observation period, many of those casualties had
lost both testicles and had significant injuries
to the penis. Almost all of them had injuries to
the testicles, and most of them bilateral
injuries. Next slide.

So in summary, amputation rates, largely
in Marines, has increased from 6 to 18 percent, a
200 percent increase over baseline. The double
amputation rate extremely devastating injuries,
some of these not unusual at all, hip
disarticulations, increased from 19 to 75 percent
over 4 months, almost a 300 percent increase, and
has continued on anecdotally in January and
February, has not abated. The amputation rate in
December, the month I had the opportunity to serve
in Landstuhl in my 2 weeks, but going for that
whole month, the amputation rate in December of
all admitted Marines to Landstuhl was 38 percent,
of all admitted Marines was 38 percent.

Injuries to the genitalia also increased
dramatically, 175 percent. These are extremely
disabling injuries, both physically and
emotionally.

Again, the emotional impact on the
casualties themselves, the families, and not to be
underestimated on the providers, the docs and the
nurses and medics caring for these, is tremendous.
I've never seen anything like it. I've never seen
anything like the impact on the providers, and I
think that that's something that this group really
ought to think about and talk about. Next slide.

So what's the medical response? The
Army Surgeon General has established a Rapid
Response Task Force, they're looking at this
injury -- this specific injury. Dr. Butler is on
that committee, and others in the room, as well.
Tactical Combat Casualty Care is aware, we briefed
these slides at the TC3 meeting last month,
looking at interventions to improve truncal and
groin hemorrhage control. Tourniquets work really
well, but you can't get many tourniquets above
some of these injuries, you have to get up and get
into the groin. Improved fluid resuscitation,
blood products need to go on helicopters now. Red
cells and plasma need to go on helicopters now.
The Brits have a beautiful team that's doing this
and we need to do exactly the same thing.

CASEVAC issues with plasma and red
cells, you can't resuscitate these patients with
crystalloid, it makes them worse. The Joint
Theatre Trauma System, from a system point of
view, is making sure we have GU -- genitalia
urinary -- capability forward, guidelines changing
for surgical management of these specific injury
patterns, new simulations, talking to guys before
they get over there so they understand what
they're about to see. There's been a conference
on optimal management of this industry pattern.

Compassion fatigue and PTSD, I'm a
trauma surgeon, this is a touchy-feely comment for
a trauma surgeon. This is a real problem and I think we really need to address this. And then we need to track these rates with the registry so we can see what all of these interventions are doing, if anything, on improving care. I will tell you that the line leadership up and down is aware and have seen these slides. Thank you very much, ma'am.

DR. DICKEY: Thank you, Dr. Holcomb.

Are there any questions for Dr. Holcomb before we move on to Dr. Butler? Dr. Poland.

DR. POLAND: Greg Poland. John, thanks for that report. It made me wonder a little bit, sort of going back one more level, what the epidemiology of these injuries are, are they soldiers who are primarily on foot patrol versus vehicle, and if so, is somebody attending to the idea of, you know, maybe operational doctrine needs to be changed, in part, maybe you don't need that foot patrol, but you could use a vehicle or a robot or something else.

DR. HOLCOMB: Yeah, Dr. Poland, I think
that's a great question. Obviously, you know, the tactics and operational issues probably outside the purview a little bit of this forum. Many of -- this has been reported to be a dismounted injury pattern, TTPs -- tactics, techniques and procedures -- outside the purview I think of this group, but that's the reason that last bullet up there about line leadership is aware from top to bottom.

DR. POLAND: I was just wondering, is there any formal mechanism by which they're evaluating that?

DR. HOLCOMB: General Robb, do you have a comment there?

GENERAL ROBB: Yes. I just had the opportunity to actually walk the turf with the surgeon generals three weeks ago; went to Bastion, Kandahar, Dwyer, Kabul and Bagram. And in all the locations we brought up this specific topic about the severity of the trauma. The actual numbers of folks getting injured has not necessarily increased, but the severity of the trauma and the
number of multiple amputations has increased. So
the senior commanders, two-star, three-star and
four-star levels at RC South, RC Southwest, RC
East, and also ISAF commander is all aware.

To talk to you about the nature of the
injury, especially when you're talking in RC
Southwest, which is the Marines' area of
responsibility, when you talk to the commander
down there, the enemy has laid a battlefield, they
are digging in, I use the sense that they are
digging in. It is -- we pushed south and took
care of that area down there, and it was a tough
summer last year. So now they're getting, I don't
want to use the word desperate, but they're going
to get even more cruel, so to speak. So as we
push north up the valley, which is primarily
what's going to happen this summer, it's going to
be a tough fight.

The general down there describes these
aren't IEDs, these are IED minefields, and that's
why you're seeing so many of these injuries. And
so the enemy has had -- I mean, it's a cheap
weapon for them, and they have the resources to lay these down.

If you look at the topography of the battlefield down there, again, it's a narrow valley, okay, it's a farming area, and it's hard to explain, but it's trellises, it's a series of dikes, it's a series of canals, so basically you're going hedgerow to hedgerow to hedgerow. So it's a perfect set-up for the enemy to do what they need to do. So it's going to be a tough fight, and again, the commanders are aware, and they're looking at opportunities.

A couple things that they're looking at, one is using canines, dogs. You know, there's not enough dogs in the inventory to do that, but they are pushing dogs out there to, again, alert to where these are. But again, it's a slow fight, and the density is pretty thick. And number two, one of the small things we're looking at is the Brits, and I think some of us have shared with you the Brits are using actually a silk underwear, combination of silk and/or silk and Kevlar, but
primarily the silk, to at least try to decrease
the blast and the small particle injury to the
testicles, which is not to save the testicle from
a traumatic injury, but to save it from future
infection from what we call the microparticles in
there.

So there are some personal protective
equipment we're looking at, looking at canines,
again, looking at engineering principals, and
they're taking a hard look at their TTP's, but,
you know, topography is what it is.

The reason why you're seeing multi, one
is, they're dismounted; and then number two is why
are you seeing the third injury, which is to the
arm, is because as they walk, they walk like this.
So this is -- and this is how they walk, so that's
why you're seeing one, two, and then usually
whatever their non-dominant hand is. So hopefully
that helps answer your question there.

But again, the line leadership is aware.

And again, very important that we take this JTTR
and JTTS data, and that will be talked in front of
the second MTF commander and said here's the data,
so again, that work that you all are doing is
very, very important. Thank you.

DR. DICKEY: Thank you. Dr. Woodson.

DR. WOODSON: Just a quick question for
General Robb and Dr. Holcomb. This recommendation
you made about red cells and plasma on the
helicopters, Dr. Robb, how difficult a logistic
and training requirement would that be to put that
in action if it's going to save additional lives?

GENERAL ROBB: Sir, I'm sorry.

DR. WOODSON: I did that on purpose.

GENERAL ROBB: I got it, noted, and it
will reflect.

DR. WOODSON: I heard a recommendation
from Dr. Holcomb about red cells and plasma on
helicopters. We can talk about this offline, but
the issue is, there's a training requirement --

GENERAL ROBB: Yes, sir.

DR. WOODSON: -- and a policy set of
issues that we need to work up for that.

DR. HOLCOMB: Yes, sir. Can I make a
comment on that? Maybe Dr. Robb can follow. But this is done in several places in the United States, there is a training requirement, it's doable. We put blood and plasma in our ED two years ago, we tracked the outcome of our patients, it's dramatically improved the outcome of our patients, it is the primary resuscitative fluid.

I was on call yesterday, and none of my trauma patients got any crystalloid. What we've shown is, it makes our patients and hemorrhagic shock worse. You can give crystalloid patients who aren't in shock, it doesn't matter, you can give them Kool-aid, they're in shock, they do better, absolutely. With data representing at one of our biggest national meetings next month, using plasma and red cells is the primary resuscitative fluid.

The pre-hospital environment is an extension of the emergency department. And so it is absolutely logical, and we'll do these in the next two months, put those products on our helicopters. We transport 2,500 trauma patients a
year on 5 helicopters, every one of them within
the next couple of months will be resuscitated
with plasma and red cells.

Don Jenkins, at his location, has been
doing this for the last two years; in Cleveland
they've been doing this. This is done in pockets
around the country, and this is an opportunity to
-- and the Brits have been doing this for the last
couple of years with their teams down in the
valley, as well in Afghanistan with their Merck
teams. There's hesitation about to do this. This
is the right thing to do. We can put nurses on
those birds and docs on those birds right now.
Paramedics are hard to come by, they're harder for
the military to grow, but this is something I
think -- an improvement in care that could be done
very quickly in theater.

GENERAL ROBB: And that's, in fact, my
first to do list, was actually this morning based
on the conversation we had, is this evolving
concept of putting, again, (inaudible) and plasma
on helicopters for initial trauma resuscitation.
We have had a very lively and intellectual discussion, although we're calling it tactical critical combat -- tactical critical care transport, and that's level two to level three, which is post-resuscitative patient, and the whole concept of, we've done kind of a pick up game with flight docs and nurses out there from the sending units, this last round we put 18 critical care nurses in theater to augment, again, the basic medic in the back, and we're seeing the advantages of that. We had a couple of groups in there that went in, primarily a guard unit that went in, let's go back to point of entry, but that also transport tactical critical care, EMTP level, coming out of the guard unit. To kind of validate the concept that Colonel Holcomb kind of predicted back in 2006, because I still have the original slide, that we need to step our game up in the back of that helicopter from point of injury, but also post-resuscitative.

So the Army's moving forward on that. I don't want to get in front of their headlights,
but I know they're aggressively pursuing the training piece to the Army medic in that helicopter, which, again, we have emerging data that shows that's probably the direction we need to go.

And then also we're looking at the transport of patients post resuscitative aggressively from the Joint Staff level. Air Force has already conceptually actually trained a couple of teams called the Tactical Critical Care Transport Teams, CNRA, and then also a doc primarily, an intensivist and/or an ER doc, much along the lines of the Merck, but, again, to work what we call hub and spoke for some of these more critical patients.

And then how do we then push, you've got to have the level of provider to push those products in the back of that aircraft. The Army proceeds with their EMTPs, and the Air Force is going to proceed with this, and we're going to have a joint solution for this critical care. We will have those providers back to be able to push
that and the training, too. Hopefully we're going
to do them parallel and not post op on that.

I know Special Forces guys have already
been in that discussion of pushing blood products
from almost the point of injury forward, so we've
already had requests sent out there.

DR. WOODSON: Thank you.

DR. DICKEY: Any additional questions?

Yes, Doctor.

DR. LUEPKER: Russell Luepker. We heard
yesterday from Dr. Butler that they are being more
successful in saving people in the field. Is part
of this really the result of being better at
bringing people back alive?

DR. HALCOMB: That's a great question.

So what you're asking is, are there decreased
deaths, decreased KIAs, and these guys are coming
in, we're having (inaudible), so this is, sir, an
opportunity I think to put together the AFIP data
and the JTRR data, which still really hasn't
happened very well, and it's an opportunity for
improvement, to have a sound epidemiologic
1 discussion of KIAs, data wounds and case mortality
2 rates. When I talked to Colonel Eastridge, who is
3 at the JTTR down in San Antonio, over the last six
4 months, the KIA rate has risen, and the injured
5 severity score has risen. The data wounds rate is
6 flat or decreased a little bit. So from an
7 epidemiologic point of view, this is a more severe
8 injury, causing more deaths, and more devastation,
9 and more morbidity. It's the exact question that
10 should be asked of these data, a great question.
11
12 DR. DICKEY: Thank you, Dr. Holcomb,
13 very much, I appreciate it. Without further
14 delay, I want to present Dr. Butler, he has a
15 couple of decisional briefs.
16
17 DR. BUTLER: Thanks very much. If we
18 can get the slides back up, next slide. I just
19 want to, in the interest of time, sort of give you
20 a quick look at what we're asking the Board to do
21 today. Number one is a reemphasis and a perhaps
22 better targeted emphasis on TC3 training for
23 reasons which I'll show you. And then second, an
24 endorsement from the Board of the battlefield
trauma care research priorities that the TC3 group
has assembled over the last six months. So this
group is used to hearing good news stories about
TC3. Again, let me go back one more time and show
you what we had at the start of this war. This is
a Marine casualty, shot in the leg, not one of
these awful amputation injuries that Dr. Holcomb
is talking about, this is just shot in the leg,
femoral bleeding, no self-aid, no buddy aid,
because they weren't doing that.

The corpsman shows up 10 minutes later,
a little bit late, to stop the bleeding, attempted
to use a hemostatic agent, didn't work, went
directly from the hemostatic agent to starting an
IV so he could give him the crystalloid that Dr.
Holcomb was talking about, didn't work, and they
finally had an afterthought, hey, why don't we put
on a tourniquet, and they did, but it was too
late, and this casualty died, and that's how it
happens.

You know, without the intervention of
all of the people that have helped us over the
years with TC3, the acceptable number for this to happen in our Armed Services is exactly zero.

So 2005 was a pivotal year for TC3, and I mentioned that there wasn't much TC3 at the start of the war. What happened in 2005? Well, the first thing that happened was, Dr. Holcomb went and led the team that did a causes of death analysis on special operations forces and found that we had about a 15 percent preventable death rate. That data was quickly shown to General Brown, the four star at SOCOM, and he quickly implemented a fast track training and equipping program for TC3.

ISR, the Institute of Surgical Research, published the first report saying these are the good tourniquets, so we knew which tourniquets to buy. And General Robb, when he was at CENTCOM, was tracking all this and said, hey, if you come into CENTCOM, bring a tourniquet and a hemostatic agent. So, wow, great things, a lot of energy.

Let's fast forward to a trauma teleconference that happened last summer that I
was participating in. A 23-year-old male, gunshot
tound to the left infraclavicular area, with
external compressible hemorrhage, pre-hospital.

He went steadily downhill, continued to bleed, he
was in pretty severe shock when he showed up at
the ER, but his bleeding had slowed down, as it
will, and so the ER staff noted that, boy, the
hemorrhage sure picked up when they started to
resuscitate this individual. The people at the
level three noted that all of his injuries were
extrapleural, this was external hemorrhage. So I
asked the question, who used Combat Gauze on this
casualty, nobody pre-hospital, nobody in the
emergency department. So, you know, I think the
lesson learned is this, which we now have in our
curriculum, Combat Gauze, it doesn't work if you
don't use it.

So we can work hard at this level to put
all these great tools in the guys' toolkits; if
they don't take them out of their pocket and out
of their kit and put them on their casualty, it
doesn't help us.
Okay, so how does that lead into what we need for the Board to do? Well, two years ago, the Board got this interim briefing that said, hey, as best we can tell right now, about 20 percent of our fatalities have died a preventable death, but interim data from the rangers and the Army special mission units reported 0 preventable deaths in those units. And again, these are the only -- two of the only three units that were using TC3 from the start of the war.

So that interim briefing to the TC3 Committee and the Board resulted in this memo of August of 2009, and the Board said, hey, let's train everybody in TC3, and let's get out there and capture this data on the TC3 card and the pre-hospital trauma registry, and the JTTR so that we can document what we've done so we can know what to do better. And, you know, the services, again, respect the Board immensely. SOCOM and the Army were pretty much on board already, I really think as a direct result of the Board.

The Navy Surgeon General sent out a
letter in March saying, yes, do it. The Air Force Surgeon General sent out a letter in August saying, yes, do it. The Marine Corps Commandant sent out a message in January of this year saying, yes, do it. So there is no dispute from the services on the concepts.

So you're thinking, okay, so, Frank, what's the problem, why are you telling us this. Well, first, some new information. The interim data that I mentioned before has now been turned into a manuscript. It has been submitted for publication. It documents the experience from the ranges who have trained everybody in the regiment since 1997, and TC3. Their incidents of preventable death is 3 percent. The U.S. military, the last good data that we have, still says 20 percent. So this is Russ Kotwal's manuscript, and when it's published, it will be the lowest preventable death rate ever reported in modern warfare. So I think that is something to highlight as a model of how this can be made to work. On the bad news side again, the Army
Medical Research and Material Command held a fluid resuscitation conference in January, and there were lots of points of view and some divergence of thought, but one thing every single person there agreed on was that the era of large volume crystalloid resuscitation is gone.

I mean there was not a single voice raised in support of large volume crystalloid resuscitation, and yet multiple participants noted that that's what was being used in Theatre still, right now.

We had Marty Schreiber, the deployed director of the JTTS, come and brief us on 16 November, and he said, hey, guys, if you think Hextend is being used out there, you're wrong.

The Institute of Surgical Research is doing a study where they go out and they have physician investigators looking at the pre-hospital interventions that have been done as each casualty arrives at the level three. And Major Lairet's data, and sorry this is a little bit small, basically he found that 87 percent of
the people arriving at the hospital were still
getting crystalloid. He also found that almost
half of the casualties had a wool blanket for
hypothermia prevention, totally the wrong thing to
use. Only 15 percent of these individuals had any
pre-hospital care documentation. So what is the
disconnect? If everybody agrees on the concept,
how come it's not happening? Well, it's
execution, you know, and I think that this is a
lesson that all of us that have been in the
military really know, but when we -- when the Navy
Surgeon General says, teach this at the Marine
Corps schoolhouse, which the Navy, interestingly,
runs, what does that buy us?

Every single new person coming in learns
about Hextend, learns about TC3, okay, that's
good, but what about all the guys who are in the
service already, how do they get it? So, you
know, we need to go back and we need to relook at
this.

We also have a problem with the fact
that the physicians are still being taught non-TC3
trauma interventions for pre-hospital trauma care,
and who leads the corpsmen and the medics when
they get into theater and into battle? The
physicians, sometimes the nurses, sometimes the
PAs.

So often times, those individuals will
bring a different perspective to their medics, and
that will undo the training that they got in TC3.
Now, we've seen this happen over and over and over
again. We've had instances of flight surgeons
taking off the tourniquet that the medic put on,
and almost physical altercations as the medic
tried to protect his patient from the physician.
So this is a bad situation.
The combat leaders need to be involved.
I've had combat leaders criticize corpsmen for
putting on a tourniquet instead of starting an IV,
which the combat leaders have always been taught
is the right thing to do.

So what we need to do is to go back and
send another memo to the services, to the service
chiefs really, not the surgeons general, and say,
look, we need for the doctors to know what their medics are doing, everybody going out into the field with a combatant unit or to a field hospital needs to know TC3, likewise, the combat leaders, likewise the PAs and the nurses.

And as many people have pointed out, you can write a letter, it's not going to happen unless you go back and check for implementation. So it needs to go on the unit commander's status report so that somebody checks to see if they really did the things that you recommend.

So we also need to document our outcomes. This has been emphasized, but it's still not happening well. We have lots of tools that we can use to document outcomes, the JTTR, the pre-hospital trauma registry, the Armed Forces medical examiner, we need to bring all those things together and really make them an effective report card for what's happening on the battlefield. So stop, comments.

DR. DICKEY: Dr. Lednar.

