THE DEPARTMENT OF DEFENSE

TASK FORCE ON THE FUTURE OF MILITARY CARE

A subcommittee of the Defense Health Board

DELIBERATIONS OF DRAFT INTERIM FINDINGS AND

RECOMMENDATIONS FROM THE FUTURE OF MILITARY HEALTH

CARE TASK FORCE

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P R O C E E D I N G S

(8:30 a.m.)

DR. POLAND: Good morning everybody. Welcome to this meeting of the Defense Health Board including a big one for this afternoon, so we'll go ahead and get started. Unfortunately, Dr. Cassells will only be here in the afternoon session, so we will introduce him then. In your notebook I believe is a two-page bio so that you can know something about Dr. Cassells, our new Assistant Secretary of Defense for Health Affairs, and also the Delegated Sponsor for the Board.

Given that, I'm going to ask Roger to function as the DFO and open the meeting.

COLONEL GIBSON: As the Alternate Designated Federal Officer for the Defense Board, a Federal Advisory Committee to the Secretary of Defense which serves as a continuing scientific advisory body to the Assistant Secretary of Defense for Health Affairs and the Surgeons General of the Military Departments, I hereby call this session of the Defense Health Board to order.

DR. POLAND: Thank you, Roger. As we have now learned, you have to push this button and the little red glow will come on. If we could now following our tradition of the Board, stand for a moment of silence to honor those who are here to serve.

(Moment of silence)

DR. POLAND: We will start with some administrative remarks from Colonel Gibson.

COLONEL GIBSON: Good morning and welcome. I want to thank the staff of the Holiday Inn for helping us with the arrangements for this meeting, and all the speakers for all their hard work in preparing their briefings for the Board. Please sign the general attendance roster on the table over here in the corner if you haven't done so. One of the requirements of the Federal Advisory Committee is that we have to track those who attend the meeting.

The rest room are located just outside the door. If you need telephones, faxes, copies, or messages, see Karen or Lisa. The next meeting

of the Board will be September 19th and 20th in San Antonio, Texas. At this meeting will complete deliberations on a number of open Board business items and receive briefings on the Defense Disability System, amputee patient care, and we'll tour the Amputee Center at Brooke Army Medical Center. The Board will also conduct a day-long administrative session on September 18th, so we will actually be there for a 3-day meeting.

Through the Uniform Services University we were able to get 1.75 continuing medical education credits for this meeting. So supersede the credits you need to sign the attendance roster and complete the evaluation form and attest statement for the meeting for the meeting and hand them in to Ms. Jarrett or Ms. Triplett. For Board Members, the evaluation form is in your notebooks. We will mail out the CME certificates when we receive them from -- finally, a reminder this meeting is being transcribed. It's an open session. So please speak clearly into the microphones and state your name before you begin.

Also turn off any pagers, Blackberries, or cell phones as they may interfere with the AV system. That's all I have.

DR. POLAND: Thank you, Colonel Gibson. I do want to introduce one of our distinguished visitors who is with us today, and that is Rear Admiral David Smith. Welcome. Thank you for joining us. We will also go around the table and then to the perimeter asking people to introduce themselves, and if I could start to my right.

DR. MILLER: Mark Miller from the Fogerty International Center at NIH.

DR. LAUDER: Tammy Lauder, physical medicine and rehabilitation, Wisconsin.

DR. LEDNAR: Wayne Lednar, Eastman Kodak, Rochester, New York.

DR. MCNEILL: Mills McNeill, Mississippi Department of Health.

DR. PARISI: Joe Parisi, Pathology Subcommittee. I'm at the Mayo Clinic in the Department of Lab Medicine and Pathology.

MS. ZAKI: Sherif Zaki at the CDC in

Atlanta.

COLONEL STANEK: Colonel Scott Stanek. Army Staff Officer.

COLONEL SNEDECOR: Mike Snedecor, Air Force Preventive Medicine Officer.

CAPTAIN NAITO: Neal Naito, Bureau of Medicine and Surgery, Navy.

COLONEL ERICKSON: Loren Erickson, DOD.

LIEUTENANT COLONEL GREIG: Tom Greig, Clinical and Program Policy Health Affairs.

LIEUTENANT COMMANDER LUKE: Lieutenant Commander Tom Luke, Bureau of Medicine and Surgery.

COMMANDER FEEKS: Ed Feeks, Headquarters, Marine Corps, Preventative Medicine Officer.

LIEUTENANT COLONEL HACHEY: Wayne Hachey, ODS Health Affairs.

LIEUTENANT COLONEL SILVER: Aaron Silver, Joint Staff, Health Services Support Division.

LIEUTENANT COMMANDER SCHWARTZ: Lieutena

nt Commander Schwartz, Preventive Medicine Officer, U.S. Coast Guard.

DR. OXMAN: Mike Oxman, University of California, San Diego.

DR. SILVA: Joe Silva, Professor of Medicine, University of California, Davis.

DR. PRONK: Niko Pronk, Health Partners, Minneapolis.

DR. SHAMOO: Adil Shamoo, University of Maryland School of Medicine.

DR. PARKINSON: Mike Parkinson, Lumina and WellPoint.

DR. HALPERIN: Bill Halperin, New Jersey Medical School, and School of Public Health.

DR. GARDNER: Pierce Gardner, Medicine and Public Health at State University of New York at Stony Brook.

REAR ADMIRAL SMITH: Dave Smith. I'm the incoming Joint Staff Surgeon.

COLONEL GIBSON: Roger Gibson, the Executive Secretary for the Defense Health Board.

DR. POLAND: Greg Poland, Professor of

Medicine and Infectious Diseases, Mayo Clinic, Rochester, Minnesota.

COLONEL COX: Kenneth Cox, Force Health Protection and Readiness Programs.

MAJOR KIRK: Major Lisa Kirk, National Guard Bureau, Joint Staff Surgeon's Office.

COLONEL DEFRAITES: Colonel Bob DeFraites, Headquarters, Medical Research Materiel Command.

DR. RILEY: Brian Riley, Occupational Medicine resident at USIS.

MS. MILHISER: Ellen Alton Milhiser.

MS. LANGE: Gundrun Lange, VA War Related Illness and Injury Study Center.

LIEUTENANT COLONEL BLONDEAU: Lieutenant Colonel Sharon Blondeau.

DR. KITCHEN: Lynn Kitchen, Military Infectious Disease Research Program.

MR. CASTERLINE: Dan Casterline, Merck Vaccine Division.

MR. SHOEMAKER: Dave Shoemaker, Preventive Medicine, Military Sealift Command.

MR. ZOERHOFF: Mitchell Zoerhoff.

MS. JARRETT: Lisa Jarrett, CCSI, a contractor, Defense Health Board.

DR. ERDTMANN: And dead last is Rick Erdtmann from the IOM.

DR. POLAND: But certainly not least. I forgot to introduce as one of our distinguished visitors Rick from the IOM I think because I've been sitting there chatting with him, so I knew you were here but nobody else did. Also I want to publicly thank Bill Halperin for chairing the last meeting in my absence. Thank you, Bill, very much for doing that.

Our first speaker for the opening session will be Colonel Ralph or Loren Erickson, Director of DOD's Global Emerging Infectious Surveillance and Reporting System. He is going to give us an update on GEIS and its activities. Roger and I had the opportunity to get a brief from Loren and see the facilities. Thank you very much for that. It was enlightening to see it. His slides are in Tab 3, I believe it is. So,

Loren, the floor is yours.

COLONEL ERICKSON: Thank you, Dr. Poland. Good morning, Defense Health Board, in particular Admiral Smith, Dr. Poland, and Colonel Gibson and distinguished guests. It's an honor to be here. There are a lot of slides that you have under that Tab 3. I am not going to speak to each and every slide, but I will endeavor to give you a very quick reintroduction to GEIS and then an update on something of the things that we've involved with.

Just to remind the Board, these are the key functions that GEIS is engaged with. In the military we would call this a critical task list. Just to remind the Board, we are answerable to the Assistant Secretary of Defense for Health Affairs, now Dr. Cassells, his staff, Ms. Ellen Embry. We are funded through that office and yet we provide support through the Army. The Army Surgeon General is the executive agent for GEIS.

To remind people, these are the surveillance priority areas in which we work all

of which are of military relevance. We are in fact a global network anchored by five overseas labs, those being Lima, Peru, Cairo, Egypt, Nairobi, Kenya, Bangkok, Thailand, and Jakarta, Indonesia. In addition, we have major GEIS partners that run major labs and agencies in the United States. In addition, we have a full-time GEIS staff member who works in Geneva, Switzerland, at WHO. That currently is Captain Glen Schnepf. He will be replaced this summer by Commander Matt Lim.

These are the previous directors of GEIS, two individuals who are well known to this Board. Dr. Kelley currently is with Dr. Erdtmann at the Institute of Medicine, and Dr. Malone is with the State Department. This is our new home that Dr. Poland was alluding to. This is just outside the Beltway within site of the Mormon Temple. We certainly want to welcome all of you to come visit us as you have opportunity. Just give us a call and we'll be glad to show you our facility. This in fact will be probably the first

home of the Armed Forces Health Surveillance Center, a new entity which is expected we think to take shape in the coming months.

We at this new facility have a communications center which we have recently equipped. This will be not an operations center but, rather, a communications center which will handle the flow of information for outbreak investigations and perhaps pandemic awareness as well. These are some of the parts of the U.S. Government that we are in regular collaboration with. I won't go through all of these, but just to let you know that we are working at an interagency level on a weekly basis working a lot of very strategic issues especially as it relates to pandemic influenza preparedness.

This is a picture that's in our Annual Report. If I can just ask by a show of hands from the members of the Board, did you receive this by mail any of you? I see a few hands. Let me just ask the Board Members, at the break or at the lunch if you would like a copy of our Annual

Report, please just let me know and we'll make sure that you get that. And Roger, we'll send you more copies as well for distribution.

Emerging infectious diseases in the news right now include some of these, extensively drug resistant tuberculosis you may have heard about in South Africa. Chikungunya in East Africa in the Indian Ocean. This has been a big concern to our French colleagues especially in Reunion. There have been outbreaks involving select agents in recent days. These are the types of things that we are continually looking at and deciding whether or not we need to respond from the DOD GEIS platform.

One particular disease is Rift Valley fever. We have a collaboration going on with NASA at the present time where they use a variety of modalities of satellite imagery and modeling. In fact, they were able to product back in September based upon rainfall and surface temperature and reflectivity and a few other parameters that we could expect a return of Rift Valley fever in East

Africa. In fact, that ended up being the case. This is a picture that's taken from MMWR that shows in fact the different districts within Kenya where in fact there were not only animals affected, but human cases of Rift Valley fever. And this is also a graph from that same MMWR article which shows the epicurve, and you'll notice a few of the interventions which involved a ban on slaughtering and animal vaccination that began toward the end of the epicurve. Just to emphasize, GEIS's role was with NASA to predict that this would happen. Once the prediction was made known, our lab partners in the Nairobi lab, USAMRU-K, were actually in the field collecting bugs to start looking for the virus and in fact detected the virus at the front end of the outbreak. They were able then to participate with the World Health Organization, with CDC, with KEMRI and other partners to then mount an international response to this reemerging disease.

Other emerging infectious diseases of importance to the military that GEIS is starting

to look at currently, but I will have to be invited back to give you more details on these, include wound infections in our soldiers returning from overseas and we're looking again at respiratory disease. In Afghanistan there was concern by the ISAF Surgeon that we might have pertussis in some of those young adults. Adenovirus as you've been previously briefed by Kevin Russell continues to be a problem at our basic training posts, but in particular adenovirus has been a predominant strain in this last year. In addition, hepatitis E is a concern of ours in deployed forces. And these last three areas are areas where we think we probably are seeing morbidity, we are seeing cases, but they are not necessarily being diagnosed in a timely fashion. So these are just some of the ticklers that, Roger, if you'll invite us back we may want to talk about at a later date.

Let me talk about relationships that GEIS is forming. Two weeks ago I was in Marseilles visiting our French colleagues at the

Tropical Medicine Institute. This is a world-renowned institute which is comparable to our Walter Reed Army Institute of Research. We have common cause with our French colleagues not just because we're drawing closer to them in a major agreement between Fort Detrick and the French military for both surveillance and research, but for these other emerging diseases that we have alluded to. I just want to let you know that the French Army just like the American Army, they are deployed overseas. They have a number of issues that they have to deal with which are very, very similar to the ones that we deal with. They have cases of malaria coming out of Africa in their deployed forces. They have problems in other areas as well. I like this map because I learned something about France. Places like French Guiana in the northern part of South America is actually considered part of the country of France. It is called a Département. It's not a colony. It's not a separate country. It's actually a part of France, and France has significant landholdings in

a lot of different areas where they then have troops. So I think we have some great opportunities to work with our French colleagues.

Just to highlight one particular area of military concern many of you would have heard about in this last year, 20,000 cases of meningococcal disease in Ivory Coast, and this included 1,600 deaths. Incidentally, this particular tropical medicine institute in Marseilles, one of the founders of the institute was credited with originally describing the meningococcal belt which reaches across Equatorial Africa.