DR. LEDNAR: Dr. Butler and Dr. Holcomb,
thank you for this brief. As I -- Frank,
especially to sit and reflect on what you've just
shared, it seems like a lot of the right things
have happened at kind of a sandwich end. At the
beginning, based on data, it was sort of know and
have data to show that you can really reduce
preventable mortality.

At the top, you've got the tops of the
services sending out very clear guidance about
what to do. For the new trainees, the training is
reflecting the TCCC guidelines. But we have a
management system that's ineffective. We've got
the middle that is, in fact, corrupting the good
things happening at both ends.

So this really is a management system
issue, and it's -- one way to think about going
into it is, are the deploying physicians and
nurses, many of whom are in the Guard and Reserve,
are they fit for duty, are they fit for task, are
they trained in what is the current doctrine, not
from a medical school 20 years ago, not from local
EMS training which may not reflect the greatest
insight, are they fit for their military task or
not? We clearly do that for immunizations, we
need to do that for training, because lives will
depend on it.

DR. DICKEY: Thank you, Dr. Lednar.

Yes, I'm sorry, Don, yeah -- Ed, I'm sorry.

MR. KAPLAN: Ed Kaplan. Neither of you
-- well, first of all, that's a very impressive
report that you've presented today. Neither of
you mentioned what has happened to the incidents
of morbidity in the way of infection with this new
wave of injuries as you've shown us. Could you
comment a little bit about that and tell us if or
how it's changed at all?

DR. HOLCOMB: We actually just put
together -- Dr. Duane Hospenthal, who's the Army
Surgeon General ID consultant, in collaboration
with his partners across the Navy and Air Force,
and about 30 other co-authors, I think today, or
yesterday, sent a large document to the Surgical
Infection Society describing optimal management,
prevention, and treatment, diagnosis, et cetera,
of multiple different areas of the combatant based
upon specific injury patterns and what we should
do with them. For that specific injury pattern
that I've discussed, what is interesting is that
the gram negatives and positives are no different
than any other wound, there's just more tissue
there.

There does seem to be an increased
instance of fungal infections and increased mucour
infections in this large body of devitalized
tissue, and that's what the ID guys are really
working on right now, they're working on that very
intently. We were seeing tissue and having the ID
guys make rounds with this daily in Landstuhl and
addressing that specific issue. It's an evolving
subject, people are all over this question.

There does seem to be a different
infection pattern, and I think it just may be just
because of the large amount of exposed tissue.

DR. BUTLER: And I will add to John's
answer on that, we have Dr. Hospenthal and Dr.
Clint Murray, who's chief of infectious diseases
at BAMSI, coming to brief at the next meeting,
using the ranger pre-hospital trauma registry.
They've got pretty good outcomes on who got
antibiotics and how it impacted on the infection
rate. And we look forward to having them come to
the next meeting.

DR. DICKEY: Good. Dr. Shamoo.

DR. SHAMOO: You said 97 percent of them
in hospital data receive crystalloids in this
data?

DR. BUTLER: No, sir, pre-hospital.

DR. SHAMOO: Oh, pre-hospital, okay, I
misunderstood. Thank you.

DR. DICKEY: Dr. Johannigman?

DR. JOHANNIGMAN: I'd like to follow up
on the use of antibiotics, because those pictures
were -- I was deployed, and it speaks to this
whole process, because we need to be data driven
and we need to be able to see outcomes, because I
can tell you, we would have knock down drag out
fights at the OR table among ourselves when we
were debriding these horrific wounds about the
role that antibiotics do or don't play.

Some of us feel that it's a matter of
physical debridement, others feel that
prophylactic antibiotics, when you see that wound
at Bagram, are very important. Thankfully, we do
have something we call CPGs. The CPG needs
clinical practice guidelines, need not only to be
updated with Hospenthal's data, but they need to
be rigorously followed by all across all different
levels of the theater, because my own personal
take is, the reason you're seeing nucor back home
at BAMSI is because they've had every antibiotic
in God's world applied in the field. That's a
sense, but not data driven. It's an incredibly
important process that, in my estimation, is both
the civilian and as a military surgeon, only the
military can solve because it does have the proper
tools in place to look at this in a data driven,
forward looking process, but it's a hugely
important question and one which I think that the
epidemiologist and the infectious disease
specialist on this committee are particular well
prepared to look at and address, and I think the
call for data ought to be forwarded to this
committee and the expertise at this table.

    DR. DICKEY: Thank you, Jay. Dr.

    Bullock.

    DR. BULLOCK: It seems to me that the
most controversial area of the TC3 recommendations
is the use of blood and crystalloid versus colloid
before, I'm sorry, blood and, you know what I'm
saying. So the issue is, do we have the logistics
in place to be able to provide that at the same
time that the endorsement of TC3 policy is made?
That's a huge -- isn't that a huge undertaking?

    DR. BUTLER: And we are getting into
that in the next section, yes, sir.

    DR. DICKEY: Dr. Parkinson.

    DR. PARKINSON: Yes, Frank, Mike
Parkinson. Just philosophically, and this is
probably coming in the perspective of a "vintage
Board member," I don't like to use "old," but the
working relationships between the DHB and its
expanded scope and how this body works
constructively with Dr. Woodson and everything above Dr. Woodson. I mean, historically, the DHB doesn't write letters to the SECDEF, kind of pounding on the table that everyone has got to get this training, and I'm not saying that's what the memo does, Frank, but I think we have to think through a little bit what is the reputation and the approach of the DHB, particularly when this is a generic problem.

You're going to hear very briefly from Dr. Silva and myself about another major issue, the signature battle of every war is combat stress, and that's been there since the Greek days, as well march syndrome in the Civil War. So how do we go about taking an evidence-based approach that is rapid cycle to improve health, reduce unnecessary deaths and disease, and to get it into an ongoing fashion so that we don't have memos over the transom with more and more exclamation points at the end?

Frankly speaking, any good health system, and we know it doesn't happen, should have
a rapid evidence based testing, you know, implementation and development cycle. And it's generally taken 30 to 50 years in any medical practice to actually introduce an evidence based practice. Coronary artery disease, it took us 40 years not to chop off women's breasts and total mastectomy even when we had evidence that a lumpectomy would probably work as well.

So I would just urge us to think a little bit about the best practice when really, if anybody, the military should be doing this today, and maybe do a root cause analysis as to how we can do this systematically better, not speaking against the action here, but to think about developing a process, because you're going to hear this in spades with every single issue that comes up before this body, as we've heard over the last four years.

DR. DICKEY: If I can get you to back up one slide. Dr. Woodson, did you want to say something?

DR. WOODSON: I did.
DR. DICKEY: And then we'll talk
process.

DR. WOODSON: Thank you all for your
comments and presentation of this data. And I do
want to echo one point that's being made and throw
out something, that sometimes in trying to get new
ideas implemented, if you lob it to the highest
level, it actually creates more difficulty in
terms of getting it implemented.

I just came from a series of briefings
in which I had to provide some information to the
SECDEF, and the issues of them understanding the
nuance of what is required when you try and do
those kinds of briefings on these sorts of issues
becomes difficult and it brings a whole lot of
other individuals into play.

Having said that, what I would hope is
that you could work with me. Having been there, I
understand something about the system, and can
interpret the science. One of the things that
you're talking about is that we don't routinely
update our training processes to incorporate new
information.

And by the way, one of the biggest challenges we have today is taking information and moving it to useable knowledge. That entails a number of steps that you've got to get in line and get it right in order to make sure that information gets to useable knowledge. A lot of information being generated out there, it doesn't always get to be useable knowledge, and that includes the way we train. So as I'm sitting here sort of free wielding and thinking, I'm saying that one of the issues that we have is getting the just in time training as the surgeon is deploying, particularly if they're coming from the Reserve component, what sort of fundamental train up program do we need to have to make sure that they understand the new knowledge that's out there?

And let's be honest about this, the issue is that we rely on basic talent, meaning that they're trained as a general surgeon, but some of them are not trauma surgeons, obviously, and we owe it to them and to the system to do
that.

Now, one of the things that will help us as we go forward is, of course, the MedC on the listed end, which is a joint operation to train the medics, so they'll be hearing all the same information.

But as you said, someone said the sandwich approach at the lower end, and the new people understand it, and the high end policy people, we probably understand it, but what we've got to do is spend our effort in that middle section to get that information to useable knowledge and then get a dissemination strategy that's appropriate. And I would encourage you to work with me rather than --

DR. BUTLER: And, sir, I'm just looking at the slide again, I did a really bad job on this slide. I actually meant for the DHB memo to go to you and for you to write the memo to P&R and SECDEF, and the slide didn't say that, and that's my fault.

DR. WOODSON: I might write a memo to
the SGs or talk with the SGs, I meet them every week before I send it up.

DR. BUTLER: But one of the things I'll just say is, the question comes up all the time, who owns level one trauma care in the DOD, anyone?

DR. WOODSON: Well, the question is who executes on it or who -- I own ultimately everything. Of course, the services execute, their job is to man, train and equip, and certainly execute, so I don't know if that answers your question, but I own everything.

DR. BUTLER: Well, so when it first got implemented -- TC3 first got implemented in the Seals, it was Ray Smith, the Seal Admiral who did it; when it first got implemented in the Rangers, it was Colonel McChrystal, the line commander, who did it; when it got implemented in SOCOM, it was General Brown, the line commander, who did it. So in terms of what specific equipment is bought and what specific pre-deployment training an individual in a Special Ops unit gets, that is a U.S. SOCOM four star decision. And so those are
the people that we have to reach out to if we're
going to really impact level one to the optimal
level.

DR. WOODSON: Well, I would just caution
you to be a little careful. What you say, in
part, is true. SOCOM is organized differently,
and I know Colonel Deal is sitting right to your
side there, and he can talk to that sort of in
expert fashion. But I think the message is, we
need to take a SOCOM-like approach with more rapid
cycle change. And again, this issue of turning
information into knowledge and fielding it, SOCOM
has certain advantages that perhaps the rest of
the force doesn't, and being innovative in some
ways.

DR. DICKEY: Dr. Holcomb.

DR. HOLCOMB: Dr. Woodson, I would just
echo Dr. Butler's comments. And I know as
previous commander, you understand unit status
reports with red, yellow, green, you know, what's
the status. There's a memo out that says
everybody deploying will have TC3 training or pre-
deployment trauma training, but there's no
follow-up, and I guarantee that the service
chiefs, the surgeons general and on and on don't
know how many of their docs, nurses and medics
actually got that pre-deployment trauma training.

And so if I can make a suggestion, that
we use the systems in place, as said earlier, that
line commanders, and every commander in the whole
DOD, uses some sort of USR to track their
helicopters, tanks, weapons, et cetera. We should
do the same thing for training, and we should do a
U.S. armed training down to the lowest levels, and
to have that come back to you at red, yellow,
green.

When Dr. Butler, through the TC3, did
that with the individual first-aid kit, you know
that kit that goes on your body armor, most of the
-- all of the services were red, and when we
showed that to them, they had a heart attack, you
know, because no commander likes red, red is bad,
and they fixed red and turned it to green pretty
quickly, and, you know, that's the way commanders
work, as you know, sir.

DR. DICKEY: Lots of questions. Let me ask a question. Dr. Butler, the slide previous to this has a number of recommendations, you have a little bit more presentation you want to make, and then there are some additional recommendations. Is that right?

DR. BUTLER: Well, this is -- the first group of slides was one of the decision packages. This leads into the second decision package.

DR. DICKEY: So, members of the Board, there are two decisions to make here. You've kind of heard the discussion and the presentation leading up to the first decision line. Can we back the slides up one? I'm not sure who's controlling the slides. No, the other way. I'm not sure what happened. It's -- there you go, okay.

This is decision point one. We have been asked to take action on this. And so if we can direct our discussion I think to this slide, and then we'll go on, Dr. Butler, with the
remainder of your presentation and your second set of recommendations?

DR. BUTLER: Yes, ma'am, with the one modification that I --

DR. Dickey: Correct, that this should be to Dr. Woodson --

DR. BUTLER: This should go to Dr. Woodson, and then Dr. Woodson makes the decision about the appropriate people and the line chain of command are to send it to.

DR. Dickey: Yes, sir. So you have heard the recommendation from your trauma committee. Is there a discussion about this?

Yes, Dr. Gandy.

DR. GANDY: This is John Gandy. Just a couple of things. The second bullet there is the one that I've seen most recently as being the biggest problem, the medical department personnel. I have an opportunity to do recurring training with combat medics pretty much on a monthly basis from all services in several different countries, and they understand TCCC. They know it backwards
and forwards. They know the science behind it, they know the papers that have been published, they understand it. But when they go get a local medical authority, wherever they are in Afghanistan or wherever they happen to be, that tells them, don't give pain medicine because it messes up my examination, don't give Hextend, that stuff is expensive, you know, no blood, blood is given by physicians, et cetera, or when you have doctors that go through the same training who just recently finished their internship who tell you, well, I don't believe that, and the medic says, here, let me show you the papers, I don't want to see the papers, you know, I trained at so-and-so and this is how we do it there, that's where I'm seeing the biggest disconnect.

I think the top people, like you say, get it. The ground level medics get it. Don't give certain types of pain medicine, you know, don't give fentanyl lollipops, don't give ketamine. Even though we know if we can break that pain cycle early, we'll have much less
incidents of PTSD, we're still giving that IM
morphine because it's easy to account for and easy
to use. It doesn't work, but we use it all the
time.

So, like I say, I think right in that
middle area is where we're really right now
missing the boat on getting the information to the
junior physicians, nurses, PAs in that little area
who, obviously, well trained, smart people, they
just haven't been exposed necessarily in their
training process to this information like the
medics have. Thanks.

DR. DICKEY: Dr. Anderson.

DR. ANDERSON: George Anderson. I would
urge the Board to accept the body of this work and
the recommendation. It's fortunate that Dr.
Woodson is with us this morning. I sense from his
comments that he's receptive already to this
concept and is prepared to interpret it and ask us
if we need to do more work, so I urge approval.

DR. DICKEY: Dr. Anderson, could I
suggest that --
DR. ANDERSON: So moved.

DR. DICKEY: Thank you. I've heard a motion that the Defense Health Board send a memo to the assistant secretary for his appropriate dissemination, including the recommendations that are on the slide before you. And I know Dr. Woodson is taking notes over here, not on this slide, but I think coming out in the verbal discussion was a strong recommendation in some form of tracking, that once the training occurs, tracking of implementation be included. We have a motion. Is there a second to that?

DR. O'LEARY: Second.

DR. DICKEY: Seconded by Dr. O'Leary.

Is there further discussion on the recommendations?

Hearing none, members of the Board, all in favor of the recommendations on the slide in front of you going to the Assistant Secretary, please say aye.

(Chorus of Ayes)

DR. DICKEY: Opposed, same sign. Are
there any abstentions?

Dr. Butler, Dr. Holcomb, thank you for excellent forward progress. And now, Dr. Butler, I think you have some additional presentation and an additional action item.

DR. BUTLER: Yes, ma'am. So about a year and a half ago, the TC3 committee and the Trauma and Injury Subcommittee came to the Board with a suggested list of battlefield trauma care research issues, and we made the mistake of ranking them in a numerical, prioritized order, and the Board, quite correctly said, gee, Frank, this is great, you showed us your projects, but we haven't seen everybody else's projects, so we can't make any kind of a comparative analysis.

So we've learned -- what we've done is to go back and come out with an updated list. And we had these in absolutely no prioritized order, we make no comparative value statements about whatever else the DOD is doing, we're just saying if you are asking for our opinion about the things which have the most potential benefit to help your
servicemen and women when they're injured, this is
our list, and however we should package that to go
forward, we recommend that we do so.

Now, there are 23 topics on this, and
I'm going to try to be very brief. There is a
narrative for each of these in your handouts that
goes into a little bit more detail. But starting
with tranexamic acid, this has been shown in one
large study to help with non-compressible
hemorrhage, we would like a better look at that
agent in the subset of patients who have
non-compressible hemorrhage.

We've talked about freeze dried plasma,
the Germans have been using this for several
years. What they've not done is share any
outcomes data with us. We would very much like to
have that outcome data. Colonel Deal has worked
very hard to get it from the German SG, we'd like
to continue to work hard to get it.

Prospective studies looking at plasma
alone for pre-hospital trauma resuscitation, it
helps your clotting. The Mayo Clinic came and
presented to us at the last TC3 meeting, they're
now using it exclusively, and they're finding that
it's helping with their coagulation studies,
there's a lot of thought that it will help with
TBI, and so we need to capture all of this data.

I know Dr. Holcomb is getting ready to do this at
Memorial Herman in Houston, we just need the data.

Ketamine is an analgesic agent that will
not suppress your respirations or cause the same
type of depression that you get from narcotics.

Maybe that's a better choice for battlefield
analgesia. We've talked extensively about
pre-hospital care documentation and data basing.

You can't tell how well you did if you don't have
a score card, and this is our score card.

Enhanced electronic TC3 training, you
know, it's really tough to get 100 rangers in a
classroom, we need to be better at doing this
electronically. Truncal tourniquets, Dr. Holcomb
talked about how hard it was to get a tourniquet
on some of these high amputations. There has
recently been developed a truncal tourniquet, and
what this is is basically a C clamp that you can
place over the iliac vessels or the high femoral
vessels and tighten down, that's in theater right
now. We need data on whether or not it is
working.

We really support the study that's being
done at the Institute of Surgical Research, where
they have the physician investigators looking at
what's been done pre-hospital. Major Lair et is
doing a fabulous job with that. I just want to
voice support for his study.

Monitor driven pre-hospital fluid
resuscitation, who says systolic blood pressure is
the parameter that we want to resuscitate to? So
what are our other options and what outcome data
do we have to show that these other options work
better? That study is hopefully underway at
Memorial Herman now. There are now new hemostatic
agents on the market, Celox Gauze and Chitogauze,
do they work better than Combat Gauze? We have no
studies from ISR to say they do or don't, but I
will tell you that units are using them, and we
don't know what to tell them because it hasn't been tested.

The same thing for new tourniquets. The most difficult technical thing that our medics do is a surgical airway. We need to be better at training surgical airways, and we need to have research that shows us how best to do that for our medics.

We talked about this yesterday, we need to know exactly the cause of death for every fatality that we've had in this war and what could have been done to prevent it. Dr. Holcomb did the landmark study that was published in 2007, but actually done starting in 2004, and that really drove TC3 into the special operations community, and we need to do that for all of our deaths.

TC3 started treating traumatic brain injury with special measures relating to oxygenation and fluid resuscitation in 2003, maybe we could do better. We need to have somebody take a look at this and tell us how exactly we could do better. We've heard a lot about the Merck teams,
you know, it's not just having a doc on board,
it's not just giving blood, these guys also give
tranexamic acid, they do rapid sequence
intubation, they use ketamine instead of morphine,
they cross-clamp aortas, so which of those
interventions makes the difference, we don't know.

We've invited them to the TC3 meeting in April to
try to help and tease that out.

There are more and more things on the
market now for hypothermia prevention. We need to
do comparative studies to see which is better.

You know, amazingly, 10 years into the war, there
is no formal data on what combat medics, corpsmen
and PJ's think about the equipment that we, the
doctors and the services give them. So this is a
project that we've actually started now. We would
like for the Board to support the Defense Medical
Material Program Office, as they support us, to
try to get these answers back from our medics.

Focused analysis of the JTTR data
regarding specific interventions, again, the
largest combat trauma registry in the world, it's
an incredible goldmine, most of that gold is still
in the ground, and it's going to stay there unless
some researcher goes out there and digs it out and
analyzes it appropriately.

    Dr. Reed suggested that we use veress
needles for needle thoracostomy instead of the
three and a half inch, 14 gauge needles that we're
using now. It provides a little bit of extra
protection, it has a spring-loaded end that's a
blunt tip that may give us better outcomes.

    The medics want better suction devices
to use on the battlefield. We need better metrics
to tell us -- I mean is it passing a test, is it
doing a dummy, is it -- in one of the simulation
labs like they have out at 29 Palms, how do we
measure who's really learned TC3 and who hasn't?

    Spinal cord protection, we tried to do a
relook at spinal cord protection to bring to the
Board about a year and a half ago. The data on
how to treat suspected spinal cord injuries is
remarkably unhelpful, and we could not come to an
agreement on what things to bring to your
consideration, so that remains an unresolved
issue, but that's an area that is ripe for
research.

And I think we all understand about
enhanced pelvic protection after Dr. Holcomb's
presentation. So that's a lot. And what we hope
to do is just to take the handout that we sent as
a read ahead and have the Defense Health Board
forward that to Health Affairs and have Health
Affairs send it to the services for their
consideration. Questions?

DR. DICKEY: Questions for Dr. Butler?

Any questions or comments for Dr. Butler? Dr.
Butler, many of these seem to be research, we just
don't know kinds of comparators and so forth, but
several comments have been made yesterday and
today about battlefield analgesia. And if you go
back to your second slide I guess that talks about
ketamine, is that one where you need more data or
where you perceive the data is available and you
are prepared to recommend a change in either what
people carry or what they're trained to use?
DR. BUTLER: Well, that's a great question. There's this incredible -- in 2007, Dr. Maybury from ISR put together a first responder conference, and we sent out invitations to all the services that said come and tell us your problems about battlefield trauma care. One of the biggest things that came out of that conference was that IM morphine doesn't work very well on the battlefield. Well, we knew that, but now we've heard it again, so what are our alternatives? Well, IV morphine was recommended in the original TC3 paper, that's still a good option, but people are a little leery of doing that. Dr. Kotwal and Kevin O'Connor wrote a phenomenal paper detailing the pre-hospital use of oral transmucosa fentanyl in rangers, and that drove the TC3 committee to say, hey, here's a fast acting, very effective analgesic option that you don't need to start an IV to administer.

Everybody has been leery about that because of the black box warning. Well, we've reviewed the published literature, we've gone to
the FDA, we said send us every single adverse event that you've had with these agents, this particular drug, and they finally sent us one year, which we analyzed at a TC3 meeting, it does not have relevance to the combat situation. I mean it's a narcotic, it has the same problems as other narcotics, and especially it has the same problem as IM morphine, if you give somebody 10 milligrams, they're still screaming, another 10 minutes you give them 10 more, they're still screaming, another 10 minutes you give them 10 more, when it all kicks in and they get fluid resuscitated, these people are overdosed, that's all over the place.

So if we're not going to use IV morphine, if we're not going to use oral transmucosal fentanyl, what are we going to use? I mean, the Holbrook paper said if you don't give these guys good pain relief, they're going to have more PTSD, and nobody has really responded to that. So sorry, long answer to a short question.

DR. DICKEY: Dr. Anderson.
DR. ANDERSON: George Anderson; a great presentation again, a wonderful list. I take it from your comments that you're in contact with the individuals and organizations that work at research, test, development and evaluation processes that would help to solve these problems. And in the spirit of Dr. Woodson owns it all, I'm sure that it would be easy for us to endorse this list and forward it to him and onto the surgeons general and so on, but I'm curious about, and this is for you, too, Dr. Holcomb, about your perceptions about the responsibilities of this Board as we look at priorities.

And it looks to me like a daunting task to come with a list and then for us to get our minds around trying to fold this in appropriately with all of the research requirements for medical research in the DOD, so maybe you could talk a little bit to how you, as really powerful leaders in this arena, could perhaps challenge us a little bit on how we ought to process this and then get it on to Dr. Woodson.
DR. HOLCOMB: Well, Dr. Butler is looking at me. As a retired officer who spent eight years at Medical Research and Material Command, I'm extremely biased from my background as a trauma surgeon, let me just preface those remarks.

There's a lot of research that goes on and has gone on for the last 10 years now that we've been at war. A lot of it doesn't have to do with combat casualties, and that's okay. From my biased viewpoint, 10 years into a war, I'm not sure that we're funding research for the combat casualty the way we should be.

You know, we all kind of around here have thought, if I was king for a day -- there actually have been some kings for longer than a day around here I guess, but if I was king for a day, I'd take an epidemiologic viewpoint of this and look at the slice of the pie, how big is the slice of the pie, and that's where I'd go, and that's not what's done.

What Dr. Butler has presented is,
although the slice of the pie, there are no
numbers up there, we're all smart enough to see
that there's some prioritization up there.

DR. DICKEY: Dr. Butler, do you care to
weigh in?

DR. BUTLER: You know, the Special Ops
R&D Medical Program, which is arguably the most
successful R&D -- Medical R&D Program in the DOD,
got started because the Seal line commander said,
look, you know, I have these guys coming in from
the labs telling me the research that they think
they need to do, and when I tell them the research
that I'm interested in, they go back to the
research that they think they need to do, he said,
I want my own program, I want it designed to be --
to go for the low hanging fruit, to bring me the
things that I need to go to war, to do it fast and
for a reasonable cost, yes, sir.

So that evolved into the Naval Special
Warfare Biomedical Research Program, which evolved
into the program which Colonel Deal now runs at
SOCOM. Admiral LeMoyne extended that to everybody
in the U.S. Special Operations Command. The total
DOD medical research budget is how much, a lot.
Tom's research budget is a couple of million, and
it is incredibly productive, because it is line
driven, it is customer responsive, if we don't get
answers back to our operators quickly, we hear
about it.

DR. DICKEY: Dr. Lednar.

DR. LEDNAR: Wayne Lednar. I had a
similar thought to Dr. Anderson. It seems like in
the list of slides, there are a number of very
important questions to answer with data. Some of
them might be, in fact, closer to an answer than
others because of activities that have gone on.
Some of them are more critical because they really
effect the near term clinical outcome. So I guess
what would be helpful I think to the Board is a
way to, as Dr. Anderson said, process this list
into a set of priorities, some of which are, you
know, with a little bit of effort, we can get
there quickly.

This is really important because the
life will be saved with the answer to this
question, and to sort of make that list
projectized or staged in some way, and then the
highly disciplined execution, again, with Dr.
Woodson's formidable task of owning it all.

Across DOD, there is an awful lot of
medical R&D activity going on, and no matter where
it's going on, at SOCOM or elsewhere, is it really
reflecting the highest set of priorities in Dr.
Woodson's view of what DOD needs? So it's sort of
a research management challenge to know what's
going on, and then to see that the energies and
the resources are being applied in a way that
really gets it done.

DR. DICKEY: Are you suggesting -- Dr.
Butler's committee brought this for action today.
I'm hearing you suggest maybe we should take one
more shot at trying to, as a Board and with input
from our experts, prioritize the list?

DR. LEDNAR: Yes, ma'am.

DR. DICKEY: Okay.

DR. LEDNAR: And if I can also suggest
that any suggestions on how to improve execution, 
follow-up and execution would be very informative.

    DR. DICKEY: I may come back to you and 
ask that it's a formal motion. General Robb.

    GENERAL ROBB: Or another way to look at 
it is, have Dr. Woodson's peeps get together with 
his peeps with this list after we push it forward 
and have them sorted out in a different form, I 
think in a more, you know, resource focused 
environment, you know, with MMRC, with the surgeon 
generals, and then with your committee, and I 
think we would probably get there faster than if 
we tried to do it in here. And then it would also 
be based on where the other parties are, and then 
you can put them into cue, so that's just a 
suggestion.

    DR. DICKEY: Yes, sir.

    MR. DANIEL: Chris Daniel, deputy 
commander at MMRC. I'm not sure to the extent -- 
and I think that was a great suggestion General 
Robb made. I think that -- I know that there have 
been some communication with the Combat Casualty
Care Program at MMRC which, between the Army Program and the Defense Health Program, the largest percentage certainly -- obviously not including SOCOM, with a small percentage, but very productive, but the largest percentage of combat casualty care research, and for that matter, the military medical research.

But I agree, we would certainly welcome the opportunity, rather than arbitrarily just providing us a list, many of these things that you talked about, there are some efforts already.

Certainly we talked about the ketamine, in addition to the use of ketamine itself, looking at (inaudible) S-ketamine, which may have some less -- some of the same positive effect with perhaps some of the less disassociative reactions. So there's a lot of efforts in many of these things already gone on, I can't speak to how many of the 23 and what level, but I agree, some sort of prioritization and discussion of, you know, where is the low hanging fruit, where are the things that are going to continue to need a lot of
work.

Again, I know that there's a lot of money dedicated to many of these 23, if not almost all of them already, but we're certainly -- I can say that Colonel Hack and the members of the Joint Program Committee and certainly the Army that are in this area would be very happy to hear this, but it certainly would be useful in some way, again, have it prioritized, and again, looking at the bigger balance that Dr. Woodson is responsible for and that we execute, certainly in the context of all the other things that we're working on, we're more than happy to try to tackle as much in all of this as we can, but in the out years, there's only so much fiscal resources available for that, but we certainly want to do everything we can to tackle as much of this as we can.

DR. DICKEY: Thank you. Dr. Holcomb.

DR. HOLCOMB: Captain Daniel, you understood the nuances of some of my comments intimately, it's nice to see you. I would suggest, you know, we came -- to use Dr. Butler's
words, a year and a half ago with a prioritized
list, and you guys sent Frank way away and said
come back with a non-prioritized list, so we came
back with a non-prioritized list, I'd hate to see
that cycle keep going. I think we all caught
that.

I think there's no question that sending
a list of topics to you, sir, Dr. Woodson, and
then working with the services research commands,
the Medical Research and Material Command with
Captain Butler and others, and maybe come back and
reporting progress on this list, almost like,
again, and I hearken back to the unit's status
report thing, you know, what is the progress on
this list of things that we spent a fair amount of
time going over that list.

It's a decent list, it covers a lot of
ground. There are some really low-hanging fruit
that, with some resources applied to existing
data, could come up with some rapidly useful
information. There's some longer term projects
there. But I think the emphasis on the list would
be correct, and if we come back and report maybe
where that progress is being made, might be a
reasonable recommendation.

DR. BUTLER: And if I could add to Dr. Holcomb's comments, we send this list and all
working iterations of this list to all of our contacts in military medical research. Let's be
honest, it makes a difference if a recommendation comes from these guys over here who you don't
really know, and if the recommendation comes from the Defense Health Board and Dr. Woodson, and so
that's the difference.

I mean if it comes from us, it's, you know, another thing -- a stack this high on
Colonel Hack's desk. If it comes from Dr. Woodson and the Defense Health Board, maybe it gets moved
out of that stack.

DR. DICKY: Okay. Dr. Jenkins.

DR. JENKINS: A couple of points of emphasis. If I'm not mistaken, there are about
seven different colors of research money out there, we're talking about one. There's about
$300 million, Captain, if I'm not mistaken, that's been dedicated to combat casualty care, and this may be an opportunity lost, because that 300 million is about to be finalized in terms of being doled out for projects that didn't have this level of influence of prioritization about them.

The other thing that seems to me that I'll emphasis again that may be put in different terms than Dr. Holcomb put it, but there really needs to be a deliverable at the end of the day. This can't be open ended money to go and do a research project that doesn't have a deliverable back to the Department of Defense. And I'm concerned that if we don't act pretty quickly, there will be a tremendous opportunity lost in terms of combat casualty care research dollars.

DR. DICKEY: Dr. Jenkins is one of the sitting members of the Board. Do I take that positive statement as perhaps a recommendation or a motion to approve the forwarding of a memo to the assistant secretary regarding these priorities?
DR. JENKINS: Indeed you interpret that correctly.

DR. DICKEY: I thought I did. We now have a motion to advance this list of recommendations and follow up by the Board so that we know where things are going. Dr. Anderson.

DR. ANDERSON: Yeah, I would second that and just add actually the follow up part is a process for this newly formed Board. And I sense certainly the acceptance of this from your presentations and, Dr. Butler, from your recommendations. Also, others in the room here, I also see Rick Erdtmann here from the IOM, and the IOM has a great deal of interest in this area also. So I would urge the Board to accept this recommendation and this motion, and also to put in place a follow-up process so that we will hear not only back from this particular set of briefings, but from others who might be interested even from the private sector, from civilian medicine.

DR. DICKEY: Dr. Jenkins, is that addition acceptable? All right. You have,
members of the Board, before you a motion to send
a memo to the Assistant Secretary for his
dissemination and utilization as appropriate a
list of pre-hospital trauma care projects,
recommending they be pursued as high priority
research projects, and that this Board develop a
process of regular follow up to see the status of
that research. Is there discussion on that
motion?

If not, all in favor, say aye.

GROUP: Aye.

DR. DICKEY: Opposed, say no. Anybody
abstaining? Thank you.

And with that, you have bought for
yourself a brief break.

DR. FOGELMAN: Dr. Dickey --

DR. DICKEY: Yes, there you are, Dr.

Fogelman.

DR. FOGELMAN: -- I want to take
advantage of the recency effect, a kind of
psychological principal before everybody leaves.

DR. DICKEY: Please, stop me so I can
thank our presenters before we take a break.

    DR. FOGELMAN: Now I'm embarrassed.

Both of our recent presenters and several other
people talked about psychological issues. You
talked about care for the caregivers to make the
most general statement, and people have talked
about introduction of chemical agents to cut off
the trajectory of PTSD. I'd just like to point
out that I, we, and our committee are eager to
help with this, and can help with this, and I just
don't want it to be off the agenda because all the
medical stuff is -- takes away a lot of the
energy, as it should.

    DR. DICKEY: But just --

    DR. FOGELMAN: Remember that we're here,

    too.

    DR. DICKEY: Thank you very much. I do
want to thank Dr. Butler, Dr. Holcomb, and your
Committee for the tremendous work that you've
done. The brief discussion that's gotten this
morning is not indicative of our level of
interest, rather of our limited time. I'm not
sure, Dr. Woodson, how long you'll stay with us, but we're greatly appreciative of you being here for this piece of the discussion. Dr. Lednar, between now and break.

DR. LEDNAR: Wayne Lednar. If I can just reinforce one comment that Dr. Fogelman just made. In other situations and other clinical outcomes, there's evidence to show that taking care of the patient, including their psychological health needs, improves clinical outcomes, medical, surgical outcomes.

If you think in terms of sustainability of our care providers, on the battlefield, back in referral centers like Landstuhl or BAMSI, and the psychological toll of providing care for these devastating injuries, we need to support them. And the kind of issues that Dr. Fogelman is raising for us and can address are just critical forced multipliers. So I really would endorse his keeping -- his suggestion to keep that on the radar screen.

DR. DICKEY: Thank you, Dr. Lednar. We
are running a little bit behind, but the
discussion I think was well worth it. Let's take
a break and be back here at 11:15. We have a
number of other briefings to go. Thank you.

(Recess)

MS. BADER: Excuse me, can everybody
please take their seats so we can reconvene the
meeting?

DR. DICKEY: Thank you. And again,
thank our presenters from excellent discussion
this morning.

Our next presentation will be given by
Dr. Michael Parkinson and Dr. Joseph Silva. Dr.
Parkinson serves as president of the American
College of Preventive Medicine. His previous
positions include executive vice president and
chief health and medical officer of Luminos, a
pioneer consumer-driven health plans and a
subsidiary of WellPoint. There he is responsible
for the development and implementation of an
integrated and incentivized health improvement
strategy employing evidence-based prevention, care
management, account-based benefit designs,
employer partnership and consumer engagement.

A retired Air Force colonel, Dr. Parkinson also served as the deputy director of the Air Force Medical Operations and chief of preventive medicine.

Joining him in the presentation, Dr. Silva currently serves as professor of internal medicine within the Division of Infectious Diseases and Immunology at the University of California Davis School of Medicine. He previously served as dean of the Medical School and chairman of internal medicine. In addition to his academic position, Dr. Silva's prior appointments include serving as a consultant for Kaiser Permanente Hospital and staff physician at the U.S. Air Force Medical Center in Lackland Air Force Base.

Dr. Silva also served in the U.S. Air Force Medical Corps at Wilford Hall Medical Center and, subsequently, in the U.S. Air Force Active Reserves.
Dr. Parkinson had chaired the DHB Complimentary and Alternative Medicine Work Group, and Dr. Silva has served as chair of the Psychotropic Medical Work Group. And they're going to provide an update regarding the activities of the work group. Since the last meeting of the Board, their presentation slides can be found under tab 5.

Dr. Parkinson and Dr. Silva.

DR. SILVA: Thank you, Madam President.

I'll start it off and cover the first three slides. I like to point out that we only --

DR. ENNIS: You said that again.

DR. SILVA: What did I say?

DR. ENNIS: Three hundred slides.

DR. SILVA: Oh, did I say 300? I'm sorry, the first three slides. See, when you become Dean, you don't have a count any longer.

Anyhow -- we only got formed as a committee in November, so what you're going to hear is about four months of pretty intensive work by staff and Mike Parkinson and myself. We had to get to get
up to speed on the topics also, and we are getting
there, and you're going -- this is a progress
report without any final end points, so some are
starting to jell.

We owe a great degree of thanks to Dr. Charles Fogelman as, after we had our first
committee meeting, we realized that a lot of
expertise existed, and I really started to
consider some of these issues, or had considered
them in his committee. And so we came together as
three different units, and I think that allowed
for us to really generate a lot of data that we're
in the process of looking over and trying to form
recommendations.

Can I have the next slide, please? Oh,
I have to work it, I'm sorry.

Oh, we were going to do this before, but
this slide says it all. This popped up, Mike, I
thought you were going to get it. Okay?

DR. PARKINSON: Well, this was, to say
how topical this is, this was yesterday's
Doonesbury. We'll let you just read it here for a
minute.

DR. SILVA: Actually, at about the end I
said this states it all what the conundrum is.
We've been at war for over 10 years. We will
review some of the background charges. Given our
committee, it took us some time to sort it out,
but I want to review these with the Defense Health
Board.