In addition, I had the good opportunity to meet with our German colleagues within the German military, the Bundeswehr, at the Microbiology Institute which again is a good correlate to the work that GEIS is doing also with the State Health Department in Bavaria. Just very quickly, the Germans in addition are participating in military operations in a lot of different areas not to the same degree as the Americans of the

French, their work is nearly always with the U.N., but again they have the same concerns. If you saw the article from JAMA today, for instance, it was under the Letters to the Editor and highlighted some of the military experiences in Afghanistan related to malaria. The German soldiers who have been deployed to Afghanistan have also seen cases of malaria among their troops.

They have some very interesting lab capabilities with the Microbiology Institute in Munich. The Director is Colonel Dr. Finke. Dr. Finke prior to the reunification of Germany was actually head of the BW Program for East Germany so he has a tremendous background in plague and in a number of other infectious diseases and he has been able to bring that capability to this laboratory. So they also have been looking at hantavirus in Europe which is a concern for us. This is that part of Bavaria that banks up against the Czech border. Those of you who have been stationed in Germany know that we have our training area in these areas, Grafenwoehr,

Hohenfels, the predominant training area that's left in Germany for American forces. They also have other types of diseases they've looked at. I won't belabor these, but these are issues they've been dealing with in recent years.

Let me move on and talk in particular about flu very quickly. These are documents that many of you are aware of from the White House, the National Strategy. Stemming from that was the National Implementation Plan which had a total of 323 tasks that were given to the cabinet-level secretaries. Of those 323 tasks, 114 of those came to the Department of Defense. So I think that shows just how important the Department of Defense is to national strategic-level pandemic influenza planning. Of those 114 tasks, six of those relate to the work of GEIS. So I show this as chapter and verse as to why GEIS is involved, not just in helping the military prepare for those issues that a pandemic will affect us by, but nationally and internationally.

We do three types of lab-based

surveillance for flu, and I am going to go through each of these very quickly. Around the world there is sentinel surveillance that occurs. We are currently working collecting isolates from 56 different countries, 273 sites in 56 different countries, and I can tell you that I think that's more than any other entity on the face of the planet right now. Those countries that are in red are countries where as far as we know, DOD GEIS is the only collector of flu isolates. Of course, it stands to reason this is important for the making of the vaccine. If you look at the bottom of the slide, in the last 6 years, these are some of the strains that have been isolated, that have been captured by the GEIS network which have then been chosen for inclusion in the trivalent vaccine which I hope everyone in this room has received. So you are a beneficiary of the GEIS network whether you knew it or not. I think this kind of like winning Academy Awards, when your strain gets chosen. So that is sentinel surveillance.

We also do special population-based

surveillance at the basic training sites. In addition, Admiral Smith, you may have heard, we now are putting PCR machines aboard some of the ships that are part of these three different fleets. We need to have these population center surveillance, we need to know what's going on, and we need good answers. You can imagine perhaps a ship pulling into Shanghai, there is an opportunity for the sailors and officers to go ashore, they come back onboard, they steam back out of port, a week or two later they all become sick. We need an ability to know what it is. In addition, in our basic training sites, a great place for transmission of disease, and you've been briefed on this before.

We have a unique program that we're doing right now in EUCOM with the EUCOM Surgeon and all the medical leadership there. Every clinic in Central Europe is now participating in laboratory base surveillance. They do ILI surveillance, but in addition isolates are sent to the Primary Reference Lab which is now at

Landstuhl, and they've been publishing some really reports. And you say so why is this important? Of course, Europe is the common pathway for people coming from Asia, from Africa, there's a lot of commerce that goes through here. All of our forces returning from downrange generally will pass through bases that are in Europe either for medical care or just as part of transport. This is critical. A couple of things that were different in terms of seasonal flu epidemiology this year, the predominant strain of flu in the States was an H1 whereas in Europe it was an H3. I may have this backwards, but also the peak of flu was a month later in Europe than it was in the states, so a very different epidemiology as well.

Just to talk quickly about some of our work internationally, the lab on Bangkok does a lot of different types of work, but I'll just talk about flu. They have work that's going on regionally in Nepal and Thailand, but in addition we have a new effort going on in Cebu City in the Philippines. I had a chance to meet the military

hospital commander that's helping us with that. There's been a big question as to why have we not seen bird flu yet in the Philippines. The geography is right, the demography, everything is there to match the other countries that have been affected. Maybe we haven't been looking hard enough. In addition, we're building up a BSL-3 lab there for their use as well.

In Indonesia, again working regionally, we may well be also moving to an effort that will be in Papua New Guinea this year. This lab has been very unique in that it's participated in establishing a flu network, both syndromic surveillance and lab-based surveillance for the government of Indonesia which is no small feat. They have been involved with all of the international responses to a whole variety of clusters one of which I'll tell you about quickly. This was exactly a year ago. In the northern part of Sumatra, not so far as Banda Aceh where the tsunami was but a part of the same island, there was a family that got together and they had a

meal. They like most families in this area they all slept in this room on the right after the meal. There was one family member who was sick. This was a 37-year-old female. She had been coughing and had been febrile. In fact, she died a few days after this meeting as the family gathering is the vertical line here. But from her illness, and we never quite knew what that was for sure, there were these additional cases and all of them died. These were all family members. All of them died of H5N1 confirmed except for a 25-year-old brother.

This was obviously of international concern because when we went to look, and this was a team effort with WHO, CDC, and members of the Navy lab, at the chickens and the pigs, they were not able to isolate H5N1. This appear for all intents and purposes to be true human-to-human transmission. Fortunately it was not sustained. I'll throw this out as a quick tidbit. Each of these relatives were blood relatives and so there seems to be some indication, and this is a good

lead for future research, that there may be certain genetic elements to who gets sick and how severe their illness is.

Let's go to Peru quickly. There is a lot of work that we're doing in South America. We were invited in fact to a special meeting on behalf of NIH from Dr. Miller, a member of your Board, thank you again, Mark. We went to Buenos Aires, I've got staff members that are in Lima right now, working very much in the Andean Ridge countries helping them to build their own capacity, but in addition collecting isolates.

Beyond that, a new effort is in fact working with Billy Koresh with the Wildlife Conservancy doing bird surveillance, and we think this is an important adjunct as it relates to determining just when H5N1 would appear in the Americans, but in addition looking for other new novel influenza viruses.

In Kenya we have right now what is the largest influenza surveillance effort in sub-Saharan Africa, and those circles show the sites

where we're doing that surveillance. We intend in the coming months to expand to Uganda and to Cameroon. In fact, in the month of June I'll be making a trip to both of those countries to confirm the preparation of the field sites, and that's what that says.

We're also looking to go to Nigeria. As many of you know, we have an extensive DOD HIV presence in many countries as far as PETFAR and DEHAP. In some of our discussions with the leadership of the HIV work, we have talked about how we can make a marginal increased investment upon the infrastructure they already have in place for HIV work to enable us to do lab-based surveillance in many of these countries, and Nigeria may be a good example of where we can do just that.

I'm coming to the end here. A real workhorse for us is the Cairo lab in Egypt working in many countries. They have the unique position of being the Eastern Mediterranean Regional office for WHO for influenza. So when you hear about flu

in Turkey or the Stans or in Egypt, any of those EMROC related countries, the Cairo lab is the one that has done the diagnostic work, period. They are the ones who have been invited, they are the ones who fielded the team to actually do the investigation.

This is a slide that shows all of the different types of work that's going on as part of the NAMRU-3 work in this region. They are the ones that most recently were the ones to detect and confirm H5N1 in poultry in Ghana, and that was something that was just in the last month.

I know I've got you feeding out of a fire hydrant here. Forgive me, but I don't want to bust the time. In this next year they'll be collecting even more specimens. It's becoming quite an industry for them. Just to highlight this thing at the bottom, we have an ongoing collaboration with Global Health with Dr. Steve Blount at the Centers for Disease Control. We will be meeting with them in person in another month as well. They're going to give us a tour of

their facility and an update, but we talk to them on the phone on a regular basis. They have a parallel program called Global Disease Detection which looks a lot like GEIS, but it's CDC. We are collaborating with them. In fact, they have an individual who is now assigned to the Cairo lab to help the CDC start to build some of their efforts in that country and in that region.

I think I will go past this. That just talks about other isolates and other work that is occurring along the Nile. This map shows some of the distribution of these H5N1 cases as of 16 May, and you can see that later as well.

Certainly you can contact me. If you again want a copy of the Annual Report, please let me know that or let Colonel Gibson know that and we'll make sure that you receive that. I'll give you my card for that matter. Thank you.

(Applause)

DR. POLAND: Thank you, Loren. Any questions or comments? By the way, for those of you on the right side behind this pillar, I can't

see you. So if you have questions or comments, come. Bob, did you want to say something?

SPEAKER: Loren, are the French or German militaries doing any influenza surveillance in their deployed forces?

COLONEL ERICKSON: At the present time, the Germans are not doing it in their deployed forces. The French told me that they in fact are looking at this, but that's in collaboration with the Pasteur Institute. They have a number of institutional agreements with different parts of the Pasteur and so the Pasteur is really the arm that helps them with that.

DR. OXMAN: Loren, are the various labs using a common set of primers and probes for the PCR characterization of flu?

COLONEL ERICKSON: The short answer is yes. We have been seeking to build standardization into what we do. That's not to say that there aren't some of the labs that are on the front end developing some of their own probes as well as they think that they're dealing with

new strains because hey do have the ability in many of these labs to do their own virology work, higher-level diagnostics. But we work closely with the CDC to make sure that we're matching what the LRN deems to be the appropriate primers.

DR. MILLER: Colonel Erickson, given all the problems these days with the politics of sharing viral isolates especially from Southeast Asia and Indonesia, have you had any problems with the AFRIM's (?) labs or any of the other military collected viruses to be shared on a global basis? Have the Indonesians, for example, created any type of barriers for the sharing of any isolates collected through the military?

COLONEL ERICKSON: The only place that we've had any issues right now have been Jakarta. We respect the host nations and those who set these kinds of limits. Of course, the international health regulations that WHO is promulgating call for the sharing of isolates. My sense is this may be a temporary issue. It certainly hasn't stopped our progress, but it sort

of underscores the importance of having a full functioning BSL-3 in country so that if the isolates can't leave, at least we're able to work with the virus locally. But you're right, that's a burgeoning issue.

DR. HALPERIN: It was really incredibly impressive. Could you give us an idea of about how many people you have in that building and around the world and whether you have a training program and whether you have graduates going other places, or do they mainly stay with you?

COLONEL ERICKSON: At my immediate reach I've got about 15 people at the GEIS headquarters. So Bill, when you come visit me you won't see a whole lot of people, but very senior people who are managing the network. Across the network we're talking about literally thousands of individuals primarily from the Army, Navy, and Air Force, folks who are in uniform, DOD civilians, contractors as well, and then a host of host national nationals. There is some training but not a formal requirement, there is not a set

training requirement for people to belong to GEIS. There are training programs for those who are working in the labs, training for those who are doing the epi, et cetera.

SPEAKER: Are there any plans afoot to try to interact with the Chinese military to go onto the network?

COLONEL ERICKSON: We've had a number of good contacts with them. The Air Force component of Pacific Command has in fact had some good interactions with the People's Republic of China as it relates to an exchange for training for response to pandemic flu. In addition, I was a delegate at the Asia Pacific Military Medical Conference in Manila and I actually had contact with a number of senior PRC representatives and we talked in general terms. There is nothing that's on the calendar right now, but I perceive that that is certainly a possibility for the future.

DR. POLAND: Let me ask people to state their names too when they're asking a question. Other comments? We have time.

COLONEL GIBSON: I have a couple of comments. The first one has to do with the those reports that were available and provided to everybody who was at the last meeting. I do have additional copies, so thank you, Loren, for providing those. They're available if you want. I will resend or send an initial to anybody attending the meeting who wants one.

The other comment is about the communications center there. I had an opportunity to look at it with Dr. Poland it's one of those gee-whiz, wow things. It's very state-of-the-art. My question to you is, Loren, at what point would you activate that COM Center? In other words, the size of the outbreak that would require the activation of the COM Center?

COLONEL ERICKSON: This is something that we're dealing with right now because in the coming months we're going to be practicing with the technology and then we'll be doing some notional exercises. My sense is when we reach the point where we have an outbreak, and it could be

any emerging infectious disease, but flu is the one for which it is funded, at that point where we're in a situation where we need to have situational awareness 24/7, that's really the point at which that COM Center would have full-time staffing, and we'll have surge capability to make sure we have staff officers. We've had some discussion with NORTHCOM and with some other partners as to how we would do that, but quite frankly that's an area that is being developed exactly how we're going to put that on paper so that it's a document that will look past my tenure and other staff members'.

COLONEL GIBSON: That always seems to be a critical point. We've had as you know outbreaks of not necessarily emerging infections, but outbreaks within the services and occasionally in a joint area and ensuring that we have good communication even for the little outbreaks, 5 to 10 people, et cetera, that are unusual, it would be very, very helpful in my view to get that codified.

COLONEL ERICKSON: Certainly. And if I can just make mention, every other week we have a teleconference that reaches around the world involving members of the military. It's called the EPI Chiefs' Meeting. In fact, at that point, as you know, we discuss those outbreaks. They may be food-borne, they may be zoonotic, the whole range of issues, tuberculosis aboard an aircraft carrier. You've heard these discussions.

In addition, we put things on our website. We have a LISTSERV that we push. If you would want to be included in that, again let me know. It provides a certain level of situational awareness that is at this level, and then if we get to the crisis, that's when we staff that center more full-time around the clock.