In a broad way, we were to review and
provide recommendations on DOD's use of a
complementary and alternative medicine -- I think
you all recognize the employment of CAMs is very
common not only in the military but throughout
societies in the world; it's an enormous
multibillion-dollar budget -- examine and provide
recommendations on prescription practices and use
of psychotropic medications in DOD. All right,
being a simple charge, you will hear from Dr.
Parkinson how complicated it is to analyze these
pipelines of acquirement of drugs, put them into
theater, monitor their use, and then also decide
who's going to be maintained on them when they
return out of theater.

Consider issues that would all have been ensure our patients' safety and quality of care.
Again, many of our warriors have been in theater multiple times and multiple assignments, and so that adds to all the psychological stress. Take into account the context of specific military-unique challenges -- it's already stated here -- increased military operations, the tempo, the separations, deployment stress, sleep deprivation, et cetera, and these are all very important factors.

Next slide. The scopes of interest are discussed in or shown in the next two slides.
That is what's employed in theater or once deployed and in operational settings may be different than what is occurring state-side or when they return. Service members are engaged in peacekeeping missions preparing to deploy or between deployments. Their utilization of drugs can be an off-again-on-again phenomena;
monitoring that is going to be very difficult.
What are the most common mental health conditions in theater? What kind of handle does the Department of Defense have on the whole issue? What are the evidence-based optimal therapies that should be provided? And psychiatrists from the active military were very useful in giving us insights into what the variability is in prescribing these agents by theater. Should we develop guidelines pre-deployment as to what drugs are going to be recommended once they get into theater? Who's providing these drugs? A very simple question. And are they trained to give it? And some of the things we heard in Trauma presentation now that sometimes people on the bottom of the rung -- psychologists, pharmacists -- are more knowledgeable than people in the field that are recommending these drugs. There's a huge education factor that's going to come into play here, too.

Next slide. There are some protocols out there that seem to be somewhat uniform between
the psychiatrists and other primary care
physicians using these agents. There's a
variability of medical records in theater, so this
is not a simple analysis. The existing framework
for dissemination of knowledge and awareness is
there, but it's not being disseminated very
widely. There are excellent courses that are
ongoing again aimed more at lower-level providers
and psychiatrists. But we know a lot of these
agents are being described -- prescribed by others
out in the field with other specialties than
medicine.

And it became quite apparent that
there's a stigma of declaring if you have a
psychological illness and are on these agents.
And because of that kind of pall around a
diagnosis, we may never get our handle on the
problem overall because the troops in theater do
obtain drugs outside DOD referral line for
prescribing and obtaining drugs, and that's going
to be a real tough one to get our hands on.

So those are the main areas that we're
struggling with, and we'll tell you how we've gone
about it and what kind of data we've been
assessing, and we've had tremendous help from
everyone in the Department of Defense when we've
asked them some very tough questions.

Mike?

DR. PARKINSON: Thank you, Joe. Yeah,
the three meetings that we've had today have been
-- I would describe them as very intense in terms
of the volume and the repetitiveness of the
information that the committee has been asked for,
received, and has reviewed.

As background particularly for the new
Board members, this came as a question to the DHB
in November with a request for response by 31
March; that it's unusual in the relatively short
cycle time, but it also is not uncommon in the
increasing scrutiny that Dr. Woodson alluded to
today from Congress, The New York Times,
Doonesbury, and so this is the reason I think,
when he mentioned the third pillar, what he wants
to establish is trust with the American people and
with Congress. And so you are welcome to the
point of the spear, so to speak.

So with the help of Christine Bader and
the Psychological Health Subcommittee chair by Dr.
Fogelman, we got right at this, and I commend all
the members of the committee who made time to come
together physically for what is essentially five
working days and in very short order.

So to give you some flavor of the types
of topics that we reviewed, and let's go to the
meetings themselves, the original request came
with a cover letter and essentially four pages of
single-spaced questions underneath the broad
categories of psychotropic medication use and
complimentary and alternative medicine. So a
major part of our effort was to scope the question
in a way that we believe would be most useful for
the Department, because otherwise it could have
been an entire psychiatry and CAM textbook,
frankly.

So you can see that we've relied on some
of the best resources, both internal DOD and
nationally, including the NIH Center on Complementary and Alternative Medicine, which we've had excellent support from the military service psychiatrists giving their both global and in-theater perspective on the use of psychotropic drugs and CAM, as it relates to common combat stressors, PTSD, other types of psychological conditions in and near theater after deployment.

We also heard a lot about emerging technologies like field acupuncture for the use of combat stress -- Captain Robert Koffman -- and we began to look at both EMR as it was available and DOD-wide pharmacology databases. And I think our review is going to be mixed on both for a variety of reasons that will come out in the report. But we've looked at every possible stone and rock the DOD has as it relates to pharmacy and electronic medical record data, and I would say without tipping our hand is that we're disappointed even a decade later that, from the line of sight of the individual service member before, during and after deployment, I can't tell what Captain Parkinson
got, why he got it, and what he has in his pocket
at any given time.

We've identified at least four sources
of possible psychotropic medications that might
come to an individual member while in theater, and
it's hard to capture exactly whether or not we
have an overabundance, an underabundance, what is
the prevalence of the psychological condition, and
what is the prevalence of the coding of those
conditions and the prevalence of the treatment of
those conditions with approved or not approved
uses of psychotropic drugs, which is the exact
questions that the Department is asking us. So
we're challenged, and you'll see some findings
going forward in that general area.

We've asked a lot of the
Pharmacoeconomic Center. We've reviewed all
existing policies coming out of the department
concerning deployment-related reviews of
medications, some of the other databases that the
Department uses like P-Mart -- I forget what it
all stands for, but the pre-deployment screening.
We've also looked at issues of scope of practice as it relates to who is allowed to prescribe medications, psychotropic medications as it relates to that.

We've also looked at DCoE, which is an intimate area to Dr. Fogelman in terms of what they do and what they fund. As I said, complementary and alternative medicine has had very promising practices in both the broad area defined as "mindfulness," which is the ability of individuals to self-generate curing capability, if you will, for common stressors; self/buddy care, the types of things we use in simple first aid and others might be very appropriate; using an integrated approach to both self/buddy care, application of field CAM, training and resiliency in mindfulness, perhaps, as a basic PPE before a person goes to combat. These are all things that are on our screen.

We're informed by broader DOD-wide and things like the Army Behavioral Health Initiative which also puts it in the broader context of in a,
you know, personal resilience and family
resilience longer term. So this is really just an
update report. We're confident that we will have
a rough first draft to the full committee sometime
after this meeting which we can then review and
transmit to the full Board by the June meeting for
its consideration.

So that concludes our report, and we're
open for questions or comments.

DR. DICKEY: This is an informational
report for the Board. The questions, comments?

Dr. Lednar.

DR. LEDNAR: Dr. Parkinson and Dr.
Silva, for, certainly, for the Board, great thanks
to you for taking on this challenge and moving it
so rapidly forward.

This may be a question that's a little
bit too early to get a sense of, but Mike had
mentioned that there were multiple sources of some
of these therapies in theater, and is there a
thought that these sources could be not only
understood but managed, controlled in sort of a
cohesive way.

Dr. Fogelman, please weigh in here, too, as well. We don't know. Some of them clearly are traditional medical models of someone comes in with symptoms and I record the diagnosis. I then match that to a prescription, and I should be able to track that pretty well, standard medical practice. But with people coming in and out of theater with access to multiple sources of prescription drugs, everything from getting a package from home that might have sleeping pills in it, and, anecdotally, and it's just anecdotal, there is that going on which I think leads to your Doonesbury cartoon.

Now, I'm not always going to way where there's smoke there's fire, but we certainly understand from the service psychiatrist and others who are now seeing -- Dr. Koffman is in the process of almost a detox program for some 30-plus individuals on 13 or more prescription drugs who have either in-theater or near-theater experiences.
I think Kurt Kroenke on our committee said it best: We have got to get out of the symptom treatment into whole person treatment, because if we go from provider to provider -- and, by the way, this is exactly what I see in the civilian practice -- there's not a single company I go to where I review their database that the number one drug for all their employees and their families is a psychotropic, that they're all on antidepressants or some ambient or sleeping pills because they are relentlessly marketed.

Number two is some version of statins, and number three is some version of GERD drugs. And they're all lifestyle drugs. So what we want to come up with is an operational, militarily-relevant way to treat the signature combat injury of any war, which is not double amputations, frankly, it's combat stress. And so before, when Dr. Fogelman was making his comments and we were making ours, is what we want to do is to learn a best-practice model from TCCC. I'm not
sure it's there yet, but somewhere between combat
stress which affects probably 90 percent in terms
of what you actually feel when you're in combat,
and the types of things we're talking about TCCC,
we've got an integrated model. And we've got to
get our handle around it.

I think you'll get some good
information, but -- and we'll be as confident as
we can in the prevalence of both the conditions
and their treatment -- but I think there'll be
some questions remaining about how exact our
information is. I will tell you that the ranges
in terms of what we track going through DOD
formulary versus what an MHAT survey, for example,
which is the survey instrument asked of people in
theater about what types of drugs they're actually
taking. There's a big variance, and so the
question is how, for the delta, where do those
drugs come from?

DR. FOGELMAN: I agree completely with
what Mike said. I also had quite substantial
optimism that we can get more of a handle on it,
Wayne, and get on top of it and in front of it, particularly as we move toward a more systematic model. And knowing the military's commitment to being out front of many things and having been behind this, I think there'll be a desire to catch up and move ahead, and I think we can take advantage of that, and we'll probably make recommendations to that effect.

Do you think that's right, Mike?

DR. PARKINSON: (Nodding)

DR. DICKEY: Other comments or questions? If not, we thank both of you for taking on the issue with the fairly short time frame and providing us with this update. We'll look forward to your next report.

Our next speaker is Dr. Adil Shamoo, former chair of the Medical Ethics Subcommittee. Dr. Shamoo is a professor at the University of Maryland School of Medicine and was the former chair of the Department of Biochemistry and Molecular Biology. In addition, he serves as professor of epidemiology and preventive medicine,
and a member of the graduate faculty of Applied Professional Ethics affiliated with the Center for Biomedical Ethics at the University of Maryland, and guest faculty for the Applied Research Ethics Program at Sarah Lawrence College.

Dr. Shamoo is the founder and editor-in-chief of Accountability in Research and has been providing training, education, and workshops in human research protections, patient recruitment, and responsible conduct in research. He's providing an overview of the Medical Ethics Subcommittee, and you can find his presentation slides under tab 6 of the meeting binder.

Dr. Shamoo?

DR. SHAMOO: Thank you. This most of you have heard most of the presentation, I'm going to be quick of the most of the slide. There is really only one brand new slide, so bear with me. Just to be sure, we all know that the Medical Ethics Subcommittee is relatively young, and that's all I will say about it. We used to have membership of the committee, we have a charge
the recent activity will tell you, active issues
and potential issues, and the new slide will be
about potential issues.

Members of the committee prior, we all
know who they are, there are about five of them.
Subcommittee official charge has addressed issues
pertaining to moral values as they apply to
medicine and their practical application in
clinical settings, and then review the latest
development in medical ethics in general and see
how they pertain to DOD function.

This was the question we were asked just
recently, how can military medical professionals
most appropriately balance their obligations to
their patients against their obligation as
military officers to help commanders maintain
military readiness, and how much latitude should
military medical professionals be given to refuse
participation in medical procedures or medical
operations with which they have ethical
reservations or disagreements? Basically do they
have the right to refuse on moral grounds?
We had one meeting on December 2nd, and these are the briefers from various point of view of the DOD and outside world dealing with these issues, and we still need at least one more day of briefing, eventually. These are the people. We discussed on that day of do our loyalties -- what are the medical ethical code in the civilian world, and what's the military law governing these issues and the belief system and moral influence on it? And support. Is there support for providers handling difficult ethical dilemma? And is there any ethics training for military health care providers? -- which, to my knowledge, there isn't much.

The potential issues that, officially I guess, we've been asked, is ethics education for medical personnel within the military health system and then ethics primer for board members, and that, of course, probably we will wait 10 years for that to happen. Board members won't sit a few hours to listen to one kind of trainings, but nevertheless -- but as some of you heard
yesterday in the comments of the old Board to the new Board, you should be proactive. And part of that being proactive, the subcommittee, for example, has another four or five issues, probably, they want to address, two of them really at the top. One of them is relevant to what Dr. Parkinson and Silva just talked about: Ethics of enhancement drugs to military personnel and the other is the issue of use of obtaining and using genetic information in the military.

And I'll be glad to answer any question.

DR. DICKEY: Thank you for that overview, Dr. Shamoo. Are there any questions or comments regarding the Medical Ethics Subcommittee or the presentation you just heard?

All right, thank you again, Doctor. Our next speaker this morning is Captain Paul Hammer. I could ask all of you to note that a new set of slides has been passed out, so he'll be referencing the slides that were left on the table for you this morning, not the ones behind tab 7.

Dr. Hammer is the director of the
Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury. Previously, he served as the director of the Naval Center for Combat and Operational Stress Control at the Naval Medical Center in San Diego, California.

The mission of the NCCOSC is to improve the psychological health of Navy and Marine Corps forces through programs that aid research, educate service members, build resilience and promote best practices in the treatment of post-traumatic stress disorder and TBI. Captain Hammer has personally trained thousands of service members in operational stress control, psychological health, and traumatic brain injury topics. I may take you back to my university, sir, we could use some of that there.

Captain Hammer deployed to Iraq twice and provided direct care to warriors in the combat environment treating marines and sailors suffering from acute combat stress reactions, and he directed the mental health activities of over 2 dozen caregivers for 33,000 service members. He's
led interventions following suicides, training
accidents, and natural and man-made disasters. He
led the psychiatric intervention at the Korean
Airlines crash in Guam in 1997 and the Joint Task
Force Mental Health interventions following
Hurricane Mitch.

This past year Captain Hammer was
deployed in support of the Joint Task Force in
Haiti. He's going to provide the information
briefing regarding the DCoE's current initiatives
and efforts, and, as I said, his presentation is
in a handout provided to you this morning.

Captain Hammer?

CAPTAIN HAMMER: Thank you, and I
realize that it's lunch after me, right?

DR. DICKEY: Yes, sir.

CAPTAIN HAMMER: All right, I'll go
quick. I'm here to talk about DCoE and to give
you all an update. And this is my first
presentation before the Defense Health Board, so
if it is not right, let me know and I'll correct
it for the next time.
This is what I'm going to talk about, a little bit about our history, about LoA No. 2, the Line of Action No. 2, what our congressional intent was in trying to get DCoE refocused on what our mission and vision should be, and then a little bit about our strategic planning and the way forward and what we've got planned.

It's important, I think, to put it into context so we understand where DCoE came from and what it's all about. And I think that part of our problem has been in, you know it's sort of timely what we're having this presentation now, especially given the government accounting office report that just came out this week, or this past week, regarding -- and I love the title -- Management Weakness is a DCoE. It's like, oh, great. Thank you very much, welcome to D.C.

But I think it's important to put it into context. And if I take you back to the winter or the early part of 2007 when in February The Washington Post came out with a series of articles outlining difficulties in wounded warrior
care in military medicine, and in particular citing a lot of the issues that occurred at Walter Reed. Along with that there were several other task forces that were ongoing to deal with particularly mental health issues and TBI. So what you had was the DOD Mental Health Task Force was created in 2006.

You had the Independent Review Group, which was chartered in order to look at wounded warrior care. We had the Presidential Commission which was ongoing, the task force on returning GWOT heroes, and what happened is that generated over 400 different recommendations on how to improve wounded warrior care. Over 300 of those 400 related directly to traumatic brain injury and psychological health issues. So the vast majority, you know, some were like fix the disability evaluation system, and, but there are huge amounts related to psychological health and traumatic brain injury.

So in order to deal with this, the Department said, well, okay, what are we going to
do? Well, let's establish a Senior Oversight Committee. So they had the Deputy Secretary of Defense and the Deputy Secretary of the VA get together to establish the Senior Oversight Committee, and from that they had other committees. And they came up with eight lines of action, and they divided up all those recommendations among these different lines of action.

So you had the disability system, you had case management, you had facilities, you had sort of a clean sheet and you had a number of different things. But LoA #2 was probably the one where the majority of effort went into that. So, and what they did with LoA #2 was assign that to Lubeck and Ellen Embrey, one representative from the VA and one from DOD, to look at what are we going to do to fix these problems. And Congress appropriated $900 million towards doing that in the 2007-2008 appropriation.

In order to figure that out, Ms. Embrey said, "I need representatives from each of the
service," and I was, happened to be one of those representatives that came, and we created a thing called the Red Cell. And those of you that have military experience know that in any military exercise you have the enemy force which is the Red Cell. And I think we were the enemy of everybody, because nobody was going to like what we were going to have to say about what we wanted to do.

So we formed the Red Cell, and what we did was we said, okay, and we had a lot of pressure from Congress at the time to get the money spent, get it out the door, do things fast, let's go. Why aren't you doing this? Why isn't that money spent? What's going on?

We decided that we would solicit programs from each of the services in five basic areas: Access to care, quality of care, transitions in care, surveillance, and then sort of an odd catch-all was resilience because that was a big thing: What are we doing to train people in resilience, and how are we doing that?

And one of those things, one of those
recommendations, in fact several of the recommendations were: Thou shalt establish a defense centers of excellence for psychological health and traumatic brain injury. And that's how DCoE came to be established.

DCoE was established in the 2008 National Defense Authorization Act. There are three sections that are relevant: 1618, 1621, and 1622. You can basically combine 21 and 22 into, you know, substitute TBI for PH, or PTSD, or whatever you wanted to put in there. 1618 was a section that said: The Department of Defense shall have a program of doing all these things, and it listed all the various things to address traumatic brain injury and PTSD that they were concerned with.

And so that's how DCoE came to be. It was stood up in late 2008, and General Sutton was the first director. And then over the course there's been a lot of pressure on DCoE to be all things to everybody. Part of the problem was is that DCoE put itself out, I think, when you read
our current, the way it stand now in our
documentation, mission, and vision. We're
supposed to lead the nation in resilience,
recovery, reintegration for warriors and their
families in all areas related to psychological
health and traumatic brain injury. And that's a
difficult vision to sort of live up to.

And our mission to validate, oversee,
identify and facilitate, prevention, resilience,
screening, treatment, outreach, rehabilitation,
reintegration and every other adjective you can
throw in there about psychological health and TBI,
is a difficult thing to live up to. We were
supposed to become all things PH and TBI sometimes
to all people, and it became a difficult task to
overcome.

So what we've begun recently is to look
at more strategic planning to focus our business
practices and our business focus on what is it we
really do have control over and what can we really
do? What is it that -- what's -- who's our core
customer, and what do we really need to focus on
and what do we need to do?

One major thing was, is try to get the leadership structure down to something that's a little more manageable. We created an Executive Steering Committee with basically five of us. I'm the director. We have a chief of staff, we have a deputy director for VA, a deputy director for psychological health, and one for TBI. And those are the ones that comprise the leadership organization at DCoE now.

Everybody else that was in the mix that was as part of the leadership is an advisor, including the subdirectors and the component centers. And that's our structure now as to how we organize ourselves with the Executive Steering Committee, and then I've got a -- these are the subdirectors with training and education research, TBI standards of care, psychological health standards of care, resilience, and prevention.

Then under the chief of staff we put all of our support structure in terms of the business functions and admin organization functions.
We have done a thorough scrub of all of our contracts to really get control over what's going on with managing the amount of money that we're spending and what we're doing on our contracts. We have six component centers, and we are looking at realigning those in a more appropriate way within the Department of Defense and within particular organizations that where they might have a more natural home, where we don't have to manage them; all we have to do is have the relationship to take those best practices, to take the information they provide and do what we're supposed to do which is be the integrator of information and feed it out to the places where it can be executed.

We have the Center for Deployment Psychology which does a lot of training for psychologists in particular, but other mental health professionals in combat stress and evidence-based case for deployment-related disorders such as PTSD.

The Center for Study of Traumatic Stress
is housed at USHUS, and that is basically the academic center for bench research on post-traumatic stress disorder.

Defense and Veterans Brain Injury Center addresses TBI in a number of centers both within the VA and within the Department of Defense throughout MTFs throughout both organizations.

The other, Deployment Health Clinical Center, which has a major focus in putting evidence-based therapy and psychological assistance in a primary care setting.

We have the National Center for Telehealth and Technology which develops innovative products to bring telehealth and technology to the psychological health realm, and we have the National Intrepid Center of Excellence which no longer belongs to us, but we still -- they're still on our books because we fund them.

But they now, because they're a clinical organization, they have been reassigned to the National Military Medical Center at Bethesda. So they belong now to that MTF because they are a
clinical program primarily.

What we decided to do is to refocus what we're trying to do, and this is our customer value proposition, because our customer is the services. The primary representative of our customers are the surgeons general for each of the services. And this is our value proposition; this is what we think we bring to the table. But we are the principal integrator and authority on psychological health and TBI knowledge and standards for the DOD.

It's up to us to bring that knowledge out there and be the integrator. We're uniquely positioned to accelerate improvements in PH/TBI outcomes and policy impacting the continuum of care and further reducing variability across the services.

And our goal is to get the knowledge and information out there to a what is often a very fractured and stovepiped, or rice-bowled -- whatever analogy you want to use -- organization. They're doing great things here in one location
and not so great things in another location, something different here. This place in theater does one thing, and this place is doing a different thing. We need to bring that knowledge up to a higher level and disseminate it out DOD-wide.

And we decided that we have a couple of core competencies and core propositions that we need to put out there. What do we do? Well, the first thing is we do psychological health and TBI programs, things like in-theater protocols; things like in-theater protocols, Co-Occurring Conditions Toolkit, a document that we can give to psychological health or primary care providers about what do you do with somebody with a TB, and evidence-based stuff that's out there that we can get made consistent across the services; policy guidance for management of concussion and mTBI in a deployed setting making sure that everybody is consistently evaluating TBIs in a common way.

Facilitating research. One of the things that we did earlier on was have a consensus
conference to develop common data elements that we
can start to collect information regarding a
traumatic brain injury and psychological health;
guidelines for training providers in
evidence-based therapy for PTSD. One of the
difficulties is that you'll find, particularly in
the mental health realm, is it's like herding
cats. Psychiatrists and psychologists are cats.
They want to do their own thing, and it's
difficult to get them on board with being
consistent with what everybody else is doing.

Cognitive rehabilitation research
efforts. There are several trials with DVBIC and
a number of other trials looking at what is the
realm of cognitive rehabilitation therapy, what's
the best thing, and how do we do it.

Knowledge in psychological health and
TBI. Web-based case studies to get it out there
on what do you do and how do you treat mTBI.
There's a drug therapy monitoring project to
demonstrate, you know what do we do with
monitoring drug therapy, and we've also recently
created a PH/TBI collaborative network in order to foster research activities and get knowledge out there. One example would be the DOD/VA integrated mental health strategy which DCoE has 17 of the 28 tasks DCoE is responsible is the lead agency for carrying those out.

Doing program evaluation. Taking the latest snake oil salesman that has come from whatever congressman's district and evaluating that stuff and say, is this real? Is this evidence-based? That's a role that DCoE can play that a lot of other people, you know, sort of stop the proponents shopping around of DOD to say, where, you know, can we get somebody to get a really good call on whether or not this is real or not?

And then training awareness conferences. We hold four major conferences on suicide prevention, mild traumatic brain injury, resilience, and trauma spectrum. And those we put out as ways of getting information out there, and then we are part of a NATO mTBI work group to
again standardize what do we do for mTBI, not only across the services but across NATO as well.

I like simple slides. As you can see, I'm in the Navy. I am not in the Army with the Quad Slides and as much text as you can cram on the PowerPoint as possible. I had to give my Army friends a good hard time here. But I like to keep it simple. This is our way forward, and this is what my task is as director to do: Number 1, get organized and get people moving forward. One of the problems that I think we've had at DCoE recently is, you know, if you ever watched the Olympic swimming competition, did you ever notice how the, you know, the Michael Phelps of the world just seem to glide along and they're barely moving their arms, and they just seem to go fast. And then you get an amateur swimmer, and they're churning along in the water and their arms are flailing, and that's what I think we've been doing.

We haven't been making much forward progress because we haven't been efficient and
organized, so it's get organized, get people
focused on moving forward. We need to complete
developing our strategy, and that was a big
criticism of the GAO report, is what's our
strategy, and what you do every day, is that lined
up with what your strategy's supposed to be?
There's a disconnect there, and again that's
getting people focused so that at, you know, 9:15
on Tuesday morning answering that e-mail or doing
that activity is going to move you forward to
getting where you want to go. That's what I have
to do to the organization. We're starting to get
there.

We need to focus on execution. Meetings
are great, conferences are fun, but we've got to
focus on getting results and making things happen
out there in the field, out there in the MTFs, out
there in theater, out there in the world. We need
to make progress and get things focused so we're
moving forward, and that's one of the
difficulties.

And the last thing is deliver quality
products, is deliver stuff that people say, wow, this is really good. This is really useful. This is something I can really hang my hat on. That's what we've got to do. That's my plan on the way forward, and if you want to talk about, okay. let's get down into specifics, I'm happy to do that and answer any questions. But I will give you the caveat that I've only been in the job a month, so there's still plenty of work to do.

Are there any questions?

DR. DICKEY: Dr. Kaplan?

DR. KAPLAN: Thank you.

DR. DICKEY: Yes, go ahead.

DR. KAPLAN: Ed Kaplan. Maybe I missed it, but you mentioned about your concentration on suicide prevention. Recently there was, obviously, the report on suicide prevention that was published and came through here with some members of the Board on it. Are the two of you working together, or do you know that each other exists or --

CAPTAIN HAMMER: Who's the other that
you're referring to?

DR. KAPLAN: The people that published
the suicide prevention report.

MS. BADER: Captain Hammer, I think Dr.
Kaplan's talking about the task force and the
prevention of suicide by members of the Armed
Forces.

CAPTAIN HAMMER: Right. Actually, many
of my people were on that committee that actually
--

MS. BADER: Yes.

CAPTAIN HAMMER: -- in fact I think my
people did most of the work on that -- well, a lot
of the work, let me size --

MS. BADER: I think Colonel McPherson
would beg to differ. She was the executive --

CAPTAIN HAMMER: I actually had a lot of
people doing work on that.

MS. BADER: Yes.

DR. KAPLAN: I'm sorry I raised the
point.

MS. BADER: No, no, no, that's fine.
And they are working together.

CAPTAIN HAMMER: I get a little pugnacious because I, you know, the month I've been here it's sort of beat up DCoE month. And then it's like, okay, I've had enough, I'm not taking any more. We've got to move forward, you know.

DR. DICKEY: Dr. Parkinson, on the --

DR. PARKINSON: Yes, Mike Parkinson. Just to kind of say that, you know, in our efforts with, you know, the CAM and Psychotropic Drug Working Group and the Psychologic Health Subcommittee, there's been some very good, I think, seminal work from the members of your team and others and things like that. I assume that your team is involved in the DOD/VA, CPG as it relates to PTSD. But we're going -- I'm going to lay forward a theme here is that we can't afford to learn lessons for trauma care and not apply them to psychological health and vice versa. They're not different models, so we have got to begin to think about --
CAPTAIN HAMMER: Trauma care, you mean surgical trauma?

DR. PARKINSON: Exactly.

CAPTAIN HAMMER: Okay.

DR. PARKINSON: How do we define a best practice? How do we research rapid psycho-prototype and deploy in a standardized fashion life-preserving and resiliency-preserving --

CAPTAIN HAMMER: Mm-hmm.

DR. PARKINSON: -- skills in our troops.

CAPTAIN HAMMER: You bet.

DR. PARKINSON: And I think you're going to hear this theme in our report, and I'm saying that it's not because I need to hear it but because I think the DHB as our outgoing member as we leave, and we leave behind this, it's not psychological health and trauma combat casualty care, it's end to end. And that's what, you know, our goal is to create.

CAPTAIN HAMMER: You bet.

DR. PARKINSON: And that's the same
vision you have, sir, so --

CAPTAIN HAMMER: You bet. Let me --

DR. PARKINSON: -- I just point to the

--

CAPTAIN HAMMER: I will respond that I

deployed in 2004 as a -- with the Marines in

Fallujah, actually TQ in Fallujah, but I was in

Fallujah for the battle. And what I noticed at

that time was the -- it was a -- it eventually got

morphed into the Joint Theater of Trauma record,

but at the time it was NHRC was with the Marines

during the combat trauma record.

And I was fascinated because I looked at

this thing, and who was wearing -- were you

wearing eye protection, and how much, you know,

all that stuff. Where's the wound, all kinds of

different stuff.

So what I did was I thought, hey, wait a

minute. Why aren't we doing this? "We" meaning

the mental health professionals, you know. Why

aren't we recording what the experiences are, and

is there a place for that to be in there?
So I got back in 2005, and it's like,
well, I, you know, I was just a, you know, a
worker bee at that point. But then I got assigned
to 1st Marine Division and ended up going back as
1MEF as the MEF psychiatrist in charge of our Al
Anbar. And I'm like, wow, now I got people
working for me and let's create the database, and
let's start doing that thing.

Unfortunately, it died because I left,
and the guy that followed on me didn't agree with
what I was doing and didn't like it and was lazy
or, I don't know. I mean who -- you know, pick a
reason. It died. And, you know, actually we're
about to publish with NHRC the first of that
database because I brought back 2600 encounter
records of a lot of different stuff from what we
were seeing and looked at things like diagnosis of
acute stress disorder. And we have the identified
data so that we can go back and look at how many
of those that we diagnosed with acute stress
disorder later on. A couple of years later now
we've got PTSD, and that's one of the things we're
looking at in that particular dataset.
That's the kind of stuff we need to look at is what are we doing there. And you're right, we need to go to school and I'm already working with General Robb about this, about how do we go to school to replicate in the mental health world what the surgeons have done within the Institute of Surgical Research and the cycle of -- what's the --

MAJOR GENERAL ROBB: Translational research.

CAPTAIN HAMMER: Translational research, to get stuff out there very quickly and not be hampered by, well, we need to do a study, and let's do the five-year plan and that sort of thing. So I'm on board with that, definitely.

DR. DICKEY: Colonel McPherson, did you want to add something?

COLONEL McPHERSON: I just want to answer Dr. Kaplan's question. DCoE was not on the task force, and the task force is -- the response to the report is being worked by a Dr.
Climan in OSD. I do know, however, that he is working with DCoE and that I've gotten some rules, my updates to pass to my task force from Dr. Bates, who is a member of DCoE.

CAPTAIN HAMMER: Yeah.

DR. DICKEY: Thank you, Colonel.

General Robb?

MAJOR GENERAL ROBB: Yes. I'd like to actually piggyback on Captain Hammer's presentation here. As the DCoE comes out of its suspended animation as I've called it, with the dynamic leadership of Captain Hammer, what -- what we have described again with excellent presentation again from our folks when we were talking about psychotropics or whether we're talking about psychological health is where is the center of gravity for psychological health, TBI, and for PTSD? And so -- and then follow-on rehab. And so much as the ISR became the center of gravity for en route care, TCCC, (inaudible) surgery and resuscitation and actually rehab, the vision, as you saw with Captain Hammer's, is that
that'll be the center of gravity that will bring in the academic world, that will bring in again the centers of excellence. I use that word loosely, I prefer to call them portfolios. But to be the integrator, again I call it the center of gravity.

We have been in a lot of, already, discussion, and this is going to fall in again what you guys were talking about with psychotropic in TCCC. But creating this joint theater, you know, call it neurotrauma system --

CAPTAIN HAMMER: Well, they won't -- the CENTCOM --

MAJOR GENERAL ROBB: -- TBD.

CAPTAIN HAMMER: The CENTCOM guys don't like that yet, so.

MAJOR GENERAL ROBB: Yeah. They'll get over it. (Laughter) So anyway, so, but anyway, working with U.S.

Central Command but to develop again a psychological health trauma system for the theater much modeled after the JTTS system -- and again,
in fact, we may be sitting in some of those same centers of gravities. And so they will be the assimilators of the CPGs. They will push this stuff out rapidly. They will -- and again if you want to talk a little bit about this is important, because this group understands this -- talk a little bit about your vision or the collection of the data, the JTTR alike entity for neuropsych world in the deployed environment.

CAPTAIN HAMMER: Well, one of the things we're going to do is go to school on TBI, and because it's so discrete that's an easier thing to do than to try to capture PTSD or, you know, psychological trauma incidents. I think they're going to be a little more difficult.

We have a neurologist that's going to be going into theater very shortly, like within a couple of weeks, who would become sort of the theater neurotrauma person that we tag. Her job is to help us with the -- to develop and further cement the use of the blast event, concussion -- I forget what the "I" is -- report. Incident

And the idea is that this is the tool that solidifies the actual execution of the directive-type memorandum from the Secretary of Defense saying this is how you will treat or deal with a blast event. So the idea is that we have a data collection tool which gets fed back to us. We are the -- it goes through JTAPIC, so it's part of the whole trauma system in terms of understanding how we prevent and treat injuries. But we look at it from the subject matter expert point of view, collect, you know, clean up the data and then feed it out to the services, and then take any lessons learned from that data, not only the actual data points themselves but the observations and analysis that go along with the person that's in theater that has that you know, can tell us what's going on.

And, in addition, the person in the theater is there who can help us execute the CPGs that might result from that as a sort of a
feedback loop. They can also take what best practices, one of the things that this Colonel Grimes that's going in, one of the things that I've assigned her to do is look at what are the best practices in the recuperation centers. And again, we're focused on TBI for the time being because it's a discrete entity with a blast event that we can really, you know, nail down, and then go to school from that in terms of what we do with the psychological health aspect of things.

So that's the genesis of the system in terms of looking at as rapidly as we can, and that data system already exists. The BECIR is a module in the event reporting that the line commanders have to report. And they're also working on modifying that system so that you cannot close out your significant activity report until you complete the BECIR if certain fields are filled out, you know, "yes." So if it's a blast event, you know, Corporal Schmuckatelli will not be able to close that out until they do the BECIR. So right now they're still doing stubby pencil and
1 Excel spreadsheets and that sort of thing. And
2 the BECIR compliance is about 13 percent of all
3 the total.
4 And I've asked Jamie, let's see if we
5 can get it up over 50 percent, and that's the
6 90-day goal for the next 90 days.
7    DR. DICKEY: Will that data collection,
8 not unlike the trauma registry, be used throughout
9 the war zone, or will it only be used by one small
10 unit?
11    CAPTAIN HAMMER: Oh, no. That's theater
12 -- that's actually DOD-wide.
13    DR. DICKEY: Okay, thank you. Dr.
14    Lednar.
15    DR. LEDNAR: Wayne Lednar. Captain
16 Hammer, welcome to your challenging leadership
17 assignment.
18    CAPTAIN HAMMER: Thank you.
19    DR. LEDNAR: We will look forward to
20 great success. You mention on Slide 12 about a
21 toolkit, the co-occurring conditions toolkit. And
22 for me that was a sort of a memory jog about the
remind that patients often have more than one
issue, health issue.

CAPTAIN HAMMER: Right.

DR. LEDNAR: Medical and psychological,
and how we really need to keep both in view and
manage both.

One aspect, coming up to the population
level that I frequently see and maybe Dr.
Parkinson has a view on this, is that when data
are summarized for large groups, we tend to
retreat to the univariate data summarization which
tends to separate the psychological health issues
from the medical/surgical issues. And I think
that if there are ways that in your data
summarization you can find ways to really bring to
the surface the importance of the co-occurrence,
the co-morbid, and how to manage both well to the
benefit of both, that would be a real advantage to
us all.

CAPTAIN HAMMER: We're working on it.

That's a major task for us.

DR. DICKEY: General Myers.
GENERAL MYERS: Thank you for your presentation, Captain Hammer. We've had other DCoE briefings. This is probably the most -- this is the best one we've had to date, It looks like we have a way forward.

A couple of questions: Are you familiar with this MIT collaboration initiative?

CAPTAIN HAMMER: Yes, sir. I actually spoke with their people last week.

GENERAL MYERS: You ought to be tied at the hip with them so they don't wander off and that they can be helpful, I think.

CAPTAIN HAMMER: Yes, sir.

GENERAL MYERS: So I'm glad you're tied to, if -- I think your customer-value proposition is terrific, and that's what it is all about. But principal integrator and authority, knowledge standards, and then I look at your org. chart, and you've got a lot of military folks there that I assume will turn over. So over time are you -- I'll just ask you, are you going to be concerned? How do you maintain your status as the integrator
and have that corporate knowledge at the DCoE when people are vulnerable to being reassigned somewhere else? How do --

CAPTAIN HAMMER: Yes, sir. In our org chart in terms of the subject matter expertise that we have on board -- and I apologize if I don't have the superb command of the numbers right now -- but we have roughly the ball park of about 30 military folks and in the ball park of 90 or more civilians. And most of them are contractors right now.

One of the things that we're dealing with is trying to juggle several different competing demands with SecDef efficiencies, you know, reducing some of our footprint while at the same time get the hiring going to get GS-civilian, government civilians, in place and hire into those positions in the org chart that we have. That was only the higher level in the org chart.

GENERAL MYERS: Right. I understood that. That's all I'm asking.

CAPTAIN HAMMER: Yeah, but they're a
relatively small amount of military folks; the
class majority are, hopefully, will be
GS-government civilians who will be, you know,
stable for the long term.

GENERAL MYERS: Well, I for one would be
interested as a board member that, if you have
trouble hiring the right people -- I mean, this is
-- we can't wait till tomorrow. We should be
doing this today, so if this is tied up in
efficiencies and we can't get the right people,
then we're making a huge mistake.