DR. GARNER: COM Centers seem to be spring up. Certainly CDC has established one. I just wonder about the relationship of this COM Center to that COM Center and whether you actually have cross-fertilization so that they're talking on the same page.

COLONEL ERICKSON: Certainly. The EOC at the CDC, I have had a chance to visit it. It looks in an eerie way what CENTCOM has set up. In fact, the folks at CDC that set it up are retired military guys, if you know some of these folks. We do have those connections, we so share information with them. Their mission is a little different in that theirs is truly an EOC, an Operations Center, where they'll be controlling people who are deploying and going places. We don't have that authority at GEIS. We'll be managing information, packing information, doing IPI, plotting things on maps, pushing those maps out to senior leaders, et cetera, updating reports, drawing reports from the field. But we don't have the authority to manage people who are in the field and so there's a difference between the CDC's EOC and what we're calling our Communications Center.

DR. PARKINSON: Thank you, Loren, and great work for all the folks at GEIS. The Rift Valley fever case study of having an early warning

system, a predictive model that suggests we're going to have a hot spot, to me is the promise of a GEIS capability, not just GEIS but other people in the surveillance network.

The other thing that's happening now, there is a movement afoot politically and legislatively for something called One Medicine which really is the notion of veterinary medicine and human medicine have been separated far too long. So I guess the question I have is what is your thinking with the partners that you have developed around systematic standardized animal- or vector-borne surveillance of animals as opposed to human cases, and particularly in light of what you consider to be the global warming regardless of etiology of what's going on? Is there a way to standardize this in any regular way? Is there any dialogue on that?

COLONEL ERICKSON: I'll have to slip you a $20 bill later, Mike, because I appreciate you giving me this plug. Three of the members of my immediate staff are veterinarians, DVM DRPH, DVM

PHD, et cetera. I've mentioned Billy Koresh with the Wildlife Conservancy, one of our people we brought over from USDA. We are broadening all of our contacts with the animal medicine community with OIE and others. I think you're exactly right. In fact, this was one of our goals for 2007 that for the military we would find a way to leverage all of those Veterinary Corps officers who are currently doing food inspection and animal work in DOD to make them a very effective part of the DOD GEIS network especially as it would relate to zoonotic diseases.

I think you're exactly right that it may very well be that within animal populations that that would be our early warning. That would be the first indication that there's a problem. So we are working very hard. I have contacts with USAID in that area as well that we're hoping to push in the coming days.

DR. OXMAN: Just extending Colonel Gibson's question a little bit, you are now deploying PCR equipment on carriers I presume or

fleet assets. The question is, if they uncover the beginning of a small outbreak of H5 or H7 influenza, how quickly and what's the route you're working on that, the route by which that information is going to be moved upward and outward?

COLONEL ERICKSON: Just so you know, we're talking about LightCycler machines, standard PCR methodologies. Not every ship would have them, but representative ships in each of the fleets. Upon a positive we would alert people like Admiral Smith, leadership within the services as well. The response becomes more formally the responsibility of the Army, Navy, or Air Force, whoever has proponency and responsibility there. GEIS can come in behind them with resources, with expertise, we certainly can give advice if asked. The formal response though would belong to the service as that would work.

But what comes to mind in terms of a shipboard outbreak, it really would take us back to the etymology of that word quarantine. We may

well find ourselves quarantining back in the harbor some of these vessels, or at least perhaps sending in teams that would more fully characterize what's going on prior to letting those ships come into port.

DR. HALPERIN: Dissemination of information is obviously part of surveillance. I maybe naively but probably confidently think that the "Morbidity-Mortality Weekly Report" is the place for quick week or two dissemination. Are you using that as a dissemination mechanism or do you have others? What's your thinking about how to get the information out broadly?

COLONEL ERICKSON: Bill, there's a level at which some things reach the publishability. For instance, the malaria in the construction units that were in Afghanistan, that was published in MMWR, and there have similar types of things. Some things are below that level where they're not quite ready for primetime. We know there's an issue, we're discussing it with those who are responding, we're trying to sharpen what that

response is making sure they have the assets and the techniques that are brought to bare, but that is just one of a number of things. Quite frankly, even MMWR, as important as it is as an historical document, it's too slow now for the types of alerts we need to put out.

DR. POLAND: Thank you, Colonel Erickson. By the way, I was at the American Veterinary Medical Association and there's a segment, sort of a movement starting called One Medicine, apropos Mike's comment of the divide that's always existed between veterinary and human medicine and the price we've paid for that divide.

COLONEL ERICKSON: Could I just say that the big meeting in D.C. that's going to be in July, a few different members of my staff including myself will be speaking to that One Medicine theme. So we've already been put on their agenda. Thank you.

(Applause)

DR. POLAND: Thank you. As we're getting ready for the next talk, I did want to

introduce another distinguished visitor with us today and that's Vice Admiral Donald Arthur, Surgeon General of the Navy to my right who just joined us a moment ago. Welcome.

Our next speaker is Lieutenant Colonel Thomas Greig. He is Program Director -- I'm sorry, that's right. We were going to switch, and now you're here. Will be Colonel Tony Carter from the Force Health Protection and Readiness Office at Health Affairs. Dr. Carter will brief us on the initiative DOD has taken to address traumatic brain injury, prevention, recognition, and treatment. The Board will recall that we addressed this issue in some depth last year and provided written recommendations to DOD. A copy of those recommendations are under Tab 4 along with Colonel Carter's slides which were just passed out, and I think we're asking people to share those. Dr. Carter, the floors is yours.

COLONEL CARTER: Just a minute, sir, actually I would have been happy to yield to the Lieutenant Colonel. I apologize. I got stopped

on the way over here. I was a little bit late and as it turned out I wasn't too late, so thank you.

I'm here to talk about traumatic brain injury and what I want to do is to talk to you about the results of what we have done since the Defense Health Board letter came out last year.

These were the recommendations of the Defense Health Board or the Armed Forces Epidemiological Board, and you have a copy of those. Just briefly, what I want to do is just take this slide and talk about some of the things that we have done in response to that.

One of the recommendations was for improved personal protective equipment and last year a blast DOD directive came out which talked to the issues of how to protect our soldiers and Airmen and Marines from all injuries that were associated with blasts. Of course, as you know, more than 60-percent of the injuries that we now get in theater are secondary to blast, mostly IEDs. So this blast DODD was sent down to the level of MRMC who is now the executive agent for

that DODD and who is now in charge of organizing all of the research secondary to blast injuries and who is working with other organizations, with DOD, to work on personal protective equipment improvement.

On that same course, the JTAPIC was a joint program that was designed to take a look at the personal protective equipment that we had in the field, and that included body armor, that included helmets and so on, and then analyze that equipment from the materiel standpoint and in addition look at the intelligence about the incident, what the size of the blast was, where people were oriented to the blast, whether they were in a vehicle, if they were in a vehicle what the model of the vehicle was, what level of up-armoring it had, and then correlate those two bits of information, the materiel information and the intelligence information about the blast with the injury information to figure out whether or not the personal protective equipment was effective and also to inform design of new personal

protective equipment.

It is also supposed to inform commanders in the field about tactics and procedures to better protect their soldiers in the field with regard to when they should use various pieces of personal protective equipment. So those are the two initiatives that DOD is using to look at improved personal protective equipment.

Standard methods of acute in-the-field concussion TBI assessment. In August of last year the CENTCOM Surgeon implemented through the Joint Theater Trauma System a Clinical Practice Guideline in the field that, number one, gave the field an instrument to the MACE or Military Acute Concussion Evaluation tool and also gave them a Clinical Practice Guideline within which to use that tool. What that was intended to do was to give the field a device, a tool, and a guideline that they could use to decide what it was, whether or not someone who was exposed to a potential TBI causing event such as a blast, whether in fact they suffered a TBI, and if they did, then it gave

them a tool to use for how to treat that individual, whether that person should simply be given rest or whether that person should be further evacuated for evaluation at a theater hospital level or whether this person should be evacuated farther back. So for standardized methods for acute in-the-field assessment, we did implement this tool.

The difficulties with some of the acute disposition assessment was the same difficulty that we're having in the field altogether which is documentation, and for disposition assessment and documentation, the disposition assessment was covered in the Clinical Practice Guideline what you should do with these soldiers or Marines who were affected by a blast. The documentation has been somewhat problematic because the difficulty has been for negative evaluations, these are not recorded, and the positive evaluations are only spottily recorded. They do have a tool, but they do not have a means sometimes of effectively recording that information in the medical record.

Sometimes it is recorded in paper format, there is no electronic method right now of doing so, and so the documentation of a positive TBI with this tool is a little bit spotty, Captain Sammons from the Navy just came back from theater and confirmed that it is somewhat spotty.

We are trying to work with IMIT to improve that and there have been various efforts in theater to improve education and documentation of that. So it's improving, but there is still a lot of work to be done in that regard.

Systematic follow-up assessment and medical management of TBI is still a work in progress and part of that is because of the issues with documentation, making sure that we identify clearly people who have suffered and TBI and continue to follow them up. Once they are identified and it's clear in the medical record, I think we have a good system of making sure that people who had TBI are assessed and reassessed and are given the appropriate medical treatment, cognitive therapy, et cetera, to do what we can to

improve their condition.

Education of service members and families with commanders. This is also a work in progress. There was an Army ALARACT, All Army Activities, message sent out in late-summer of last year, and about the same time a Marine Corps message was sent out to all Marines talking about traumatic brain injury, talking about the implications of traumatic brain injury for service member performance in the field, alerting them that people who suffer traumatic brain injury even though it was somewhat subtle, they may not obviously have had an injury, may be at risk if you put them back out in dangerous situations, and may also put their fellows at risk. So that educational part was done and it's a continual reeducation process as new soldiers and Marines go out.

The DOD/VA Education Panel has been convened under the leadership of the DVBIC, Defense Veterans Brain Injury Center, and they are charged with coming up with a body of educational

literature for both the active-duty side and leadership and also for families so that we can educate families on what to expect if a diagnosis of TBI is made already and what may be going on if their family members are acting strangely, they may wish to come in to be evaluated for signs and symptoms of TBI, so that is ongoing.

Continue some form of postdeployment screening. As you all know, there have been sporadic individual efforts within the Department of Defense to do postdeployment screening most notably at Fort Carson, Colorado, and at Camp Lejeune with the Marine Corps. These efforts have come up with up to an 18- to 20-percent incidence of people who have suffered a TBI while deployed in theater and about 40-percent of those people are still symptomatic at the time of that screen. This has caused some concern, and Dr. Winkenwerder, at Health Affairs before he departed said that we need to do screening for all people who are returning. What he said in March was that we will begin screening in the PDHA, the

postdeployment health assessment, the PDHRA, postdeployment health reassessment, and we will also convert this tool that we are using for the PHA or the periodic health assessment for those people who have not deployed since the last time they were assessed. This was mandated to start in June of this year. I think that will slip a little bit because we're having some difficulties getting that inserted into the electronic format that we need for the PDHA and PDHRA, and eventually it will be included in the periodic health assessment.

At the same time, the VA announced a screening program and on April 13 they came out with a VA directive saying that all veterans who come to VA centers to be seen will be screened if they had not already been screened by the VA. At a Joint Executive Council meeting, the principals at the VA and the DOD agreed that that screening methodology would be the same for both DOD and VA. It's kind of funny, originally the VA got their screening tool from the DVBIC so now we are using

the VA's tool that came from the DVBIC in order to screen our own soldiers, sailors, and Marines, who have returned from theater and who are also getting the periodic health assessment.

One of the other recommendations of the Board was to do additional TBI research, and we will get into that a little bit in the next slide.

Additional actions on the part of the Department of Defense. In September 2006 the Navy hosted a TBI Summit. In November 2006, the DVBIC hosted a mile DBI assessment because again one of the acute issues was not so much treatment of people with severe or moderate TBI, usually the diagnosis and the recognition of those individuals was fairly clear and not controversial and there was an established treatment regimen for those group of people. What we wanted to do was concentrate on mild TBI because those were the diagnoses or the injuries that were being missed most often and so this TBI Field Assessment Conference was held and essentially confirmed that the tool, the military acute concussion evaluation

tool and the Clinical Practice Guideline that was previously inserted in theater was valid. There were some tweaks of the Clinical Practice Guideline and a little more explicit guidances about what to do in what case, but essentially it confirmed that the August 2006 Clinical Practice Guideline was very useful and valid.

In January 2007 the Surgeon General chartered a TBI Task Force with a result that was supposed to occur this month, and as a matter of fact, it did come out. As I mentioned before, VA announced screenings for TBI, and then in March, Health Affairs mandated a screen and comprehensive TBI program. In March/April 2007, the first DOD high-level meetings with regard to a comprehensive program to address TBI within DOD was held. And in May right now as we speak, there is a DOD/VA conference going on that addresses the comprehensive plan for TBI and the lead for that is Admiral Arthur.

There are seven areas that Admiral Arthur tasked this group to address. The first

was the definition, and that was somewhat controversial. We had a meeting of the Definition Group early on because what we wanted to do was to supply the conference as a whole with a consensus definition of TBI. The reason why TBI was somewhat controversial, the definition was somewhat controversial, was because some people were seeing what they felt was a different kind of injury with blast than was normally seen the normal kinds of impact TBIs. As a matter of fact, on the opening day of the conference yesterday, we had an extensive discussion of that where some people said, no, the people that we see with blast injuries are just like the people who we have always seen with traumatic brain injury secondary to concussion, and others said we think that we're seeing a syndrome that is somewhat different, so that's a matter of controversy that we hope to resolve somewhat at this conference. I'm not sure we will come out with a consensus definition that will be satisfactory to everyone, but we will come out with a consensus definition, taxonomy, of

traumatic brain injury.