CAPTAIN HAMMER: Well, I don't want to
rat out my bosses here, but --

GENERAL MYERS: No, that's fair, rat
them out, that's what we're here for.

CAPTAIN HAMMER: -- right now it's --
right now it's, you know, there's a number of
different competing things going on right now, and
I think, you know, we need to -- we need to get
going on that, I agree.

GENERAL MYERS: Right.

CAPTAIN HAMMER: It's just, you know,
I'm trying to juggle several different things.

GENERAL MYERS: You know, it's something that the Board might like at a next meeting see how are we doing? How was your hiring? What's your percent? I'd like to know the percent of your Manning that you got on board, and are they competent.

CAPTAIN HAMMER: Yeah, I'm happy to come back and give a more detailed --

GENERAL MYERS: Yeah, I'd like to hear that. I think that's, at least as one board member -- and the last question is -- and this is always the tricky one -- how do you evaluate your authority to be the integrator and to develop the knowledge and standards, in other words, that the services are going to listen to you? Because my experience is that the services don't. They operate in their own little worlds, and so how -- and we've seen that on other issues -- so how are you going to -- you're the authority. Can you --

DR. SHAMOO: Well, we have congressional authority by, you know, Congress made a law --
GENERAL MYERS: Yeah. That doesn't hack it, okay.

CAPTAIN HAMMER: Well, but --

GENERAL MYERS: I'm saying I see the --

I read, I've read a couple of the bills. That is not going to get it done, so you have to be able to walk into the room of the surgeons --

CAPTAIN HAMMER: You're right.

GENERAL MYERS: -- and have the authority to say, okay, here's what we've been studying, and we don't need a vote, but here's kind of how we're going to do it. Or if you need a vote, we'll be back where we are today.

CAPTAIN HAMMER: Right.

GENERAL MYERS: So how do you -- I mean, I'm just --

CAPTAIN HAMMER: I see that not so much as an authority issue -- as an authority as in, you know, these are really smart guys that, you know, know what they're doing, and, you know, have a research background.

GENERAL MYERS: Right.
CAPTAIN HAMMER: That sort of thing. I mean because there are two aspects. If -- and this is Paul Hammer's opinion on this. If the services and leadership are going outside us, the military medicine authorities who are in the position then -- and there was a certain amount that's on them, but there's also a significant amount of blame that's on us -- we have a customer service problem from our point of view if our leadership is saying, you know, my surgeon or my guy, I'm not going to listen to him. I'm going to go talk to the big expert at, you know, MIT or wherever. That's a problem on us that we have to address.

I don't have an easy answer for that other than doing my best to provide the best possible value in customer service. But it also means that I am in the face of the leadership saying, what do you need?

GENERAL MYERS: Right.

CAPTAIN HAMMER: And what can we -- what are we not providing, and being very honest with
them about, you know, what you're asking is the impossible. I know you want to take care of your marines, I know you want to take care of your soldiers and sailors but, you know, running around to, you know, talk to every possible person in the world and, you know, having them bombard us with proposals is not going to do it. You know, getting focused and having them feel comfortable that it's handled, okay, you're working on it. And we're making progress, and we're doing it rather than churning around in the water and not making, you know, not moving forward.

So it's a complicated process, but I think you earn the authority, ultimately. And, you know, we have it by Congress and they give -- they throw a lot of money at us, okay. We can hire people and do that, but ultimately, you know, I've got to earn that trust of, you know, like Dr. Woodson talks about, a humble trust.

GENERAL MYERS: I guess I was making light of the congressional authority here, but it's in the implementation that this all counts.
CAPTAIN HAMMER: Yes, sir.

GENERAL MYERS: And Congress can only go so far in that, then it takes the rest of us -- well, not me anymore, but people like General Robb and others to kind of get on with business, so that's a good answer. Thank you.

DR. DICKEY: General, I think that you make a very good point, though, and one of the things that this group can do is not only follow up -- and I notice Ms. Bader made a note for us -- but much like the message we'll be sending to Secretary Woodson, the opportunity to suggest that he use his imprimatur to make sure that it's not a naval issue or a airman's issue but it's across all services. And I think the rapid sequence change is something that we can also share with civilians.

SPEAKER: Absolutely.

DR. DICKEY: The military does it better than we do. Dr. Hovda.

DR. HOVDA: Dave Hovda. Captain Hammer, excellent report. I'm a friend of DCoE, so I'm --
CAPTAIN HAMMER: Thank you.

DR. HOVDA: -- so don't worry about that. I have three general comments that may help. One is, the first, is that I think MIT is a fine junior college. (Laughter) And there are a number of centers throughout the United States, academic centers that have given an enormous amount of effort to understanding my traumatic brain injury, and I would encourage you to contact either Dr. Ross Bullock, who's president of the National Neurotrauma Society to help you with that. Those people I can tell you by my own experience are very enthusiastic, want to help, and I think through that expertise to support your mission actually gives you the inherent authority by at least the world experts that I think are involved here in the United States.

The second is that I really can't stress more important your mission with regards to the database. This data -- this whole problem needs to be data-driven --

CAPTAIN HAMMER: Mm-hmm.
DR. HOVDA: -- like all of our science. But this has been a real problem. This is a problem in the National Football League when we asked the National Football League how many concussions they had. I was informed in 2000 that the concussion didn't happen in the National Football League, and it was so wonderful this last year to see that recommendation be changed and how they were going to treat that. So data is really important to take.

The other is something that Charlie has brought up and others have brought up in this room, and that is now that there's excellent science to suggest that the concept of post-traumatic stress and traumatic brain injury are not mutually exclusive, and that there is excellent neuroscience saying that mild traumatic brain injury does not necessarily cause post-traumatic stress but now we know the neurobiology that sets the brain up to acquire post-traumatic stress. So that there's a window of opportunity here for research or applications.
can be presented. I think that that should be really taken advantage of.

So when they brought us all together as stakeholders about four years ago, I can remember us being separated. We weren't allowed to talk to people that did post-traumatic stress --

CAPTAIN HAMMER: Yeah.

DR. HOVDA: -- if we were traumatic brain injury people. And that -- that really was a problem, and I thought that I encourage you to be not only data driven but also to accept the center of action as a fundamental principle.

And, finally, I think that -- I think it's quite right to tag TBI first for your database because it's a -- unfortunately, it's a nice marker. It's something that starts that you know exactly where it starts, and at least it's a starting point that you can be at.

But we, the more that you and DCoE begin to think of traumatic brain injury as a disease process that lasts throughout somebody's life as opposed to something that's going to happen that
you're going to recover from, is I think that will
add a lot more of an understanding of how we can
protect individuals as they go on through their
career.

Thank you very much for your report.

CAPTAIN HAMMER: Thank you, sir. I
wanted to add a comment to your comment about the
data. And, you know, it's maddening sometimes to
try to get stuff done within this, you know, huge
system, but one of the things that has been
frustrating to me that, you know, I sort of want
to take advantage of this new position is that 10,
15 years from now when people ask us, well, you
had this, you know, interesting thing, this long
war with this TBI thing and all the, you know,
traumatic stress and exposure, so what did you
learn about PTSD and TBI?

And if we say, "we" being the whole
system, say, yeah, you know we had a real hard
time getting the database through the ATO process,
and, you know, DMs couldn't it, and, ah, we --
that's not acceptable, you know? That's -- we've
squandered an opportunity to really understand and
learn something that can go forward to the next
generation. So I mean, that's, you know, we have
got to work quickly to take advantage of the
opportunity that we have now, and the data thing
is a core thing to do that.

DR. Dickey: Dr. Fogelman?

DR. FOGELMAN: Did you just call on me,
Nancy?

DR. Dickey: I did, Charles.

DR. FOGELMAN: Captain Hammer, thank you
so much for your beginning efforts. I'm mindful
also that we're on the way to lunch, and I'm
mindful that you are in the job only for a month
and that you are bigger and in better shape than I
am. And so I --

CAPTAIN HAMMER: You may be hungrier,
though.

DR. FOGELMAN: No, what I'm not -- what
I mean is I'm not going to try to beat you up.

CAPTAIN HAMMER: Oh, okay.

DR. FOGELMAN: Though I would certainly
beat up the history of your organization, and I
only want to say this: The psychological health
now, the Psychological Health and Traumatic Brain
Injury Subcommittee of this Board has a charter
responsibility to be helpful to DCoE and to offer
advice and to interact with it on a systematic
and, I would argue, a frequent basis. And I want
you to know that in our view we have not even
remotely been taking sufficient advantage of.

For example, there are people in our
subcommittee who are experts at organizational
development and redevelopment, experts in
strategic planning as well as all of the clinical
things. And just as there are several people who
said -- I know General Myers might have spoken
about this and several others had -- that the
Board has responsibility and wants to be informed.
A useful conduit of that is our committee, and a
useful set of assistance to you are the members of
the subcommittee which now will include Dr. Hovda,
Dr. Bullock, and several other folks.

So I just want to register that, and I
want to say this about the JAO report. I am, as
everybody in this room knows, very much given to
making jokes as well. The JAO is not in my
experience given to hyperbole, and their statement
and their description and their title of their
report is appropriate. I believe completely and
honor your commitment to making that better; but
it is a very, very serious issue and a very, very
serious problem which ought to be fixed and fixed
well and soon. And I encourage you in that and
offer our help in that.

   CAPTAIN HAMMER: Thank you. I

   appreciate it.

   DR. DICKEY: Dr. Jenkins.

   DR. JENKINS: Paul, a fantastic report.

   I'm sorry you had to hold back and not really tell
   us --

   CAPTAIN HAMMER: How I really felt.

   DR. JENKINS: Just an innocent question.

   Is it possible that there is a coalition best
   practice that's already out there? I know our
   Dutch colleagues don't deploy for more than seven
weeks at a time, citing that that's the limit of human tolerance for, you know, combat stress, et cetera. And I just wonder if your group has any interaction with our coalition partners have their experiences in this that might be beneficial.

CAPTAIN HAMMER: Yeah, actually we do. You know, in our resilience and prevention directorate, they've been involved and, you know, there's a lot of good practices out there. It's figuring out what's the best practice, what works best in particular context that's difficult. I mean, for example, the U.K. has the TRIM program which is a peer response program when there's a -- some sort of a traumatic or psychologically traumatic incident. Yeah, we can look at, you know, what are the Dutch doing and what are the various folks doing?

Like you mentioned, we're on that NATO TBI consortium, so there's a lot of interaction that we have with other folks. It's finding the mechanism and the structure within the organization to evaluate and process and make
those things work so that, you know, you have a  
thoughtful and consistent way of doing these  
things rather than, oh, my gosh, maybe it's a good  
idea, and off we go with a herd to go look at that  
good idea, and then the herd goes this way, it's  
stop, let's be thoughtful, let's be scientific,  
let's be organized about how we look at and  
evaluate these things and sort through them.  

    But, yeah, we do have great connections,  
and that's a good suggestion. Thanks.  

    DR. DICKEY: Dr. Kizer?  

    DR. KIZER: Captain Hammer, this should  
be an easy question, but in the --  

    CAPTAIN HAMMER: We meet again.  

    DR. KIZER: We meet again, and I guess  
since last week it's now five weeks that you've  
been on the job.  

    CAPTAIN HAMMER: That's right.  

    DR. KIZER: But in the interest of  
keeping it simple and as you distill through all  
of the churning and organizational stuff that's  
been going on and all the activities, but as the,
what, fourth now director of the Institute and
being mindful of the amounts of money that have
been spent in this area, if you had to distill
through all of this, what are the two or three
most important things that DCoE has done to
actually improve the psychological care or the
care of our wounded warriors?

    CAPTAIN HAMMER: Well, actually, we have
done some pretty good stuff. Probably one of the
most important things is collaborating with the
revision of the PTSD, CPGs. DCoE was part of
that. Putting out clinical practice guidelines or
clinical guidance -- I don't know if its a formal
CPG for dealing with mild TBI. The directive-
type memorandum from the Secretary of Defense on
how to treat, how to deal with concussion and TBI
in theater, that was driving in large part by a
lot of the folks in DCoE on the TBI side. So
those are just a few things.

    We've done a lot. I think one of the
criticisms of DCoE has been conferences, and, you
know, holding conferences or not in action. I
would push back -- yeah, that's true, but holding conferences to get consensus to put information out to bring the right people together, you know, we all go to conferences. This is a conference. I mean, you know, when we really thing about it, it's finding common ground, so I think some of those things are good.

And even the recent, you know, two weeks into the job I went to our resilience conference. One of the most important things that did was that 60 percent of the people there were not clinical people, and that's where a lot of the impact, particularly with the psychological health stuff, has to happen. It isn't psychiatrists and psychologists and social workers; it's sergeants and corporals and doing, you know -- somebody, I think it was Dr. -- I think you mentioned the peer support and what are you doing there?

I mean, one of the -- I mean, I -- it drives me nuts the way we do suicide prevention, the global "we," not, you know, we as, you know, we have stand downs and, you know, all the
psychiatrists and psychologists and social workers
and chaplains and everybody talk about it. The
guy that's going to prevent a suicide is not me;
the guy that prevents a suicide is your buddy
who's the other 19-year-old who says, wait a
minute, that's a stupid idea, let's not do that.

And, you know, and the way we do suicide
prevention, you know, I liken it to, you know, if
I did a cardiac prevention program and said, hey,
if you have crushing substernal chest pain, go to
the ER. That's my program. What do you think?
Pretty good, huh? But that's the way we do
suicide prevention: If you're in crisis, get
help. Really? How about never getting into a
crisis? That would prevent a lot of suicides, you
know, and that's -- the kind of thing is really
having an impact, not in the academic community
but in the line community with corporals and
sergeants and petty officers and those guys.
Those are the people that are going to prevent
suicides, and those are the people that's going to
do resilience. And those are the people that are
actually going to do the DTM stuff to say you got your bell rung, let's pull you out. That's the
guy that's going to do it, and we have to have an impact on that guy, and we can have all the conferences and all the stuff, but that's where we have to have our impact.

So rant over.

DR. DICKEY: I think that's a great place to thank you again for the presentation. I think we're all energized by your commitment to DCoE. I look forward to hearing back from you frequently --

CAPTAIN HAMMER: Yes, ma'am.

DR. DICKEY: -- and how we can help you advance it. I hope you carry all that enthusiasm into the rapid cycling of good answers.

CAPTAIN HAMMER: All right, thank you, ma'am.

DR. DICKEY: Thank you, sir. We're going now break for a working lunch to include board members, federal agency liaison, service liaisons, and DHB staff. For distinguished guests
and speakers a catered lunch will be provided as well. We'll reconvene at promptly at 1:15 since some of you have already talked to me about the fact that you planned planes based on our estimate of a 2:15 adjournment. So if we can break at this time for lunch, and watch your watches, try to be back promptly for a start at 1:15.

(Whereupon, at 12:30 p.m., a luncheon recess was taken.)
AFTERNOON SESSION
(1:20 p.m.)

DR. DICKEY: I'm going to welcome you back and assume that if I start talking you'll start sitting.

We have a number of final presentations which are going to be from our Defense Health Board service liaisons. We're going to hear from Colonel Virgil Deal, Special Operations Command; Commander William Padgett, Marine Corps; and Commander Erica Schwartz of the Coast Guard. Each service liaison will brief a topic of their choice that's relevant to the current activities of their respective service.

We've found over time -- and if you're going to continue talking, I'll ask that you do so quietly -- we've found over time that having our liaisons proactively present to us helps keep us well connected and, hopefully better prepared to respond when issues arise.

So if I can have Colonel Virgil Deal currently serving as the Command Surgeon of the
U.S. Special Operations Command. Prior to this position he served in a number of staff positions in Special Operations Command including the 7th Special Forces Group, the Joint Special Operations Command, and the U.S. Army Special Operations Command. Colonel Deal has commanded hospitals both in the field and in garrison, has served as chief of surgery, and his slides can be found under tab 8. He was the first one, you'll remember, that Secretary Woodson point to his stories this morning.

So, Colonel Deal.

COLONEL DEAL: Oh, thank you for that. Folks, happy to be here today, and I am Tom Deal with Special Operations Command. My boss is Admiral Eric Olsen down there, and as combatant command surgeon my other boss is across the table there, Major General Robb. And I'm going to try and tell you a little something about what a SOCOM is and about what some of our clinical concerns are.

I think as Admiral Olsen offered in his
testimony last week that SOCOM was created by Congress. It came out of the rescue attempt Desert One where one of my mentors put together a gallant rescue mission that didn't turn out so well. There were a couple of commissions that looked at things after that and reorganized with a couple of pieces of legislation what's now come to be known as U.S. Special Operations Command.

Now, what was there before that? Well, there were things like Green Beret medics, the embodiment of which is in the expertise of Medical Sergeant Carmona across there. Woowah, sir, your fan club at Fort Bragg is alive and well.

We've been organized now as an overarching agency to provide the jointness for the service components that comprise now the little less than 60,000 folks within Special Operations Command. It sort of stacks up much like the others. I think under Title 10, United States Code Section 167 -- scared that I can remember that -- we do have service like responsibilities as far as organize, train, and
equip, which sometimes takes our level of command
down at Tampa. As we've kind of joked, we've
reached our highest level of irrelevancy. Admiral
would shoot me for saying that, but we are
primarily focused on the organize, train, equip
mode most days of the week, and sort of the
organize, train, equip mode is to provide fully
capable Special Operations Forces for the National
Command Authority.

These are sort of our corps tasks I
think I saw in CGSOC one day. I was holding forth
on my view of indirect and direct action as sort
of corps mission. Someone more current in SOF
doctrine reminded that I needed to go back to the
books and look at what's evolved since I left.

These are the teams that we have. The
mostly Green outfit is headquartered at Fort
Bragg, United Special Operations Command, sort of
the legacy outfit of the five Active-Duty Special
Forces groups. It's about 2,200 guys, Green
Berets, whatever you want to call them. Now two
reserve component National Guard groups go along
with that, Army Rangers, 160th Special Operations
Aviation Regiment, Civil Affairs, the School
House, PSYOPS, Naval Special Warfare Command,
Think SEALs, and Special Boat. Air Force Special
Operations Command over at Herbert, I think
gunships NH53s, and all those things that you need
as far as air frames and air commandos to make
some of these operations really work.

On the far right is Joint Special
Operations Command. They never go anywhere, they
make PowerPoint slides and through lots of states
or something like that. And then newest to the
group is Marine Special Operations Command at Camp
Lejeune, and I understood that the request to
rename the Marine Raiders has not been received
favorably. More to follow on that.

Recently added to the family are theater
Special Operations Commands, and that's usually a
one- or two-star billet in support of the
geographical commander in that theater of
operations. And I think we have surgeons with
five of these now to include -- yeah, to include
at NATO headquarters. And these sort of homilies
that go along with life in USSOCOM, and I think we
in the medical business sort of focus more on the
first one than any of the others and yeah, we
can't get by without the rest of the family.