The second group was testing an evaluation, and the issue there is what tools do we use to make sure that people have or don't have TBI. That group is headed by the Defense Veterans Brain Injury Center and we expect that they will come up with good tools and also imaging because, for example, one of the things that you may have read recently out of Fort Carson is that they're going to bring in a nuclear medicine scan to scan all those people who are positive for TBI in their screening mechanism and the question there is is this something that is valid, is this something that's going to be useful in the diagnosis and treatment and prognosis of those with TBI. That is kind of uncertain, so hopefully that will come out of this meeting.

Disability and long-term care was another topic. The VA are the experts for disability evaluation and they have great concerns that if we change the definition of TBI then it will have a great impact on their long-term

requirements in terms of funding for disability and TBI. The issue is that if somebody has a functional deficit as a result of something that they suffered in battle, I'm not sure that it really matters what the long-term consequences are for the VA in terms of disability, we just have to deal with that. But the disability also depends a lot on the definition that depends on coding, and so they are trying to work with the coding and work with -- program and policy at Health Affair on trying to present a coding system to the -- Group that will allow us to follow these people out long-term.

Long-term care is an issue for those people with severe TBI, what are the requirements, and we're addressing that too.

The Education and Training Program is an expansion of what the DVBIC is doing, and what we expect out of this group is that they will give guidance to the DVBIC/VA group on the educational requirements, the military training requirements that have to be done at all levels to make sure

that people are sensitive to the impact of TBI and also know how to evaluate it and know what the risk factors are so that when those risk factors occur people are evaluated for TBI.

Then there were two research groups. One had to deal with blast injury and blast physics having to do with perhaps finding some mechanism to detect the level of blast so that we could correlate the level of blast or the level of overpressure with an injury and perhaps even use that as a tool for people in theater to say we need to evaluate you for potential TBI because this indicator on your chest or your helmet is yellow. The other one was an all others for clinical research on TBI and long-term research.

We also came up later with a Strategic Communication Group because one of the issues in how both DOD and VA present to the outside world, how do we present a unified message that's not at cross-purposes. It's bad if DOD says something and then VA says something completely different, and so the Strategic Communication Group is

supposed to come up with what the story is going to be or how we share so that we come up with a cohesive and coherent story.

Then the expectation for this conference is an actionable plan for DOD/VA management of service members with TBI, and I think that's very important. We had not before had a cohesive plan and the services have done great work in coming up with plans or constructs. What we have to do is to have one cohesive plan in conjunction with the VA so that we speak with one voice.

In May, this month, I hope to develop a HA Cell. This is a huge project I think and it's not a part-time job. I hope to have an HA Cell for management of this PTSD/TBI Programs and Policy. Sometime in this month or next we hope to have a Comprehensive Plan that comes out of this conference approved by Health Affairs and the DOD leadership and begin implementing that plan. We need to have a spend plan because the Congress is shoving money our way and the problem is going to be how do we spend this. I think something in the

range of $931 million, $600 million in O&M and $331 million RDT&E is coming our way and we have to make sure that we spend it wisely or give it to the VA.

Then in June 2007 we're having a DOD/VA conference that includes civilian experts and advocacy groups so that we can tell them what we're doing and then get feedback from them about what they think we should do. Then with time, other groups such as Rand and IOM are producing programs that will inform the program as we implement it. That's all I have. Any questions?

(Applause)

DR. POLAND: Thank you very much. A couple of comments. One would be that the Board would have great interest in having perhaps selective members participate in the last conference that you mentioned.

COLONEL CARTER: Yes, sir.

DR. POLAND: Then what I'd like to do to organize our discussion is first to ask Admiral Arthur for any comments. He is the spokesperson

for the Department on this issue, and then ask Drs. Lednar and Lauder to make comments because they were so intimately involved with the shaping of the Board's recommendations, particularly helping the Board, this is a huge area, juxtapose what our recommendations were with what we have seen here as actionable items and are you happy with the level of response and the integration of those recommendations and items. First, Admiral Arthur?

VICE ADMIRAL ARTHUR: Thank you. I think there really is growing recognition that there is a very different entity in traumatic brain injury from the strike injury that we have from motor vehicle accidents, domestic violence, football, soccer, hockey, where you have a coup-contrecoup type of injury. The injury that we're seeing in Iraq with IEDs seems to be a blast, a concussive injury where it doesn't necessary affect one point on the skull with a strike injury, it rather shakes the brain in some way and the differences in densities between white matter,

gray matter, and between other parts of the brain seem to have a vibratory effect that has a more global impact than the coup-contrecoup striking injury. And we're seeing some of the rather subtle signs which is one of the reasons that I've suggested a symptomatic taxonomy. That is, we say mild traumatic brain injury as manifest by memory deficit, cognitive deficit, emotional liability, or something like that so that we can, A, quantify exactly what it is we're talking about, and two, we can follow that symptomatology through treatment. We don't have that kind of a taxonomy now, and I think that that's needed.

I think there are also subtle signs that are not obvious in a strike injury. There are also multiple IED exposures, so this creates a complicated environment. Very often it is the member who will complain to us, it'll be the family member, it will be the spouse who will say he can't make a decision about a menu item or he gets lost in the supermarket. Somebody who gets lost in a supermarket but heretofore was able to

carry an automatic weapon and lead other men into combat, it seems abnormal, and we don't see that kind of an injury with the striking kind of brain injury.

This is also complicated by the fact that people don't come back with just traumatic brain injury. They come back with TBI, posttraumatic stress. They may have narcotics that they're taking for pain due to other injuries. They're going to add alcohol on top of that. They're going to have other life stressors. So how do we tease out what is traumatic brain injury and what is PTSD? I think we may be coming to a consensus that it may not matter a lot, what matters is what symptomatology the service members are exhibiting and what common treatment algorithms can be applied whether it's PTSD, whether it's depression, whether it's anxiety which are comorbid factors. So we're trying to get to the definition and we're trying to get to common treatment pathways.

One thing that Colonel Carter mentioned

is the indicator. I have asked industry to come up with a blast indicator, something the individual can wear, and this indicator would tell us the intensity, the duration, the physical characteristics of the blast exposure, and allow us to see what the exposure has been. I think that is very important to allow us to correlate exposure to symptomatology. This device should be able to do multiple exposures so you can see over time what the exposures have been and characterize the exposures. We know that individuals can be in a motor vehicle accident, they can have a blast that takes their motor vehicle and has a concussive effective. The motor vehicle then comes to a sudden effect and it's got a strike effect perhaps on the helmet. So there are multiple factors that intervene and we have to have a way to allow us to measure those.

The VA likes this concept because then they can attach some service connection to any disability. I also have asked industry to incorporate in this indicator a way to tell

immediately if there has been a single IED or single overpressurization or multiple consecutive ones which reach or exceed a certain threshold, and at that threshold you take that service member out of the environment and you do an evaluation on him right then and there. I hope that we're going to be successful in getting this indicator. If you tell industry we'll buy 2 million of them, I think that somebody with this. I want it to be recordable, you plug it into your USB port and you can get a good recording of exposure.

So there's a lot going on, and I would tell you there's a lot of debate about definitions, there's a debate about severity, there's a debate about symptomatology, and there is some stigma attached to this. I had some traumatic brain injury 2 years ago and it took me a better part of the year to get back all of the cognitive effects, and I didn't talk about it to too many people. My neurologic exams were normal because the gross neurologic exams that we have now do not detect deficits in higher executive

function and things like that. When the neurologist said you're normal, I said, but I didn't start here, and that's another point we're looking at, what are the baselines of cognitive ability that our service members have. When you play football and hockey and you get into those professional sports, they have baseline cognitive tests and we have to have some way to measure where are you when you come in, where are you before combat, so we can determine where you are after combat and make some determination about treatment and about long-term care.

The good news is that traumatic brain injury seems to be something that resolves over time especially with intensive therapy. I would just point to Bob Woodruff as a perfect example of two things. One, that very severe traumatic brain injury even can be remediated. And two, the enormous effect and impact that this has on family members and how the family members are part of the therapy and us working with the Veterans Health Administration to work with the families more than

we used to. Thanks for letting me talk about this. This is a great initiative and I think we're really making a lot of progress. DOD and VA right now in this conference during these three days here, next month we're bringing in civilian experts in rehabilitation and civilian academicians, research underpins this whole thing to research the exposure, to research the clinical science, to research the education and the treatments, to make sure it's all done right and to add to our literature on prevention modalities. So it is a huge project and I think we're really expending a lot of energy in the right directions. Thank you.

DR. POLAND: Thank you. In that regard, and I'm sure you're probably aware, there are some members of the Defense Science Board that have been very heavily involved in the science aspects of it. Wayne and Tammy, do you have any comments that you'd like to make before we open it up for general discussion?

DR. LEDNAR: On behalf of our

Occupational and Environmental Medicine Subcommittee and the Board, I'd like to really thank Health Affairs and Admiral Arthur and all of the work that you've pulled together so far. I've reminded myself in looking at our recommendations that it was about 9 months ago that the Board made these recommendations and I think what's really encouraging from my personal point of view is the amount of activity across the complexity that has started to be harnessed and pulled together, and I emphasize the word start to be harnessed and pulled together. This is the beginnings. We have now moved past a plan to have a plan, I think we are about at the point of having a plan, and we obviously need to get the mission accomplished, and that is to have impact for our soldiers, sailors, and Airmen.

This is obviously complex in terms of the clinical aspects of this, recognizing it, seeing it as a comorbidity along with other injuries, looking at how to screen, looking at how to care and manage especially for the mild and

moderate TBI, looking for the longer-term functional impacts, the return to duty. And when you think about the high-technology environments that our military needs to perform in in a combat environment, this particular injury could have very, very serious mission impacting functional adverse effects if we don't manage it well.

I think we will all be looking to learn about how similar or different is the blast injury versus the impact injury in terms of what the needs are, what the care issues are, and what the functional return issues are. I would encourage all of you in your work, which I'm very glad to hear is involving the VA as well as the DOD, to be sure that the activities reach across the unified force including after separation from active duty, for National Guard, for U.S. Reserves, and also after leave service and in the VA so that some of the indicators of this experience are not going to be in the DOD medical treatment facilities and we need to harness all that in some way that we know just exactly what's going on.

I would request on behalf of the Board that as this work goes on we get periodic updates particularly as you have data to summarize to help us understand how the screening instruments are working, perhaps how the exposure technologies as they are developed are evolving, in terms of what measurable improvements in the care of military who've had these injuries are being put in place, the Board would certainly appreciate that kind of future follow-up.

DR. POLAND: Dr. Lauder?

DR. LAUDER: Thank you. I thought that was really excellent, Colonel Tony, but I too am quite amazed at the amount of work you've done in a very short period of time on a very, very difficult issue, and you should be commended for that.

I do have a couple of questions and then a couple of comments. My understanding is when some of this was started it began a bit piecemeal, but as I understand it now, this particular meeting you're at currently is to try to bring all

the services together and have a coherent program. Is that correct?

COLONEL CARTER: Yes, it is, and that's why I was brought in. I actually volunteered to take this because it was piecemeal. The three services had separate initiatives and the VA and the civilians were separate, and we needed to bring it all together with a continuum of care and agreement on treatment and on definitions for what TBI is, and that's why we're pulling it all together in this way. Exactly right.

DR. LAUDER: Excellent, because that's really critical. I'm just going to go down the line with your different points, first and foremost with the definition, I agree with you wholeheartedly that you cannot let a definition hang you up on something that still has not been established as to what it is. There is no definition. And I would say that it is a syndrome because there are multiple things that occur when a blast happens not only to the brain but other parts of the body, and so I really think it is a

symptom complex. A caution with that is writing somebody off as having a pure mental-health issue where they may be depressed because they can't find their way in a grocery store and so they are not separate.

The other issue with that is it's curious to me as with this group of amputees within this war, the amputations are a bit different as well because we're seeing a lot of heteroptic ossification. Heteroptic ossification historically you see very commonly in neurologic injuries which as TBIs and CSIs. So I bring this up to say pay attention to that as well and that's part of the syndrome or may be part of the syndrome, it may not, I don't know, but it's something to look at.

The testing and evaluation I think is really critical and I think a lot more emphasis needs to be put on what is the compliance in people following and trying to catch these soldiers early on. My understanding from other briefings is that there may be an 8- or 12-hour

delay before they even show any symptoms at all and unless you see the soldier first when he gets hit and notice that there is nothing and see him 8 hours later and all of a sudden he doesn't know where he's at, this is part of defining this whole blast syndrome and what happens with time. So I think that's really critical from a research perspective. And you mentioned that you can't really treat it right until you have a definition of what it is, but you can't get a definition unless you follow these folks really carefully. So I would say that early screening is really critical here and we need to know what the compliance is of folks doing it on the field and we need to come up quickly with a way for them to document this easily because, granted, in combat it is not easy to document I would assume.

Then real briefly with the treatment, there is acute care and then there's rehab and then there's after your rehab, and that is where a smooth transition is really critical between DOD and VA, and it has to be across DOD. It has to be

in those small clinics at Fort Bragg and Fort Polk, Louisiana, because when they leave if they stay active duty and they're done with their polytrauma center, where do they come back. Just because one place does acute but didn't do the rehab afterwards, if they come back for a surgical procedure, somebody has to carry on that rehabilitation. So all institutions need to be very up to date on how to care for this soldier for the rest of their life, and I will leave it at that.

DR. POLAND: We will open it up for discussion. I just want to say that I'm very proud of the Occupational and Environmental Health Subcommittee. Time has shown when you look back on this that you all produced not only a comprehensive set of recommendations, but a focus to this that has very evidently helped to guide the work and that parallelism I think is going to really jumpstart and benefit the whole process. So thank you again. Comments from the Board on this update?

DR. OXMAN: First of all, I am very impressed and I would like to add my compliments to the subcommittee, to Admiral Arthur, to Colonel Carter and the group. It's an amazing amount of progress in less than a year.

I have two comments from my point of view of interested ignorance. I am impressed with what I heard about the potential sensitization of early exposure without obvious injury and creating a situation in which the next exposure is amplified. All of the outline that I saw started with gathering data and documenting and getting it into the military record the first traumatic brain injury even if it's mild, but I think until we have industry respond to Admiral Arthur's request for an instrument that can be plugged into a USB port and detail the exposure, I think you need to move one step back in the field to be able to document and get into the electronic hopefully record exposures because that's going to be essential for responsibility for subsequent disability and also for research to help guide

people in both rehabilitation and how to return people to battle and perhaps look them a little more carefully prospectively.

The other side of that coin is as Admiral Arthur commented on, and that is unless the baseline recruitment assessment tool is sensitive enough, you're not going to be able to document the fact that the function has changed as a result of the military activities. So essential to particularly the VA's role and to the issue of disability and financial responsibility is being able to determine that the recruit had a certain level of capacity that's more subtle than that by a routine neurologic exam and that if that capacity is lost, that it can be documented.

VICE ADMIRAL ARTHUR: I absolutely agree. On your first point about documenting exposures, it's very, very difficult unless you have some type of a device to do that. You can be 20 feet from an IED but behind a wall and be protected, or you can be 100 feet away in front of a wall and have an accentuated blast effect. So

to say I was so many feet or whatnot, I was in the vehicle, outside the vehicle, that's a very subjective thing and I think we need a more objective quantifiable exposure indicator.

DR. POLAND: Captain Johnson?

CAPTAIN JOHNSON: The global nature of this injury and the difficulty of trying to identify focal changes has led the Ministry of defense to propose a study looking at tissue markers -- in the cardiovascular, and there's a study in progress to try and see if that correlates with alter cognitive problems and secondary effects. I don't believe it's started yet, but I'm keeping a watch on it and if anyone is interested in the proposed protocol, I'll be glad to send it to them.

DR. POLAND: We would be interested in any update in that regard. Biomarkers would be very interesting.

COLONEL GIBSON: AFRL at Wright-Patterson is also doing some corollary similar type of work on potential biomarkers.

DR. PARKINSON: I too like the idea especially coming from occupational medicine of having an exposure marker. It's just wonderful. I was wondering whether there's a relationship between the blast in audiology and whether you can use audiology as the exposure marker. In a sense you've got things going in two different directions, it has an immediate effect, and it should be related to the level of percussive -- so I wonder whether audiology might be your little marker.

VICE ADMIRAL ARTHUR: There's a lot more going on than a significant blast effect. There's the acoustics of rifle fire and all of the other things that impact on the auditory acuity, so I'm not sure. We could look at that. We're looking for any biomarker. This is a chemical issue. Everything is chemistry and electricity, and we're just looking for the science of this. General Schoomaker yesterday made the analogy of rheumatoid arthritis or the rheumatoid arthridities and how we are trying to classify

things in terms of symptoms initially when the science was not well elucidated and that when the science became better we were able to categorize better, get better drugs, and I think he is right. That may be where we are today with traumatic brain injury and trying to be symptomatic until we can get the science and the markers and get better definition.

To your point as well, I think this will be a life-long problem in the problem list just like diabetes. If someone's got diabetes, you handle that as a matter of due course when you treat them. If they have traumatic brain injury as manifest by certain cognitive deficits, then you take that as part of the patient's profile.

COLONEL CARTER: Also in response to that question, sir, there is also an effort to protect the ears, and so with some of those efforts including electronic enhancement and dampening, that may not be quite as useful in the future when those new methodologies get fielded.

DR. PARKINSON: Admiral Arthur, again

congratulations. This is good. And on a personal note, if there is ever an area that brought together your expertise in emergency medicine and occupational preventive medicine, this is it, so you're the right person at the right time.

But drawing back a little bit, I loved your comments about this false dichotomy even deeper than PTSD and TBI, but it's the whole way that we characterize in medicine, injury versus illness. Whether or not it's an injury is whether or not we microscopically have the ability to visualize it on a CT or MRI scan. So you may be able to really, and why do we have a whole separate DSM-IV for things that are psychiatric versus ICD9 which are medical, so I think in this dialogue you may have some breakthrough thinking that has huge implications much like General Schoomaker said about rheumatoid disease. But this is really important and if you can come out of this thing, I think back to Persian Gulf Syndrome, it all came down to the functionality of the member pre/post and getting him back to the

thing. And if we can maintain that issue as you said so articulately and not get into the trap of something that's a penetrating injury versus something that might be psychologically or humorly related because guess what, I am absolutely March Syndrome from the Civil War. We are recreating the wheel here again and you have a unique opportunity I think to frame the injury/illness false dichotomy in a way that may be revolutionary not just for this syndrome but for the way we think in medicine. Not to be grandiose here, but it really is that big, and I welcome your thinking.

VICE ADMIRAL ARTHUR: Thanks, Mike. I wish we knew more about that chemistry of this. It comes down to mental illness is going to be chemical and electrical in the final determination and just don't have the science and don't have the insight to understand that right at the moment, but you're right, it's one spectrum.

DR. SILVA: To date how many blast injuries in the most broad sense have occurred?

Do we have an idea of what the number is?

VICE ADMIRAL ARTHUR: I don't think we've got a true number because we first need to get some definitions of what we're calling a blast injury and then define it. There are many people over there, 20 or 30 percent likely who have been exposed to some type of blast injury. I regret I'm going to have to go. I've got a meeting with Senator Boxer here shortly, and somebody is giving me the hook out there. Thank you all very, very much. Tony, a lot of praise has been directed in this direction here, but Tony really has been the mastermind behind setting all of this up and an enormous amount of credit, all of the credit really, goes to him and his team. Thank you, Tony.

(Applause)

DR. POLAND: Joe, did you have a comment?

DR SILVA: I was just going to again second and applaud all the efforts and activity that's occurred in this very complex and evolving

area. I think understanding the basic pathophysiology of physiology is very important. How are you collecting all this data? Do you have a central database so that you can characterize a certain cognitive profile?

COLONEL CARTER: I'm afraid I can't answer you very much on the research that's ongoing because I'm not very into that area. So I'm sorry.

COLONEL GIBSON: The traditional animal models for traumatic brain injury have been rabbits and rats. We had a long discussion, we had an afternoon, about 2 years ago where we went into this at great depth. Those were the models that they talked about at that time. But if you can imagine, the model is you have the animal and you hit it with an impact and then study the pathophysiology from there. This is entirely different and to my knowledge nobody is looking at overpressure and the issues associated with blasts in a laboratory setting.

DR. POLAND: Again, in terms of the

research part and some of the conferences that you're devising, some of the Defense Science Board individuals could bring a wealth of knowledge and integration of that part of this whole equation to the table.

CAPTAIN NAITO: DARPA had an initiative a year ago that we got briefed on but for some reason it got delayed. They were looking at the science of blast injuries, so looking at overpressure, acoustics, electromagnetics, the whole range. I'm not sure whether it got funded or not, but it was supposed to be like a $30 million project.

DR. POLAND: I'm not sure. Maybe we should try to bring them back here. Some of the videos of the work that they have done make you immediately realize the enormity of the multiple complex injuries that are happening to some individuals including some of the real-time video footage of injuries that have occurred in theater. It really gives you an appreciation for what we're talking about at least in the more extreme sense.

I think we will take about a 10- to 15-minute break and then reconvene.

(Recess)

DR. POLAND: Our next speaker is Lieutenant Colonel Thomas Grieg. He is Program Director for Accessions Medical Policy and Clinical Informatics in the Clinical and Program Policy Office at Health Affairs. He will present a new question to the Board on evidence-based accession, retention, and deployment medical standards. His slides are under Tab 5. Lieutenant Colonel Greig, the floor is yours.

LIEUTENANT COLONEL GREIG: Thank you very much, and I appreciate the opportunity to pose a question to you today. I'm here on behalf of Dr. Jack Smith, the Acting Deputy Assistant Director for Defense for Health Affairs under Clinical Program Policy. Conceptually what we want to do is we would like to ask a question on looking at military medical standards from accession through separation. To kind of tee things up and give you come background, we've had

an evidence-based accession medical standards that have looked at issues dealing with the first term attrition by looking at morbidity, waivers, and existed prior to service, and out of this evidence-based approach on accession medical standards we've had some good success. We've been able to discontinue syphilis screening, dental pantographs, EKG screening, and serum hemoglobin and hematocrits screening in an initial applicant. At the same time, we've also been able to change the standards for asthma and attention deficit order with hyperactivity.

Which brings us to our current situation. Right now each service independently determines retention standards based on the DODI 1332.28. The Air Force and the Army have regulations defining medical fitness for duty and retention, the Navy looks at fitness for duty for retention on a case-by-case basis, and so right now we're looking at accession medical standards only on the first term, and yet at the same time we're dealing with retention standards over the

course of someone's career and this sets up the issue of looking at medical standards spanning a career from accession through separation, these standards are set up independently without full consideration of the full impact of each other or across the period of service.

This raises a couple of questions in our minds, namely, what impact does a decision to change or waive an accession medical standard have on the potential of an individual beyond the first term of service? Or would these changes ultimately increase the prevalence of individuals coming before the Medical Evaluation Board and Personnel Evaluation Board for disability claims? And the converse, at what point should a decision on a medical retention standard potentially affect how we look at an accession standard? So the question we would like to ask you to examine and give us some guidance on is what are the issues associated with establishing and modifying the DOD medical standards that span the career life cycle of a service member from point of accession to

separation from service? And what tools or methods should we use to establish and modify these standards so that we can minimize the potential for aggravating a medical condition that would preclude or shorten someone's career in the military?

DR. POLAND: One point I should start with, with the switch from the AFEB to a new board, the DHB, this is a good illustration of why we will need to appoint certain subcommittees, for example, the equivalent of a health promotion type of subcommittee to deal with this, but at some point we'll need to have an understanding of what some of those changes have been, what the process is for gathering evidence and changing policy, and what the actual differences are between services. With that as background, Mike, do you want to ask a question?

DR. HALPERIN: Yes, thank you. I know we're going to hear from Colonel Niebuhr here in a few minutes, but I guess my boarder question is where does this question fit in the broader work

of all of the post-Walter Reed effort, multiple commissions that speak to this very issue? And would taking this on independently of that or in advance of that be kind of the cart in front of the horse? Because an awful lot of what is being looked at congressionally, by the White House, and by the commission we just heard from at our last meeting has to do with MEB and PEBs which basically sit on top of what? Standards. So I guess I would just have a process flag here a little bit for us to discuss as to whether or not the Board wants to take this question at this juncture pending the completion of those other studies, and if you will, a meta analysis of what is the expert guidance about the MEB/PEB process. Because having worked in the standards area myself, when you get into evidence-based standards, there are very few. So we can spend a lot of time in this area while these other efforts are still ongoing and not yet completed. That's my only comment.

DR. POLAND: Roger, do you want to make

a comment on that?

COLONEL GIBSON: A couple of comments. This one is a little broader than the issue of the disability evaluation system in that it talks about not only retention standards, but deployment standards as well. I agree with you there is some linkage there no doubt. The other thing is that the POTUS Commission, this Shalala/Dole Commission, is prepared to deliver their product shortly. It's supposed to be the end of June. So this question is being posed in a way that allows us to begin this process and carry on and be prepared to assume some of the tasks and recommendations associated with that, in other words, flesh out what those recommendations are going to be.

DR. LEDNAR: We have an expression that we use at Kodak across our businesses and throughout our geographies, as common as possible, as different as necessary. I'm just wondering as clearly in the history of how these standards have come to be, the accession standards and the

retention standards, it reflects a service-specific need, a service-specific function, goal, mindset. But it seems like increasingly the reality of how DOD operates in is unified commands, everyone needs to work together. So I think while there are service-specific aspects that reflect both accession and retention in kind of an MOS mindset way, as unified command needs to operate as a single entity, as a coherent single entity, I don't know at what point that begins to find its way into what should be the commonalty of accession and retention. I think military leadership is going to have to decide just how important that is.

LIEUTENANT COLONEL GREIG: If I may just respond to the first question posed, my understanding is a lot of what is going on with the Walter Reed is looking at process, and in this we would like to focus on the standards themselves. The second part to you, Dr. Lednar, is that the services have agreed to have a common accession standard. There are obviously different

service retention standards, and certainly some of these standards based on fitness for duty are MOS-specific, you're absolutely right, and so how do we go about unifying these things from a medical standards point of view, not trying to get involved with the process itself, but the standards.