Our planning is a little different than
when I'd been a planner for 44th Medical Brigade,
opportunistic, yeah, we're certainly that,
particularly for early entry forces or for
whenever we are there not in a mature theater of
operations such as Iraq or Afghanistan.

Medical planning considerations, I think
I spoke once at Joint Forces Command on a medical
planning conference, and I just sort of summarized
it. When you're hosting a social event for
Department of Defense, and you're going to invite
SOCOM, please don't count on us to bring a SOCOM
hospital ship, convent support hospital strategic
air evacuation because we don't have any of those.
Please bring those for us.

The one thing we do have and I think it
goes back to probably when we were before SOCOM,
OSS were putting Jed Bird teams into various unpleasant places. They wanted to know what about to get shot. Well, it would be nice to have a medicus really as well trained as we can get a medic. So I think that at the top of that list the Special Operations medical sergeant 18 delta, depending on the training sequence it might take over two years to train one of those guys, and they're probably pretty good practitioners of care of battlefield trauma in addition to some garrison care.

The Corps has kind of been distilled out of this over the last decade as the 26-week SOCOM or Special Operations Combat Medic folks is essentially all on trauma care. Twenty-six week at our school house, the Joint Special Operations Medical Training Center. And again, we don't have a combat support hospital. We sort of finish up at small forward surgical teams of which we have a few in various SOCOM elements.

This is kind of what the aid station looks like, a few operations medics. This is a
ODA, Special Operational Detachment alpha 12-man team. It's two medics with some indigenous folks trying to patch up some shrapnel wounds. No thoracotomies, thank you, no laparotomies, no craniotomies.

We do have a few surgical teams and essentially think split Army FST, something like that usually actually even smaller than that, prepared to do just basic lifesaving surgical interventions. And, by the way, we've got some actions currently working with Army/Navy to, hopefully, beg for a few more.

We've also tried to emulate the successes of the Air Force CCAT teams with having a few dedicated to our efforts. And a hybrid of this, this is in our support brigade inside USASOC is deployed in a bunch of places. It has what a forward surgical team does not have and makes a nice host for a split forward surgical team whenever one is split off from big Army or big Navy and applied to a SOF mission.

Our vets have been one of our fortes for
decades, and they come in very handy in getting out with indigenous personnel. You can -- well, a lot of hearts and minds, if you take care of the village chiefs, dog, water buffalo, camel, horse, whatever.

We've invested heavily in a human performance program. I've been involved with it for about two years before it really hit me. A couple of our operators approached the boss on one of his visits out -- well, this was to Fort Bragg in, then, one of the site, and complaining about lack of rehab assets. And after I spoke to the folks in charge and fully staffed, it kind of focused me on that what some of our guys expected was the professional sports model for not only training before you go to war but in rehabilitation after you come back from war. We've invested in linking with some of the folks who provide those services to professional sports teams, and we hope that whenever our guys have rejoined the unit after an injury they'll be able to avail themselves of pretty much that same kind
of focus intensity, immediacy, in duration of rehabilitation.

This is just sort of the basics of our human performance program. It focuses on telling the operator where he's at athletically, when he gets there, and how he can get to where he wants to go.

Getting into what are our concerns in SOCOM, I think we are the most avid fans of the emerging conversations in damage control resuscitation. Certainly, before the Maddicks article in 1994 on IV fluids our enchantment with forward surgical teams was borne out of embracing damage control surgery. Now that we're looking at damage control resuscitation, it certainly does have a certain charm and cache for our highly-trained medics. We're trying to train, research, and equip to the scenario of, okay, you're a highly-trained Special Operations medic; you and your team have just been inserted into an immature theater or where there ain't even no theater. One of the guys takes a bullet in pick
your favorite body cavity.

You know that there's no MedEvac, there
may be a MedE-Yak, or an oxcart, which is your
only way of getting Bubba out to something that
looks like a surgeon sometime in the next 24 to 72
hours. Are there now tools that perhaps we were
not so cognizant of 15 years ago that will
facilitate your keeping him alive? Things that
have come out recently, recently in the last 15
years, battlefield dressings that are
hemostatically active, we're asking ourselves, are
there things that you can do to help Bubba out if
he's got penetrating or closed head trauma? Would
procoagulants combined with selective cerebral
cooling be of benefit? We're certainly looking
aggressively at every means of controlling
non-compressible hemorrhage.

Another focus of ours, I think I helped
unload a Ranger off a helicopter in 2003 as it
left the combat support hospital, was being
brought to the mobile aeromedical staging facility
who had no vital signs. And the physician
attending him during that flight was not at all familiar with a Black Hawk helicopter or any of the monitoring devices in the back of it. Folks were unaware that the Ranger had no pulse when he was taken off the helicopter. That was one of our introductions, and then a similar event the next spring, and then observing that none of those events were recorded in any of the quality assurance data that was being collected or not at that time.

As I think we began conversations in earnest with Fort Rucker in 2004 about how to improve critical care in theater, I think there are a number of groups. General Robb's is probably the -- has the widest charter and is most aggressive in working these issue now, and so a lot has taken place even since I threw these slides together.

I think, sir, if I could paraphrase what I -- we're thinking the same thing in our conversations this morning -- but what I like to focus on is not so much picking up the wounded
from point of injury, but the clinical task that we think has not really been addressed well is the care of the post-op ventilator-dependent, intubated casualty.

MAJOR GENERAL ROBB: May I?

COLONEL DEAL: Yeah, please.

MAJOR GENERAL ROBB: (inaudible) and that's the issue that we've been chartered at the Joint Staff to work is formalizing the joint requirement for the tactical critical care transport, which would post-resuscitative, post-damage control resuscitation, post-damage control surgery from a Roll 2 or a Roll 3 to another Roll 3 or host nation. And so that's -- we're working aggressively on that to be teams in this next rotation that will augment the critical care nurses as we start to formalize this, teams for the next rotation, yes.

COLONEL DEAL: I'll flatter myself to think that great minds think alike on that. And sort of as we've synopsized it an air frame, it's tough doing ICU stuff in the back of a Black Hawk,
or as a country music fellow often once offered:

You can't roller skate in a buffalo herd. It's nice to have white light stand up and walk around the capability casualty, walk around the casualty space to work in. If you really want to do that in a Black Hawk, you may be outside the aircraft.

We have something called the SOCOM care coalition that's providing advocacy and oversight for about 3,800 of our convalescent sick and wounded now. The thing that I get out of them most often is that it sure would be nice for the physical disability evaluation system to move forward to something to something that results in a rapid, fair and just adjudication of the service member service and move onto compensation or whatever. But a lot of other bodies are looking at that. We certainly have an interest in it.

I'll follow on to what Colonel Holcomb was saying this morning. We've been in conversations before where it's okay to spend $53,000 for a computerized peg leg from Auto Back in Germany, but it's not okay to spend $6,000 for
a urologist and a needle to fund a couple of

dedicated spermatozoa in what's left of a fragment

of a testicle and get those two cells to move on
to fulfill the generation's destiny. So some

reform to facilitate funding of those efforts, if

it palatable to the right governing bodies would

be desired at least by some.

Access to information. We're constantly

going to any of the data warehouses that examine

these issues and saying, hey, what can you tell me

about SOCOM, or what can you tell me about

NAVSPECWARCOM. And I think we've made some real

progress in the last year or so. TBI is a good

example of that. It's hard to parse out sometimes

what our data are, although I got some last night

from some of our colleagues that is very helpful.

Specifics that what we'd like will

confuse you on TBI. We're looking for the same

things anyone else is, a good blast dosimeter that

can be read in real time by a team leader, by a

team medic, or even by the individual. We've got

about a hundred of those now from one university
Defense Health Board Meeting

1 that DARPA is working with that we think are going
to have great promise. And then, if perhaps in
another year or so there are Kunkel data to go
along with that that tell us that, wow, this
reading on this blast dosimeter means that Bubba
really had taken a lick and needs to take a knee
for three days or a week, or be evacuated out of
theater would be really spiffy.

Also for RBI we've been through our
SOCOM care coalition following long-term treatment
for some of our folks. Sure would be good to know
what works and what does not work there with
greater scientific rigor.

Whoops. I'm just going to quit right
there on last word on pain management. I've been
working closely with General Thomas's pain
management task force. We are real advocates -- I
don't say advocates -- we're using a lot of
fentanyl lollipops, oral transmucosal fentanyl
citrate with great success. I sure would like to
move beyond that, though.

We think ketamine holds great promise as
far as pain management of a single or maybe two
extremities. We've been great fans of constant
infusion pumps hooked into all them catheters. We
certainly would like to see all of our folks who
would benefit from such interventions early on to
be able to benefit from that. We feel like -- and
I think the main guy who's moving this is working
on paper -- that that will probably result in a
reduced incidence of complex regional pain
syndromes.

And follow on what earlier conversations
for polypharmacy, when we look at what we doing in
human performance, it would be nice to be able to
say you can take drugs A, D, and C, and we can say
with confidence it's not going to detriment your
performance either in firing a weapon or
administering the uniform code of military
justice. But getting data out of each of those
pharmacologic options for what it means for
short-term memory retention for your ability to
communicate we think is a lot of ground here that
still needs to be plowed.
With that I'll shut up and wait for your questions.

DR. DICKEY: Thank you very much, Colonel Deal. Are there questions or comments for Colonel Deal?

Dr. Parkinson?

DR. PARKINSON: Yes, sir, thank you very much. Just on that last point. Having operationally relevant research which the military has historically done in selective environments like aerospace medicine or submarine medicine, because the environments are abnormal that's something that we kind of know how to do on vibration and hypoxia, and so we have structures to do that.

When it comes to the use of psychotropic agents in combat which is part of the question that Dr. Silva and I were asked: What is the operational impact of using psychotropic drugs, you know, even to design the types of trials that you would want even if you could find the types of side-effect profiles that we're talking about and
then operationally test decrement in performance around firing or, you know, taking a hill or whatever it might be, if you have any thoughts about how to do that. I'll tell you it's -- the magnitude of the challenge epidemiologically and cost-wise is huge. I mean, that's just my thumbnail impression, that's not a finding of the group.

But you're onto it, but we do it in other areas, and we do it in selective areas as it relates to environmental exposure to things that are known and predicted. But when it comes to pharmacologic deployments issues, then you got the whole FDA involved if you want to do that. And we know, going back to anthrax, that the Department probably rightly does not have a big stomach for off-label use of a lot of things. So et cetera, et cetera.

Any enlightenment you can shed for our committee would be helpful. Thank you.

COLONEL DEAL: We looked at with Army aviation the question of maybe we could ask some
of our guys who normally address shooting scenarios that are really quite high tech from where they began 30 years ago where you had the sort of motion picture laser point weapons, your test, your ability to engage, discriminate good guys and bad guys, hostage takers, rescuers, victims with your weapon is tested.

How about we test that with, you know, Ambien the night before? How about we test it with modafinil? A lot of folks have looked at the human research subject's protection stuff on that, and it's hard to get animal data. I can't get mice to go through those shooting houses as yet, so it just -- that conversation is now seven years old, and I don't think any progress has been made.

DR. DICKEY: Thank you for an excellent update, and we'll look forward to continuing to work with you, Colonel.

Our next speaker is Commander William Padgett. Commander Padgett serves as a preventive medicine officer at headquarters, Marine Corps Health Services. He has deployed during Operation
Iraqi Freedom and supported casualty evacuation
missions throughout Iraq during operations.

Commander Padgett's previous positions
include Marine Aircraft Group 29 Surgeon, branch
head for the Environmental Chamber of the Research
and Engineering Human Systems Department at the
U.S. Naval -- some of these titles are just
reeling. I'm not sure where to breathe --
Environmental Chamber of the Research and
Engineering Human Systems Department at the U.S.
Naval Air Systems Command where Commander Padgett
also worked on readiness policy and procedures to
include population and deployment health as well
as individual medical readiness and clinic flight
surgeon.

Commander Padgett's briefing slides may
be found under tab 9 of your briefing binders.

Colonel Padgett.

COLONEL PADGETT: Thank you very much.

I'm here to represent the United States Marine
Corps. We work for line officers who consider
themselves the Expeditionary Force in Readiness,
202,000 Marines from all aspects of American life; about 20,000 of them right now are deployed to Afghanistan; another 11,000 are deployed to different areas like Djibouti and theater security cooperation areas.

The Marines consider themselves the 9-11 force, and they feel like they are always working to be ready to go anywhere. And right now I can guarantee and the newspapers have shown that we have marines in the Mediterranean hanging out to see what they need to do. We're one of the first groups that got to Haiti, Pakistan, and then the Magellan Star, and we took that back from the pirates.

The big thing to remember about the Marine Corps with its 202,000 people is they consider themselves a middleweight fighter. They are fast, agile, but they have a hard punch, and everything they do is based on this Marine Air/Ground Task Force which means they have air, ground, and logistics all under one commanding office that allows them to move up and down the
spectrum of things that we ask them to do. So we
grew into Iraq with a MEB, a brigade. Most of the
time we're floating these MEUs, Marine
Expeditionary Units, floating out there, and their
theory is we can get there fast and get in there
with what we have available and then flow in other
forces as necessary to deal with the situation
that's there.

But the other key sort of like a Special
Ops talked about is the Marines don't carry a lot
with them. So once they've got that beachhead in
there, it's the joint follow-on services that we
also need to be looking for.

So this is a Marine Corps strategy going
forward, so we fought a land war for 10 years not
where we thought we were going to be. I think
they've done a very good job of it, and we still
have Afghanistan that we are addressing. It has
not come off the horizon, but going forward the
Marine Corps is going to operation maneuver from
the sea. We're going to fight in little areas;
we're going to be floating out there, and when
something happens, we can pop ashore, ship to
go objective maneuver and go forward.

A question becomes how does Navy
medicine and all these things we talk about here
keep up with the small distributed forces bounding
here and there and a lot of the topics that have
been covered here today TCCC, the Centers of
Excellence, are things that help us leverage the
small Marine Corps footprint into a larger
footprint. Out of those 202,000 Marines, there
are 6,300 Navy medicine personnel that Navy
medicine has gratefully given up for the
expeditionary medical care. The key thing to
remember, though, is that's 5,700 corpsmen and 300
physicians covering this group of people that are
out there.

Now, when we're garrison care, Navy
medicine is sitting there in garrison taking care
of us; but once we do these operational forward
things, the number of medical providers you have
available, obviously, we need the joint arena to
be able to handle the cases.
And I'll switch, go through these pretty quickly, but this is -- we have a new commandant, General Amos, a flight guy so I like that, took over recently and put out his four priorities and again, number one priority is we have a battle to fight in Afghanistan and presentations are shown that it's near and dear to our hearts about what's going on there.

The second thing is we're doing a total force relook at the Marine Corps to make sure we're ready for the future years, and again that's where we're going back to our operational maneuver from the sea concepts and how does that fit into the arena pictures.

Better educate and train our marines, so basically, again, since we're doing distributed ops and basically having small units all over the place, they need to be prepared to make the right decisions and do the right things, and we need to know kind of what they're going to do. So we're -- a lot of emphasis on the education that we can trust that 03 to be out there and do what we would
expect without an 04 or 05 right on top of them
telling them this is what you need to do in this
situation.

And then last but not least is number
four is keep faith with our Marines, our sailors,
and our families. And the commandant, people who
worked with him when he was the assistant
commandant know that that is his -- it's Marines
for life, and there is no loss of awareness on
them that 2014 maybe when we get to come out of
this long ground war, but we've got decades
afterwards of Marine medical issues that are going
to have to be continued to be done, and his focus
is to make sure that that stays on the radar. We
don't just move back into getting ready for the
next war kind of situation.

So I was asked to pick one, but when I
asked my office of 12 people what they needed,
there's a lot of stuff out there, a lot of health
challenges facing the Marine Corps. The good news
is that progress is being made in every category,
and application lessons learned can be expected to
have significant impact on the services society as
this stuff moves out into the civilian world in
future generations. These are things that the
assistant commandant and the commandant are asking
us to give them answers on all the time. And
again I, you know, the BUMED, the DCoEs, this
Board, I can't do that as an action officer, and
our 12 people can't do that without a lot of
support that's going on from there.

Just yesterday they threw some more
curve balls at me. The commandants got the
regenerative medicine. He wants to grow hearts
and wants to know why we're not doing that right
now. And then I learned all about therapeutic
animals versus service animals because we have a
big push that we're going to try to figure that
out going forward.

So traumatic brain injury is the thing
that's probably we're trying to execute, and those
people talked about the sandwich technique. You
know, the commandant's got it, the new people have
got it, and now we're trying to see how do we get
this out to our MEFs, how do we get this out to
those 300 docs and all the line leaders with 03,
04, and 05 out there that are actually doing
things in Afghanistan and these other places. And
so that's what our office has probably got the
most significant thing that they're doing at this
time in time on top of all that other stuff.

TBI is a significant threat to the
combat effectiveness of the Marine Corps. The
incidence of TBI in marines is roughly three times
that seen in civilian population. We'll go over
that slide. That is a Commander Padgett saying
that, so I don't want anybody putting that on The
Washington Post or USA Today. But we'll look at
where those are coming from.

The Marine Corps leaders recognize the
significant impact of TBI on the force, and I
think that's impressive. When I was in Iraq in
2003, it was biological and chemical. That's what
we practiced for and had protocols for, and if you
got your bell rung, and I'd have to send you out
of country, okay, go back and do stuff. So just
in my time period looking back at now what we're
dealing with, I think we've really put this
information into the execution phase where all
throughout the spectrum people are addressing
that.

From DVBIC I pulled off their slides
showing me 26,500 TBI cases since 2000. There's a
lot of caveats you need to go to the website and
see; but this is MHS data, it doesn't pick up VA
data. But there's a nice thing that I see in the
trend which is the lower, the greens and the blue
and -- at the bottom -- and you can see that our
severe, moderate, and penetrating TBI has actually
been stable or even with this you could say is
decreasing. So I think we're seeing good results
of work, and again that's my interpretation as
going forward. And now we've got this increased
mild TBI. Well, if mild TBI stays what we think
it is, most of those people are actually going to
get better, and especially as we start doing the
right things to make sure we're not having
repetitive TBI as we continue to figure out ways
to solve them.

So when I look at these slides, yep, we got increasing TBI, but the moderate, severe, the ones that we know definitely are going to have life-long issues, it looks like we may have done something that's at least helping keeping those numbers stable.

This is the Reserve side of the house. It's 2,600 since the year 2000. Obviously, that data does not capture everything. Again this is MHS data. We're not looking at VA data, we're not looking at civilian care data, but you're still seeing the exact same sort of trend that we're increasing our mild TBI reporting and capture, but it still looks like the severe, moderate, and penetrating are at least staying stable for us despite the things we've seen here where it's gotten a lot more violent on the battlefield.

So this is where I got my three times number. DCD tells me there's a 1,500,000 TBI per year over the 2002 to 2006, 300,000 population.