COLONEL GIBSON: Another point is, and Tom pointed it out clearly, we have been able to do things within the accessions arena. As a matter of fact, the pantographic dental exam was a recommendation from this Board. The Armed Forces EPI (?) Board drove the change in that pantographic exam standard.

It seems to me it would be worth this Board to at least consider looking at this from the standpoint of the linkages or correlations between accession standards and retention standards over time. There is a certain level of predictive value there that is worthwhile to look at. Whether that becomes a driver or not is going to be based on the science. So at least some

comments from the Board in that area would be worthwhile to the Department.

DR. PARKINSON: If I may, Parkinson again, and I don't want to steal or put words in Dr. Pronk's mouth, but he is not here at the moment and I've done it before, but I think one of the areas of expertise that Niko brings to the Board and many of us also are very interested in is the notion of fitness and performance as opposed to just presenteeism, and I think that the services, whether it is what is VO2 max, should there be regular testing of the services, that's the best predictor of all cause mortality, strength and flexibility, psychiatric fitness, cognitive fitness, the types of things Admiral Arthur just mentioned. This gives us entre to have a good, broad, and hopefully very valuable discussion for DOD to consider. My consideration before was yet again not in the stovepipe, but how this all fits with the broader issues that are front and center right now.

CAPTAIN NAITO: Actually, that's a good

point because one of the issues we're dealing with in the Navy is we're providing this augmentation force of personnel, ones and twosies going over to Iraq to support the Army mission, and the problem is that from our standpoint our sailors are fit to do the naval duties that they're required, but then when they are asked to augment the Army forces, a different set of requirements is put on. That's been a problem with deployment standards, that from the services, at least the Navy's perspective, we have our own unique needs that are quite well met with our standards, but then when you put them in an Army environment and Army standards, they may not necessarily meet that mission from the git-go. Certainly obviously with training and things like that I think they can with the Army standards. So again something like looking at a VO2 max, something like that, might be of interest to say whether someone can be deployed or not and then looking at it from that issue. But certainly the deployment issue is a very sticky one because we have our different

missions and different requirements, so that might be very tough to crack.

CAPTAIN JOHNSTON: The Ministry of Defense has actually just been through almost exactly this process of trying to drive joint accession and retention standards. One of the issues I think might be worth specifically addressing is this moving on from VO2 max, the whole business of physical fitness and obesity and how the interface between the executive decisions on that and the medical decisions on that because they have both executive and medical implications and that is often the cause of problems.

DR. POLAND: At least for accession, a major problem that all the services will face. Thank you very much. Our next speaker will be Lieutenant Colonel David Niebuhr who is Chief, Department of Epidemiology, and Deputy Director, Division of Preventive Medicine at Walter Reed Army Institute of Medicine. Lieutenant Colonel Niebuhr will update us on the AMSARA, or the Accession Medical Standards Analysis and Research

Activity and provide background information for the discussion and questions before us. His slides are under Tab 6.

LIEUTENANT COLONEL NIEBUHR: Good morning, and thank you for the privilege to brief the Board this morning. I think I'm suffering from some mild cognitive impairment due to a nontraumatic brain injury. I did last brief the Board at Fort Bragg, but I have no idea when that was. I know it was a couple of years ago.

I would like to acknowledge my colleague Colonel Christine Scott who is in the back of the room. She and I together partner to push the AMSARA forward.

This the policy question paraphrased and abbreviated. My apologies to Health Affairs if it's not completely accurate. Essentially as I see it is, should DOD have a requirement to develop evidence-based deployment and retention standards as it currently does for accession standards? This is my agenda. I won't spend any time on that.

This is our mission. I think the Board is familiar with that, but we were established a decade ago and we are the consultants to the Accession Medical Standards Working Group or AMSWG as we affectionately call it, and we assist in the development of evidence-based medical accession standards, and our goal is to maximize accession and minimize attrition.

Over our first decade we have reviewed the DOD Instruction 6130.4. I won't bore you with the title, but this is a Uniform Services Medical Accession Standard. The services do not have the ability to have their own accession standards, but they certainly do have their own ability to waive individuals for the same condition. Frequently people apply to multiple services with a disqualifying condition such as asthma and will get waived in one service and not another, so there are some discrepancies in the criteria, but the accession criteria are constant. This applies to all components be it Reserves, National Guard, be it officer or enlisted.

What we have been doing is trying to assess the validity of current standards and proposed evidence-based policy changes. Some were mentioned earlier about the EKGs and pantographs, et cetera. We have performed a number of attribution morbidity waiver and EPTS studies, over 20 in fact. I included a very brief summary of those studies in the backup slides. I think I probably focused more on that at Fort Bragg the last time I briefed the Board. And we have supported data to our Working Group to actually screen individuals with the likelihood of success through their first tour of duty.

This is a schematic of how we play in DOD's efforts to develop evidence-based medical accession standards. The first bubble, if you will, gives you the considerations that we bring to the table, the burden of disease in the general population as well as in the military population specifically, the ability for our military entrance processing stations for the enlisted side to accurately screen and diagnose conditions, the

associated morbidity and nutrition with these conditions for an individual in uniform. And in italics because we don't have it, this is notional, is the impact of a medical condition on the occupational requirements and his or her ability to deploy.

From these considerations we move into the research tools utilized. You can see the variety of techniques there. Just in the spirit of full disclosure, missing from that bubble in our opinion is programmed health economics capability because what we end up doing is we end up discussing issues of prevalence and outcomes such as attribution or morbidity, but in the final analysis, DOD needs to make business case decisions and what we don't have in AMSARA and I don't believe within Health Affairs at least in terms of medical accession standards is the ability to do cost-benefit or cost-effective analysis, and I think that's a vacancy.

At any rate, from the products of these research tools then we move into new policy

recommendations. We have briefed these to the stakeholders. We are not voting members. We don't set any policies. The final decision makers are the Under Secretary for Defense for Personnel and Readiness, the MEDPERS Committee, which is a three-star-equivalent committee, and then from there new standards are implemented. Just to remind the Board, in April 2004 we probably had the greatest impact when we recommended making the asthma and ADHD or attention deficit with hyperactivity disorder standards more lenient, and we conservatively estimate about 3,000 more applicants were qualified as a result of those two standards and associated cost savings of about $15 million per year.

These are Colonel Scott's and my opinion only, and I have a disclaimer at the end, so I don't want to give you any kind of false impression. At any rate, I have floated this in a number of fora and haven't been shot down yet. But the current accession process I believe is designed to screen out potential failures. That's

how they are incentivized. The focus is on potential medical problems that are either identified during the medical examination or the history and medical examination or revealed and detected by the medical officer. Obviously, as you know, screening relies heavily on self-report. We have done a number of studies that show that individuals with a prior history who disclose that position, go through the waiver process, come onto active duty, perform well or in the case of asthma actually better than those not requiring a waiver paradoxically.

The other side of the equation is when we looked at the premature medical discharges for preexisting conditions or what we in the Army call existing prior to service, the vast majority of these conditions were either not revealed because they were not known or because they were concerned during the MEPS examination process.

So to put it another way, the current state of affairs we believe is that military applicants have a strong incentive to report a

negative of any potentially disqualifying condition at the time of their entrance examination. The current screening process is largely history-based, certainly there are objective tests that are applied, but nevertheless, largely history-based, and we believe penalizes many honest applicants by putting them through the disqualification waiver process where they have to produce medical records, potentially consultations, definitive testing, and at the same time misses many who are either undiagnosed or actually concealing their diagnosis, and ultimately a portion of those will end up will end up prior to service discharge.

So that is the framework. I just wanted to make the Board aware of a 2006 report by the NAS. You can see the title of the committee at the top. They identified six area for needed research. I won't read all of them. I just wanted to highlight numbers 2 and 3 because we believe they deal specifically with medical accession standards and this was brought up by

some of the Board Members already, the need for a pretraining fitness intervention to reduce whether they are a viable and cost-effective route to reduce injury and attrition. Number 4 deals with the area of mental health, compare attrition rates of enlistees with and without mental-health conditions existing prior to service. I don't have any time to go into this report. The Website is there for you. In the backup section I do have some slides that expand on points 2 and 4 specifically how the committee recommended mental health be screened and that kind of thing. And I know with your involvement with the Mental-Health Task Force, that may be of interest to some of the Board Members.

This is going to be a very quick brief, but I'm going to turn from our past research which has been focused largely on existing data sources. I've attempted to summarize what we've done with existing data sources in your backup slides. I'd be happy to provide any more information. All of our reports are on the Website. If you need hard

copies, please just let me know.

But what I really wanted to turn to is what are we doing currently, and this is in the area of functional assessment as people were mentioning particularly in two areas, physical fitness, and psychological fitness.

The first is the ARMS study, or the Assessment of Recruit Motivation and Strength Study. This study was developed by my predecessor Colonel Retired Margo Krauss and together we identified that there would be a potential benefit of adding a performance test. In credit to Colonel Krauss, this was before the NAS committee. The Marine Corps, for example, has a very strong physical fitness assessment program prior to coming into basic training. The Army does not, and I don't believe the other services do either. We did a rough business case analysis for the Army leadership to say could the potential benefits of adding a physical fitness test be early on in the accession process as screen in, as an additional qualifier, if you will, and you can see the

numbers before you. We predicted about 11,000 more accessions per year, this particularly in the area of qualifying folks who failed the weight and body fat standards. We used some NHANES data for BMI. The current accession standard is based on a BMI of 27.5, but if you don't meet that then you go to a body fat ceiling which is dependent on age and gender, and I can't talk more about that later if you're interested. So that was our proposed return on investment.

We didn't get all 65 military entrance stations as a study site, thankfully, we got six, and that was more than enough for us to handle. But between February 2005 and September 2006, over 2,000 individuals were able to access into the military through this ARMS test program, and we're studying their attrition.

We thought that this was not only a measurement of physical fitness, but motivation, hence the M in ARMS. We have some ideas of how to tease apart motivation from physical fitness. I can't present any data to you on that just yet,

but we suspect that in terms of the ratio between motivation and physical fitness that motivation is probably the more powerful of the two. It's probably not 50-50, but at any rate, we are measuring a combination of both motivation to service as well as physical fitness. We thought that this kind of testing would offer the opportunity of moving attrition far to the left, i.e., earlier in the soldier's life cycle based on measurable criteria that could be related to future attrition and offer the potential to crease injuries because we know from the literature is correlated with risk of injury.

Just a very quick idea of some results. In this study we administered the test over 26,000 times to over 22,000 individuals, over 3,900 over body fat individuals passed, or the overall pass rate was 72 percent. As I mentioned, over 2,000 were granted the waiver and shipped to basic training. We do have some attrition data for you there. You can see a slight increased risk, approximately a 5-percent net increased risk, of

attrition, and also an increased risk of musculoskeletal injuries in our male cohort as opposed to females with a waiver for over body fat compared to their fully qualified group. I can talk more about that if you're interested and there is some information in the backup slides. But we caution everyone that we present this information to that we have limited event size and follow-up time for firm conclusions.

The retention weight and body fat does not apply until 12 months of service and so these individuals are coming in overweight, over body fat, but relatively fit and relatively motivated. So the real jury on this is not only a 6-month attrition or a 1-year attrition, but what happens when retention weight and body fat standards occur, so the jury is out on that. A preliminary look is that they are not being discharged at higher rates, but this is very early.

Also we are very concerned about injuries, particularly those that the literature would suggest are related to being overweight and

over body fat, specifically -- injuries. To date we haven't found evidence of that, but we have another summer that we can look at in terms of our cohort and so that's due out.

I'm going to turn to psychiatric screening. I apologize for the fast temp and the lack of depth, but there are backup slides, and talk about our efforts in terms of psychiatric screening. Our objective was to develop a rapid and inexpensive method to screen military recruits for major psychiatric disorders or other behavioral factors that strongly predict occupational dysfunction in the military. The environment in which this instrument would be applied would be MEPS stations by primary-care physicians for the most part, and so the instrument would be standardizable and interpretable by nonpsychiatric-trained physicians, and the test should obviously be reliable and valid. As a result, we did a small research program through a contractor. I don't have time to brief you on the results of that, but

just to say that instruments were developed but not yet validated and part of the problem is we have civilian contractors trying to do research in a military environment and we've had just tremendous human subject issues to accomplish that. So we have draft instruments, but they are not yet validated.

So what we are proposing, and this is I believe consistent with the National Academies of Science's recommendation would be a multisite efficacy trial of a psychiatric screen, be it one that has been developed under the small business program or perhaps better yet, the Army Research Institute has an instrument called the AIM, the Assessment of Individual Motivation, which has been validated in the Army applicant population. We would then administer the questionnaire and follow individuals for psychiatric morbidity as well as attrition through Initial Entry Training, IET, and the first tour of duty. Then we would push forward and actually try to use this instrument in a predictive fashion to screen in

applicants who self-disclose a history of disqualifying psychiatric conditions. You will see there that the thirteenth birthday for mood and anxiety disorders, that was a specific recommendation of the National Academies of Science Committee. They saw what we had done for asthma, they looked at the literature on mental health and there is a lot of misclassification obviously in terms of psychiatric diseases and they thought that if it was restricted to childhood, i.e., they were free of disease in adolescence that it would be worth while for DOD to study that as a future standard. Obviously, when you apply a screen you have to be prepared to deal with the answers you get, and so we would have to develop some kind of a clinical management guideline for a predefined set of responses that would be of concern and warrant further evaluation.

Those are our two current research initiatives. I just wanted to give you a flavor for how we do this. You can see our funding on

the first two bullets. We believe that we pay for ourselves with every 20 premature attritions we avoid. Administratively, AMSARA had been an executive agency under the Office of the Surgeon General I believe because of some requirements by the Deputy Secretary of Defense. OTSG transferred AMSARA from themselves to the Medical Research and Materiel Command in September. Most of our analysts are contractors as you might expect.

This is a snapshot of the ARMS study. In FY06 the bill was approximately $838,000. The return on investment we believe just crudely is about $750 for every over body fat accession realized in that program. And I should tell you that the study is over, it went through September 2006, but it is now implemented as a program by the U.S. Army Accession Command at all 65 MEPS, so we are still accessing individuals and we're enrolling into our database for outcome analysis in partnership with the Army.

These are some things we tried to do unsuccessfully. We put in a UFR, an unfunded

requirement for the FY08 program and to do program funding of prospective outcome research. You can read the slide, but essentially it died on the vine because of lack of a bill payer.

To back to the policy question, again just to restate it, should DOD have a requirement to develop evidence-based DOD deployment and retention standards as it in fact currently does for accession standard? I'll reference the document that's entitled "The Military Health System Transformation Effort" as part of the QDR, Quadrennial Defense Review. There is a specific objective to define standards and resource requirements for a healthy, enhanced, and protected force.

Just a few slides. I won't spend a lot of time on most of them, but a few slides that show you what we're thinking about in terms of medical retention standards be this work by AMSARA or some other agency, we really don't have a vested interest in that. An analytic approach might to begin with retrospective case control

studies looking at risk factors in the population of individuals who go before an MEB and a PEB. As you know, nobody everybody who goes through an MEB, Medical Evaluation Board, gets referred to the PEB, so it would be of interest to see what the differences are there. Then secondly, it would be interesting to look at a survival analysis of individuals who have gone through the MEB and see how many of them had medically disqualifying conditions on accession.

We could look at survival of folks who go through the MEB and are found fit for duty say for mild asthma or a psychiatric or musculoskeletal condition. I don't believe that kind of analysis has been done to date, and we could do that by medical categories. Then finally, we would propose that we would have some kind of health economics analysis capability because when we're making policy recommendations for new standards, there are a lot of second- and third-order effects that need to be considered in terms of care for these individuals.

We would require some new data sets. I believe all of these exist, you can see them on the slide, to do this kind of analysis, we being DOD. Certainly there would be some manpower and financial requirements associated with that. This is a really rough estimate of what we think we might need to do for this kind of analysis. We are developing a White Paper for Health Affairs and we have done some back-of-the-envelop calculations of return on investment. This is difficult and this methodology could certainly be criticized, but we did have data from the Army and Physical Disability Agency on their annual budgets and caseloads and this does not include the cost for Medical Evaluation Boards. We are attempting to do something similar for the other services, but if we just use our incremental costs to do retention standards of 644,000 at a cost per case of about $355, we would pay for ourselves with about 1,800 cases avoided per year, or a 12-percent reduction in caseload. This seems high. This does not realize the case of MEB cases

avoided because they aren't initiated or MEB cases that were found fit for duty, so we need to try to conclude that somehow in our return-of-investment calculation. I'm not really sure how to do that especially since we don't have a health economist. We believe this is a conservative estimate because it excludes our sister services.

Turning to deployment standards. These slides follow the same format, but I'll just breeze through these because we really don't have DOD medical deployment standards yet. They currently are service-specific or in this environment combat and command-driven. There is a draft DOD Instruction for deployment standards I believe coming out of Force Health Protection and Readiness that will be the first of its kind. I do not believe that deployment disqualifications are systematically recorded or tracked in any way whatsoever so I don't think this data is out there to be looked at, so that would be something in the future. But at any rate, some of the analytic approaches you can see are very similar to what we

would do with retention, and so I'll just leave that to you to read.

As I alluded to with the last slide, these data sets are notional and this is perhaps an extract of what we would like to know by individual, obviously, and by diagnosis who was nondeployable in a theater. The NDC just so you know does track deployments and they have a database at the individual level and it does have some detail as to where they were in theater and their length of service in theater, so that would be helpful. This is what we would estimate might be the an approximation of the cost in terms of manpower and dollars to do this kind of analysis. We really didn't know how to do a return-on-investment calculation without the data of average per nondeployable. The cost for being nondeployable would vary dramatically based on occupational specialty, rank, and theater operation, so this is a real tough I think return on investment for us to calculate, so we deferred it.

This is a timeline that we have proposed. We have some funding issues with the new contractor I won't bore you with. We have proposed the idea that the Defense Health Board help the DOD validate a requirement to even do this, so we're presenting to you the issue of oversight, and management of AMSARA is to be determined. Then we would probably consider a phased expansion into retention and deployment standards as you can see on the fifth and sixth bullets. This is very notional, but just to give you a concept.

So next steps. After the Board reviews and make recommendations, eventually I believe that the decision-making body will the Under Secretary of Defense for Personnel and Readiness, MEDPERS Committee, specifically the co-chairs that you can see on the second bullet, and endorsement by the full Committee, program and execution.

This is just to tell you what's in your backup slides. Our past research, more details on the National Academies of Science committee report

especially concentrating on physical assessment and psychiatric assessment and a little bit more information on our two current research initiatives. I'll stop here and take any questions.

DR. POLAND: Thank you.

DR. PARKINSON: Colonel Niebuhr, a thorough as usual and excellent presentation. I wasn't wrong. Wherever that meeting was, it was good then too.

Just some thoughts and on a lighter note. This Holiday Inn, Roger, used to be a Howard Johnson's and my brother used to work in the kitchen at Howard Johnson's. At Howard Johnson's, if you did not use a spatula to get to the very bottom of that 5-gallon drum of mayonnaise, you would be fired. The reason was Howard Johnson knew to the penny that if you didn't use a spatula on a 5-gallon drum across the entire system what the loss to Howard Johnson's was in dollars of mayonnaise that they would have to buy. It is that scrutiny down to what I call

the spatula factor that DOD has got to get more sophisticated about, and I'm sure you've got it at Kodak and Loss Control and every other company that I've worked with.

So not only ye verily do you have to get the economics in here, but we've got two good medical models that I know the DOD at least in the Air Force used and that was the SAMEC model which is the Smoking Attributable Morbidity, Mortality and Economic Costs was also applied to alcohol. But what you're driving here, David, and I would shoot for the moon while you're proposing is you want a behavior and condition-specific deployability attributable model, deployments morbidity, mortality, and economic costs either gained or avoided, and go for the home run and build the model. Your synergy here I think is going to be to realize is it's not a medical model. The fact that your P&R is great because the biggest single reason people are leaving has to do with the midlevel Captains in the Army is probably not because they've got a medical

diagnosis, it's because of the stresses, it's because of their financial situations, it's because of their family situations. So to the degree you can broaden this out of a medical model to the social model and make it a comprehensive economic and epidemiologic model, you'll win the day. And you'll want to have that ROI calculation in there because every other company, and that brings me back to that crazy mayonnaise story, they know exactly the mayonnaise in the bottom of the jar goes right to their bottom line. And now we've got a huge retention problem for good reasons across the military, but we've got to get down to that level of scrutiny.

So my final comment is it may not be a health economist you want. As a matter of fact, I would urge you not to use that word. I would use DOD financial analysis, a financial analyst who works for the Comptroller to use whatever is the accounting methodology they use to buy tanks and weapons as opposed to have something funky that looks like a health economist because it won't fly

in the E Ring. Just a thought.

LIEUTENANT COLONEL NIEBUHR: I appreciate it. Thank you very much. Colonel Erickson owes you $20, I guess I do too. We've been kind of cautiously telling Health Affairs and P&R that with the arms study, we're getting out of the medial accession standard business, but when you look at the prevalence for disqualifying conditions, medical is relatively small, and we would spend a lot of time in our working group wordsmithing standards, should it be the thirteenth birthday, should it be the fifteenth birthday, what is the evidence for one versus the other. But just prevalence-driven things that are very powerful are obesity, a sedentary lifestyle, and other lifestyle issues.

I just wanted to highlight to you the recommendation number five from the National Academies of Science Committee, conduct a cost-benefit analysis regarding the effects of increasing the stringency of the current marijuana waiver policy. Marijuana is an extremely common

disqualifying condition and one of the things that we're looking at in our partnership with the Army Research Institute on a new psychological fitness screen would be this population of folks who come up positive on a urine drug screen for marijuana. Currently the services waive this condition based on their own criteria, but let's take a look at these individuals more in the composite sense and see how they do.

In the prior talk somebody was talking about assessing recruits and the importance of having a baseline. I just wanted to point out to the Board in light of that talk as well as this that there is a good cognitive screen that is done on military recruits, the Armed Forces Qualification Test, which has just incredible numbers and a long history. Again, the Army Research Institute is the proponent. But the new domain is probably noncognitive functioning, and this one instrument, the Assessment of Individual Motivation, is an Army program so that's a limitation, but it is a new domain and AMSARA is

very excited about looking at people in a multidimensional fashion. So not only do you have asthma, yes or no, but what is your physical fitness, what is your psychological fitness, and how are you in cognitive and noncognitive domains, not because any one domain may be disqualifying, but because together when you link individual screening tests, relatively poor test characteristics are much more predictive. So we have kind of said to Health Affairs and P&R that AMSARA has been moving out of the medical standards and we want to make sure that you understand with full knowledge what we're doing when we're challenging weight and body fat accession standards and potentially some of the other very prevalent behavioral-type factors that are important in terms of the accession process. So far they haven't slapped us on the wrist, but thank you for your comment.

DR. POLAND: I have a question for you. What you will have to work with in terms of accessions will mirror what's happening in the

civilian population all through childhood and adolescence up to the point that they come to you. So that's one issue. The second issue is that it seems like the accession standards have sort of revolved around the idea that everybody who comes into the military requires a certain amount of if you will brute strength to function well and to do their job, and clearly that is not the case in all of the services. It might be true in the Marine Corps, for example, and less true in other services.

I wonder if there has been much discussion about more of what's done on the civilian side. At the Mayo Clinic, I live in a farming community and we have people who have had farm accidents and are missing one extremity. They are qualified for certain slots of positions and not qualified for others, and for any given medical condition you could probably make that case. So I wonder if there has been that discussion.

Then lastly, the idea, and it is

interesting and may be counter, it was counter to prevailing wisdom, when you actually did the research you found, was it with asthma, that they did better than other individuals. So how does all that play out in developing accession standards particularly the point about different standards for different sorts of slots?

LIEUTENANT COLONEL NIEBUHR: That ties into the first recommendation of the National Academies of Science committee on the slide there. You might take a look at that. The committee really wrestled with that and many of them were coming from an occupational medicine background and wanted specific standards for your occupation. The problem that the military briefers made was that we have 200 or 300 occupational specialties and so the size of the document and the effort it would take to have occupational-specific standards was prohibitive. Having said that, I believe that Dr. Chu, the Under Secretary of Defense for Personnel and Readiness, has floated that idea to his agencies should that be our goal, and maybe

Tom would like to comment more on that.

DR. POLAND: And there may be 400 as you said, but they are probably collapsible into a smaller number.

LIEUTENANT COLONEL NIEBUHR: The data is lacking. It makes intuitive sense that we should move in that direction, but we don't have data currently on how many folks are not qualifiable in their MOS because of their physical condition. The databases right now look at attrition and that kind of thing. So have evidence-based occupational standards we would probably have to turn to the civilian literature, and how comparable some of these conditions are to military occupations would be another area.

DR. POLAND: This is because of my first comment, because in Olmsted County where we capture virtually everything medically that happens to people, 30 percent of the kids don't leave childhood without a diagnosis of asthma. Whether it's correct or not we could argue. Twenty-six percent of them get a diagnosis of

depression. And you start putting that together and you begin to say in a metropolitan area you've got 10 people you can recruit which is a practical problem for the armed services, so that's why I saw the reality of what's happening before they come to you will force you I suspect to say we'd better do the research because clearly nowadays with appropriate medications and treatment, somebody with asthma is no different than somebody who never had a diagnosis of asthma. It might be true for other conditions.

LIEUTENANT COLONEL GREIG: Yes, sir. With respect to the question on occupational-specific qualification, there are mixed emotions about that from a service point of view, and certainly from what's going on in Iraq right now, every person needs to be able to be a soldier because you don't know where the front is, so there needs to be a certain baseline level of performance, if you will. That line hasn't been evidence-proven, so can a one-armed guy function as well as a guy with two arms to carry an M-16?

That's kind of an extreme example, but those are some of the fears because of the movable front with a situation like Iraq.

However, at the same time, you're absolutely right, can we broaden the market by looking at what people are capable of doing? But that also reduces the flexibility of being able to move people around to certain areas and positions. So it's an area of contention and needs to be looked at.