So you get about 400 per 100,000 TBI, and then on
the active duty on the Marine side you get about
1200 per 100,000. Now, those number are missing
lots of things. Obviously, the CDC data is saying
that I don't have any clue what happened in urgent
cares; I don't have any clue at what happened in
the clinical practice. But what we're seeing is
that TBI is important into the civilian world, and
they're coming up to speed in understanding. They
need to see more of it. We're seeing it in the
sports much more, and the military is dealing with
it as well. So I think we have a good synergy
that's going to come forward and actually make
good results as we go down the road.

So basically with TBI there's a lot more
than health going on, and sometimes I get lost in
my little field of just what's the health side of
the house for. But, you know, the Marines are
definitely and all the Joint Services are
definitely trying to keep them away from the blast
in the first place, see that the UAV programs, the
all-seeing eyes, you've seen the blimps floating
around there, JDO has been stood up basically
trying to keep the service members from getting a
blast effect in the first place. If they're going
to get hit, what can we do to decrease the effect
of the blasts that occurred? We've got the
enhanced combat helmet that's out there.
Brigadier General Fuller worked on this enhanced
combat through PEO soldier. It potentially could
mitigate some traumatic brain injuries. We're
seeing it as great potential, so people are doing
a lot of stuff along this TBI besides just the
medical.

The Marine Corps has got the MRAP. You
know that was kind of an interesting story how
that happened, but it's pretty amazing how quickly
that vehicle got out there with Secretary Gates.
There's no failsafe measure that can prevent all
loss of life and limb on this or any other
battlefield, that is the brutal reality of war;
but vehicles like MRAP combined with the right
tactics, techniques and procedures provide the
best protection available against these attacks,
and somebody else had brought up the TTP issues
before. Multiple people are looking at it, taking health information and also from their own view. And so I've been very impressed with where it's going.

Our other issue is recognition. You know, how do we get to the 50 meter blast radius. If there's a blast, and you're within 50 meters, you have been exposed I think that's the right steps to move forward, but why wasn't it a hundred? Why wasn't it 25? How is that affecting us operationally? How does that affect our TTP on how we move forward from there? So we've got recognition. The DTM that came out did a very good job of making our line leaders agree that TBI was something that you just don't get your bell run and go back to work. We're going to capture and go forward with this.

We've got the military acute concussion evaluation, IED checklist, the director-type memorandum that again made recognition that this is out there more built into our everyday activity. We've got helmet sensors that are in
the research stage. I saw SOCOM talked about that. There's a blast patch that changes colors after it gets hit that the University of -- I think it's Pennsylvania, is talking about that. The newspapers, our phones ring every time one of the newspapers brings up the biomarkers, you know, when are you going to get the GFAP or the spectrum protein breakdown products built into the field out there?

Functional MRI. My understanding is we're sending MRIs out to Afghanistan pretty soon. I have questions about helium and all that kind of stuff, so there's a lot of stuff starting to say how do we know if there's been exposure? Who actually have something that needs to then be taken out of the fight or have certain things done for them? The neurocognitive assessment tools we're using, the ANAM, to see if we can compare before and after going on. So a lot of work in the recognition stage.

Treatment, you know, how is the evidence collected and analyzed? We've heard lots of talks
about that here. How does the information move
from observation to research to evidence-based in
a timely manner? Again this is the commandant's
big thing is, I heard this. How come it's not
there?

We have the restoration centers. I know
we have the complimentary and alternative medicine
people here. I'm an M.D., so I'm having a hard
time wrapping my head around this, but we're
getting good response about acupuncture at the
restoration center. We're getting good response
with PT and T.O. They are saying that they're
getting good numbers of people back, so they
actually have a center that takes anybody who they
think has TBI and does a rapid, almost like a
sprint-team kind of thing.

Now, when you go back and look through
the literature and stuff in the USPFTs and all
those, what I take away from it is one of the
things they've said has been shown has very strong
evidence is education of what to expect is
probably the best treatment for these TBI are
going forward, which is really what these
restoration centers are doing as well. But how do
we sort out all of these different things and
determine what's really our best bang for the buck
and what's really doing the best for our
servicemen.

And then the data. So they talked about
the combined information data network exchange,
blast exposure, concussion incident report. That
got online for the Marine Corps in January, I
believe, and that is like he'd said, that's the
DTM says, a blast goes off, I want to know
everybody who was in 50 meters of that, and I need
to be able to track that long term. Right now
that's on the secret side, it doesn't really share
information with our medical side, so we have a
denominator that we're then going to have to work
through the rest of the processes of figuring out
how do we use that data. But at least we're
capturing that data, which is what the DTM asked
for.

We use the Medical Readiness Reporting
System in the Navy, Marine Corps and Coast Guard. There's a new module on that that's going to put
the ANAMs and NCATs in there so people can track
who's had the baselines done, and then,
theoretically, it will help track who needs the
follow up because there's been a question, the TBI
data that's going to try to. What we get now is,
hey, you need to go get a referral, but who's
tracking the referral to the systems that are
trying to now move forward to say that we follow
you all the way through your exposure or risk, and
either back to full duty, or where are we going
forward.

ALTA VA, the electronic health record
way ahead, everybody's seen we've got a lot of
stovepipes, and when we get this data together, we
should be able to start putting the process
improvements forward very quickly. And I think
good progress has been made, but it's never as
nice as we'd like it to be.

The research is the one that just drives
the commandant and the assistant commandant, and
probably my boss, Admiral Anderson, nuts, because
as soon as it's in the paper or on the news, they
want to know why we don't have it. And so we are
continuously reminding them of that everybody is
trying to get the anecdotal report to the clinical
as fast as possible, but we need to do it safely,
and here are the groups that are helping us do
this right. And I've been very impressed. I
think people are trying to quickly move things
through in a structured way that we do it safely.
But I don't -- I think we're getting there. It's
just nobody will ever be happy with how fast it
can get there.

Long-term consequences are now starting
to float in, and again what happens when this war
is over, are we going to take our eye off the
ball. Commandant's made clear with his fourth
priority that they're marines for life; we're not
taking our eye off this ball. And with groups
like this I've seen the VA and the other services
are very aware as well that we've got a long road
ahead of us that we need to keep our eye on.
And the questions that are being asked is, you know, how does TBI affect cause, complicate, other conditions. And again, I've heard that question raised here. That's also being raised by the commandant and the assistant commandant and my boss as well.

So the way forward, significant assets are working feverishly to find solutions, and the Marine Corps has outstanding support from DOD, BUMED, other services as well as multiple organizations and progress is being made. And sometimes we have to remind the commandant and the assistant commandant of that, that, yes, we've got a new issue that we can deal with, but again, when you look at what I was dealing with in 2003 in concussions where it wasn't on my radar to where we are nowadays, I think we've made tremendous forward progress. But we can't rest on those laurels.

Avoiding exposure and minimizing risk are the key, and the Marine Corps is all over that trying to keep the marines away from IEDs in the
first place, and then figuring out which things, equipment PPEA can avoid the brain trauma. And the big issue is we've got to get a clear understanding of what a case of TBI is, so then we can start figuring out what the process improvement and the clinical practice guidelines are. And so I was happy to hear Captain Hammer discussing and that's what they're going to start focusing on and figuring out how to integrate and spin out like the Institute of Surgical Research does.

That's all I have. Are there any questions for me?

DR. DICKEY: Thank you, Commander, for an excellent presentation. Are there questions or comments for Commander Padgett?

Dr. Lednar?

DR. LEDNAR: A question that, as you were talking about the expeditionary force activities, are you getting what you think is actionable current information to describe some of the potential infectious threats and environmental
hazards in areas where you may be starting to plan
for expeditionary force activity?

COLONEL PADGETT: Yes and no, but it is
part of our medical planning. They've changed
their name, but the -- it's not MCI -- Naval
Medical Intelligence or -- those resources are
there, they're part of the planning. We feel
pretty comfortable. It's the pop-up things, the
-- I forget the latest water one in Iraq -- that
will catch us off guards, but even then I feel
like they've got a good response of we recognize
something, what kind of data do we have looking
back? What kind of data were we collecting
prospectively, and what kind of data do we need to
go back and get afterwards?

Compared to -- and I was too young for
Desert Storm -- but compared to Desert Storm I
feel like we've got all that information like Dave
said that we can go back and tap. We're still
having issues moving it from this big mass of
information to actionable items, and when I've got
a few seconds with line leadership, that's what I
got to come to them. I've got to have, say,
here's the actionable data that pretty much
everybody agrees with, because as soon as we split
they stop paying attention, and here's' the action
that you can do to make movement on that. But,
prospectively, I think we've done a much better
job with the environment (inaudible).

DR. DICKEY: Yes, Dr. Anderson.

DR. ANDERSON: I'd like to make a quick
coment just for context, and thank you for the
presentation. It's great to hear about the
Marines always. I'm a retired Air Force officer,
but I'm also a Marine dad, so my son served as an
enlisted marine. I used to have these
conversations with my son, and you used to work in
concussion which I like. It is mild TBI, but I,
you know, I talked him about these things, about
injuries and Marines, and in training and in
combat, and pretty soon my son enlightened me
again as he always does. He says, Dad, stop
asking questions like how many young marines
played football in high school. He says, Dad,
they all did. It's just the nature of being a Marine.

And he also -- he was at 29 Palms. He likes to play hockey, so he played on the Marines roller-blade hockey team while he was at 29 Palms. So I just, so you understand, and they go rock climbing and, you know, this is what Marines do, right? You know this.

So the context here is epidemiologically, it's real hard trying to figure out what the baseline is. This applies to soldiers, airmen in some cases as well. So I wish you well, but please keep that in context because we're really talking about a big, big social thing here in the United States about sports injuries and so on, and that the Marine Corps service is certainly an extension of that regardless of whether they're involved in a blast injury. So just a lesson from the Marine dad looking at this thing and talking to Marines about, you know, they'll tell you some really wonderful things. So thanks for your work.
COLONEL PADGETT: And with the MERs module that's coming on board, the Marine Corps has recognized that it doesn't just start and stop in theater. So the concept, and it's still coming on board, is that when you have the motorcycle accident and have a TBI incident, that will go into MERs, which means you've already used up one of your three that the DTM talks about.

And so they are applying it to the safety side as well. But I agree with you there.

DR. ANDERSON: Well, this is the physical injury part of an occupational medicine tracking program, so it's got to be there for everything.

DR. DICKEY: Thank you, Commander, very much for an excellent presentation, keeping us up to date.

Our next speaker is Commander Erica Schwartz. Commander Schwartz is a board-certified occupational medicine physician and has been serving as a preventive medicine office in clinical epidemiologist at the Coast Guard
headquarters since September of 2005. Prior to her current position she served as a Navy occupational medicine physician at the Naval Academy as head of the Naval Health Clinic Preventive Medicine Department and the Immunization Department and chief of Occupational Medicine.

In addition, she served as medical unit leader in the unified area command where she assisted in developing the unified command medical concept of operations plans. The slides for Commander Schwartz are under tab 10.

Welcome, Doctor, Commander Schwartz.

COMMANDER SCHWARTZ: Thank you. The volume isn't on.

If this isn't working, it's okay.

(Video played)

COMMANDER SCHWARTZ: So Admiral Tedesco, who is our chief medical officer, tasked me to do two things today. One was to provide a very brief overview of the Coast Guard, and number two was to give you an update on the Deepwater Horizon event
and Coast Water Response. So that video
accomplished task number one so I didn't have to
go through all these slides.

So what you saw on the presentation or
the video was the Coast Guard mission. Coast
Guard has a very multitasked platform, but we do
it with a very small force. We have about 40,000
active duty members, 8,000 reservists, and we are
slightly larger than the New York City Police
Department. That's the New York City Police
Department. And yet we're still responsible for
doing multiple missions.

One of the unique things about the Coast
Guard is that like our DOD counterparts we are
part of a military service, but unlike our DOD
counterparts we're not part of the Department of
Defense. We are part of the Department of
Homeland Security. But what we try to do because
we are military service is we try to align our
policies with DOD. So that's task number one.

Task number two was to talk about the
Deepwater Horizon event. I think that we're all
aware that on April 20, 2010, the Deepwater Horizon oil rig exploded. This resulted in 11 deaths and the largest natural marine accident in the petroleum industry in history. So what happened -- here's the time line, this is in your slides -- from April 20th until about September 19th, there was an unprecedented interagency response. I'm not going to go through the details of the slide, but on September 19th what occurred was the oil well was actually officially killed, and the Coast Guard, in fact, with other interagency support, responded to this event within hours of it occurring.

There were over 48,000 personnel, Coast Guardsmen, DOD folks, we had a huge civilian response, other federal agencies, over 10,000 vessels of opportunity, and a hundred-plus aircraft that were involved in this response. Nearly 14 percent of Coast Guard personnel were involved in the Deepwater Horizon event, and we again, we assumed command and control within hours of this tragic accident.
There were both offshore and onshore activities that we responded to or that we were involved in. This included in situ burns, beach cleanup, dispersant application, decontamination ops, booming and skimming ops.

This is a slide that I borrowed from NIOSH, and basically what it shows is the source control was the Deepwater Horizon vessel. And it shows what, where the workers were in terms of how far away -- you know, in quotes "far away" -- they were from the source control, and the on-shore cleanup workers were the furthest away from the source control. Why this is important is because NIOSH, when they looked at potential hazards that the Deepwater Horizon responders may have been affected by, it really depended on how close they were to the source control.

And again, this slide is borrowed from NIOSH. The two top issues that we saw at the Deepwater Horizon event was were heat stress and fatigue. And as you can see in the slide, there were other potential hazards which included
cardiovascular issues, chemical exposure, particulate exposures, and there was a significant complaint of odors down there.

Because of the unprecedented nature of this event, the National Institutes of Health has pledged around $10 million to perform a multiyear cohort study. And as you can see on this slide, this cohort study is going to look at potential short and long-term health effects associated with the workers involved in this event whether its the federal workers or civilian workers.

What the NIH Gulf Study is hoping to achieve is that they're going to look at various endpoints. They're going to be looking at genotoxicity, neurobehavioral effects, cancer, biological aging, potentially DNA damage and repair and other biomarkers. This is a very extensive study. The Coast Guard is working closely with the NIH to assist what whatever they need in terms of Coast Guard personnel being included in this study.

In addition to the NIH study, the Coast
Guard is working with the National Institutes of Environmental Health Sciences, NIEHS, to work on a sort of a sub-cohort study. And what we're looking to do is that we are looking to do a very similar study but only looking at Coast Guard personnel. And what's different about Coast Guard personnel as compared to the NIH study is that we actually have pre-spill health information and post-spill health information on our Coast Guard population, which I'll show in the next slide.

So what we have for Coast Guard personnel is that we have a comprehensive list of all of our responders. We created a Deepwater Horizon survey, a tool which we called an inventory. And in this tool we discussed, we asked questions about the time and site, where and what type of exposures they had, what type of mission did they perform, what potential health effects did they have when they were at this Deepwater Horizon event.

Another unique thing that the Coast Guard has is we have something called the
Occupational Medicine and Evaluation Surveillance Program, OMSEP -- Occupation Medicine Surveillance Evaluation Program. And this program is basically where groups of individuals in the Coast Guard are enrolled in this program, and we do full physical examinations baseline. We do CBCs, UAs, pulmonary function test on these individuals, and they get these exams done periodically. It could be Q2 years, Q5 years, they are pollution investigators, our hazardous waste employees, our marine inspectors. It's a cohort of individuals within the Coast Guard who we have pre-spill information on. It's very comprehensive. And we also have post-spill in health information on them, too.

In addition, we, like the other military service, we have an electronic health record, so we do have data that we feel very confident that we can look into to look at their pre-health information and post-health information. We are sort of hoping to work with the Armed Forces Health Surveillance Center to look at the Defense Medical -- DMSS, the Defense Medical Surveillance
System, to -- so, hopefully, we can do some investigation of what type of information is in there.

We did have on about 300 Coast Guard personnel personal sampling that was done while they are at the Deepwater Horizon event. And you can see here that we sampled things like benzene, xylene, and what we found when we were down there was that it was negligible, that very low levels, very negligible amounts of these chemicals.

However, we do have them associated with particular events that they were doing while they were at the Deepwater Horizon deployment.

Also, NIOSH and other agencies took thousands of samples, area samples, other personnel sampling on other responders, so we do have that information that's available not only to the Coast Guard but also to the public.

One of the questions that one of our researchers was thinking about is that because the Coast Guard is in the military, we do have age-required HIV testing every two years. And all
of the HIV testing the serum goes to the DOD
serum repository, so it was a thought that perhaps
we might be able to do some adduct -- DNA adduct
studies to look at benzene potentially.

There's a lot of thought about how we
can use the data that we have. We are not
researchers within the Coast Guard, but we're
hoping to work with the Armed Forces Health
Surveillance Center with our USHUS counterparts to
be able to look at this information that have
because we have a wealth of information that we
are excited to look at and use to help protect our
Forces. So we wanted to present this information
to the Board to see if there's any additional
ideas that you might have for the Coast Guard as
we move forward to looking at this information and
going forward with our cohort study within NIHS.

So that's all I have for you. Do you
have any questions? And I'm trying to get us back
on track with time, I'm sorry, because I'm talking
so fast. But if you have any questions or any
comments, I am here for a couple of minutes.
DR. DICKEY: Lots of information for you from Commander Schwartz. Are there questions?

Questions about great pictures. Great pictures.

COMMANDER SCHWARTZ: Thanks.

DR. DICKEY: Comments or questions for the Commander?

Thank you again for an excellent update.

COMMANDER SCHWARTZ: Thank you.

DR. DICKEY: It would look like the Coast Guard may be the family physicians. You just do a little bit of everything.

I think we've had exceptional briefings on a wide variety of topics, and for all of you who have presented for the Board, thank you for the remaining retiring board members. Thank you for being with us through this and hopefully spending our working mealtimes as mentoring periods. And to the new Board, welcome, and this but the first.

Can I ask, please, Ms. Bader, if you have any closing remarks?

MS. BADER: Sure. Just a quick comment
for the folks that are traveling. On the inside
of your binder is a manila envelope. If you would
prefer not to take your binders home, you can just
put your handouts, et cetera, in the manila
envelope.

We do have a shuttle to the airport, so
if you'd like to take a shuttle, please work with
Jen Klevenow, and she'll coordinate that for you.

And, tentatively, our next meeting is
scheduled for the board members for 14, 15 June.
We're going to work that, as we had spoke earlier,
perhaps combine that with the COCOM Surgeons
Conference. So I spoke to General Robb today and
his staff, and it looks like that's a plan. So
we'll work that. Please mark your calendars.

And with that, I will adjourn today's
meeting. Thank you so much for your attendance.

(Whereupon, at 2:21 p.m., the
PROCEEDINGS were adjourned.)

* * * * *
CERTIFICATE OF NOTARY PUBLIC

DISTRICT OF COLUMBIA

I, Christine Allen, notary public in and for the District of Columbia, 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.

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My Commission Expires: January 14, 2013