LIEUTENANT COLONEL NIEBUHR: In answer to your second question if I could real quickly, I think just to paraphrase it might be the issue of comorbidity. That was addressed in the last talk and again comes back here. Looking at asthma, for example, we all know that there are Olympic Gold Medalists with asthma who were using their inhalers at poolside. So it seems to be that it's not just your pulmonary function test that are important, but it is other criteria. The literature would suggest that mental illness is correlated with asthma, so if you have asthma plus

a mood disorder or some other mental illness, perhaps your natural survival in athletics as well as in the military would be affected, and that kind of makes logical sense. Likewise, what is your physical fitness and your motivation to serve in the military. We don't have a motivationometer that we can apply to folks. Frequently they're coming to the MEPS station as -- I shouldn't say frequently. Anecdotally people say that they are coming as a last option kind of thing, and if that's the case, then you would assume that their motivation is relatively low as opposed to somebody else who is coming because their lifelong aspiration was to be a Marine.

I did want to make you aware of what the criteria are in the components of the ARMS test and to make that the point that the Harvard Five-Minute Step Test has been around since the 1940s and 1950s and it is not in our population, but it is validated against the VO2 max which also came up earlier on. So this potentially could be a surrogate if you will field expedient of a

validated measure of aerobic fitness. I will caveat to say it's never been validated against VO2 max in a military applicant population. I believe it was med school students at the Harvard Performance Laboratory who was the primary validation group, and it certainly has not been validated in overweight or over body fat applicants. So we would love to do that. We have tried to approach USARI (?) about doing that and so far haven't gotten it there. But I do want to let you know that it was chosen because there is some literature that it is correlated with the VO2 max, and the other two components you can see on the slide.

DR. POLAND: Dr. Lednar?

DR. LEDNAR: Dave, thanks for this presentation and in the usual fashion of getting us to stretch our minds. As Dr. Parkinson would say since he's not here, I guess I'd share what I would perceive as kind of a thought leader way of thinking about this that may be relevant to the whole aspect of accession. If we think of what

the goal of these accession standards might be, and that is to have the right kind of criteria to bring into the military those who can succeed at the military's mission most simply, and while the obvious dimension is a physical requirements kind of one, there are two other dimensions that are becoming increasingly important in the civilian world and I think they're very relevant in the military function as well. The other two are the cognitive demands of work, and the interpersonal demands of work. None of us works as an autocratic individual unless you're at the highest levels of society, so we need to be able to get along with people, and the military performs as a team.

When we think about the armaments, the weaponry, the technologies that are being developed and then fielded, and I have not sat in a tank recently, but I'm told that it is as complex as flying a 747 in terms of the instrumentation on the console. This is very, very cognitively challenging, and then you get

into a battlefield environment where all kinds of hell is breaking loose, you've got to be able to process information and make the right decisions and take the right actions very, very quickly. So it is more than just the brute strength, the ability to push a rock, there are these other dimensions.

We also are not very sophisticated at how do you assess not only the requirements cognitively or interpersonally of work and then how do you evaluate people coming in whether it's to a civilian job or to the military, but I think this may be an area of research that could be very practical that would help first of all the military and would also have other broader applications throughout working populations.

LIEUTENANT COLONEL NIEBUHR: I certainly agree, and the Army Research Institute Assessment of Individual Motivation AIM test addresses the noncognitive across six domains all of which involve executive functioning and one specifically on sociability. We are hoping to partner with

them to look at these subscales. Right now they have looked at the aggregate score and the folks who have a higher score do very well in terms of attrition, but we are very excited about systematically assessing these noncognitive domains. And probably we wouldn't envision a future noncognitive domain standard regulation, but probably more in the concept of looking at people in the composite or multivariate since so that you might have a couple of DQs but a couple of things in your advantage so that in a multivariate model at the MEPS station, in I don't know what, Tom, 2020 or something like that, you would get a risk profile that would look at you in the composite sense. So you might have a bad knee or this or that, but you're extremely motivated, you're very bright, and you're highly sociable, and then a decision might be made in a systematic fashion.

DR. POLAND: Dr. Shamoo?

DR. SHAMOO: Thank you. I want to add to this discussion a moral component to it. We've

talked about physical characteristics, psychiatric characteristics, for our soldiers, and we also heard that there are no frontlines which means the moral decision of each individual soldier is equally important. I have no doubt that the overwhelming majority of our youngsters are moral and have good value systems. However, for similar reasons that we think a certain percentage of them have some kind of physical disorder, also a certain percentage have moral defects due to their upbringing or the society they lived in. I'm not talking about pathological because you could do nothing about it. I won't even mention the stats because it will floor you, our high-schoolers and those in college how many of them will tell a lie percentage-wise or cheat percentage-wise is staggering. It's not the 5 to 10 percent that you and I hope for.

But this is where our soldiers come from, and I would like to see in the screening some moral component really into that screening into that behavior because it will have an impact

on how they behave in this current day of world wars basically which is no longer frontline and just lob a rocket because that one-man, one-woman decision where that decision is between him and his conscience and God and that's it, and there may not be anybody else there looking. However, the consequences of what the action of that individual soldier will be, will be big. Piling five nude prisoners, it was a big scandal. And I'm not saying we should eliminate those people who show any behavioral deviation, maybe a few hours of discussion with them will reduce that percentage of those potentially immoral individuals which you are putting them under stressful conditions with very powerful equipment.

LIEUTENANT COLONEL NIEBUHR: That is not area of expertise obviously, and I will defer to my colleagues from Personnel and Readiness, but I believe that the DOD answer would be that the moral screen right now is a criminal background check that's done on all military applicants, and you should know that there are moral waivers if

you don't already from reading "The Washington Post" and that kind of thing. So just because you're disqualified for having a record doesn't mean you can't come in. You are evaluated on an individual basis and you write a statement, and your mother and your employer, et cetera. So there are moral disqualifications based on your criminal record, and there are moral waivers. I'm sure that's not satisfying to you, but I don't know if anybody from P&R wants to add anything to that.

LIEUTENANT COLONEL GRIEG: If I may, on this discussion particularly with looking at broadening the range of accession standards, I would like to bring it back to the question that was brought to the Board and to take a look at not just how can we broaden the standards and bring more in, but what is the impact on the long-term prospects of a service member's career and how is that going to play out 10 to 15 years from now if they perhaps have a claim for a disability? We need to be able to take a look at both what goes

in and what comes out of the service as well, and I would like to bring that point back so that we can again take a look at the questions to the Board.

DR. POLAND: To some degree though you already do this. Your requirements for a pilot, for a SEAL, for a baker are very different, and you need them all, you know you'll always need them all, and they function probably quite well with those very different standards. So conceptually you do it already, maybe without an evidence base. Dr. Lednar?

DR. LEDNAR: I may be taking the discussion away, but I would like to share again an alternative view that was shared with me that may have some applicability. It has to do with our natural inclination given our training in the health care professions to approach things in a diagnostic way, what's the CPT code for the procedure we perform or the ICD code for the statistical summary. So we're approaching things in kind of a black and white, yes/no, bit by

pathology present/absent way. The example that was shared with me was attention deficit hyperactivity disorder. I have no idea where that stands in terms of accession or retention, but the thought was that can be approached as a diagnosis, a pathology, one for which medication should be applied and call that success.

There is an alternative view of that same input data of attention deficit hyperactivity disorder and that is don't think of it as a diagnosis, think of it as a trait, as a collection of functionalities of a person. If you think of it that way and you think of what an ADD kind of person would have, they tend to not be able to stay on topic very long, they do tend to be able to fix and focus very quickly, they tend to be people whose mind jumps around on multiple topics, call it fix and focus rapidly changing, and if you had that trait, might not that be a functional advantage in certain kinds of work settings like being a plaintiff's attorney, like being a chief executive officer of a global multinational

corporation? Maybe being a four-star general. So again as we're thinking about what are the requirements of work and how do we maximize this fit between the military's needs across the bakers and across the pilots, and we're also in an environment where the resource of inputs, accessions is constrained, how do we work with that in a reality for success?

We also have to be fully cognizant of what are the downstream effects on retention and everything else, but I think the DOD has shown itself capable over the years of thinking in a very innovative way to meet the military's needs and this might be a good time to do it yet again.

DR. OXMAN: This may be beyond the scope of what you want to ask, but from my VA perspective it's an important component. That is, what is the downstream cost of a change in the standards for accession on the number of people who are going to be claiming disability and getting disability on separation, and I think that's an important component and is a major part

of the price tag.

LIEUTENANT COMMANDER LUKE: I just want to make an observation that the DOD has used various different attempts at determining suitability for service and generally with pretty good success, but at times, frankly, disastrous. In 1941 there was a psychological screening program that essentially crippled the U.S. Army's ability to fight the war that they wanted to in World War II. George C. Marshall's plan for the invasion of the Europe called for 197 Infantry Divisions and we only were able to muster something like 97, and he said, What in the hell is going on here? When he went back he found that 50 percent of American men who were being drafted were being excluded on a psychological exam, and it has real effect. What was the effect? We didn't get to Berlin and we didn't get to Eastern Europe first. That was the upshot of that particular screening program and it had some pretty significant effects. So I just want to caution people that motivation and a desire to

serve are very important attributes if an individual can make it in the armed forces, and that's been recognized. And the last thing I'll say is Napoleon Bonaparte said that the psychological is to the physical as 5 is to 1, so motivation in many cases is a great component and people can demonstrate that in boot camp if we give them the opportunity.

LIEUTENANT COLONEL NIEBUHR: I couldn't agree more. I just want to comment on don't order a test if you're not prepared to deal with the responses you get. Any screen can be used to screen in our screen out. This is the specific recommendation that the National Academies of Science committee that the military consider and they actually went on in the report to mention Prime-MD. It's a short questionnaire validated in the literature that has good test characteristics and predictive value. The problem is the audience to which you are applying the test, how representative are folks in primary care settings of military applicants at a MEPS station and what

are the incentives in terms of how you respond to your screening instrument. I think applicants for service in World War II may have had a different set of incentives than applicants in an all-volunteer force. So you have to take a look at not only the test characteristics but in the population in which it was administered.

This Prime-MD we pretty much dismiss because these folks are motivated to get care. They're concerned about their health and so they're presenting. So when you look at the sensitivity and specificity of the instrument that the NAS committee recommended, we don't assume the same test characteristics in our population who are presumably trying to get into the military or they wouldn't be sitting at the MEPS station. So I think you're absolutely right that the test has got to be very robust and targeted to the incentives that the population you're screening have. So it's a difficult area. There's a lot of if you will malingering and fit, both faking good and faking bad in the military applicant

population, so it's a very challenging environment to screen.

DR. POLAND: One more comment and then we have other business.

DR. HALPERIN: Just briefly. Many of the things you're talking about are continuous variables, some are categorical, and let's forget those. Is there a system for evaluating whether there is any relationship between those continuous variables as you get closer and closer and closer to your cut-offs?

LIEUTENANT COLONEL NIEBUHR: The short answer is no. The military is stuck on go, no go. They have moved into red, yellow, green, which they think is a tremendous improvement. I don't think the accession process is in red, yellow, green. Accession is still stuck in red, green, and we're kind of limited in what we can add to the process. You have asthma, you have a no go. It's not the end of the story. You could get a waiver. So we can study these folks on active duty and how they do with the waiver for asthma,

and you can see asthma under 2000, and you can see asthma is in green, red, yellow green, green being good and that their survival is higher than their fully qualified comparison group.

But what I can't tell you because of the limitations of our database is do these folks have mild intermittent asthma, do they have persistent asthma, what is their clinical course, how many medications are they on, are they on steroids. I can't tell you any of that information from existing data sources. So I agree with you completely that the military is stuck on red, green, and I think that's the MEPS of the future. Tom and I have had discussions over not drinks but over lunch, and we would love to see is move from a categorical to a continuous and take advantage of multivariant analysis, but I suspect I'm preaching to the choir here.

DR. LAUDER: One of the standards that you had on your extra slides, I just wanted to put that together with what Mike Oxman said. You have a maximum passing body fat of 30 for males and 36

for females, and that's pretty high, and Niko can correct me if I'm wrong, but that's a body fat at a young age where I think you're looking at long-term health costs later on down the road so you may want to look at that one particular thing. That's fairly well played out scientifically in the civilian literature.

LIEUTENANT COLONEL NIEBUHR: The lifecycle models, and again this is not my area, but in a prior job are built on annual continuation rates, so from year zero to year 30, but for the enlisted force there is no assumption that the individual is going to survive for 10, 15, or 20 years, and in fact, it's a relative minority of folks who survive that long. I have not said it, but others have said that essentially the enlisted force is built on somewhat of a throwaway model, and that I know for example that the Accession Command thinks that they have got a green when folks complete initial training and their first tour of duty which can range from 3 to 5 years. But Health Affairs with posing this

question is now talking about a paradigm shift where we look at individuals over the lifecycle, and in deference to the our colleagues at the VA, these folks may develop chronic diseases that have implications for a lifetime I think as you alluded to. So this is a new arena for DOD to start thinking in that respect.

DR. POLAND: That did seem like pretty lenient standards.

LIEUTENANT COLONEL NIEBUHR: There is a gender bias in that standard, too, by the way. We can talk about that later.

COLONEL GIBSON: One quick comment and one very short question for you, Dave. Dr. Parkinson isn't here, but in veterinary medicine we call that the hay ring factor, not the spatula factor, and it has to do with how we save hay on cattle. But the question for you, Dave, has to do with what did you guys use for the gold standard for this, the validity testing of your instruments in your psychiatric screening? It's an important issue because as we go forward with neuro-cog

testing as it looks like we're going to do relative to its impact on TBI and PTSD, it seems as though repeatability and reliability of the question versus external validity may be an important point.

LIEUTENANT COLONEL NIEBUHR: The two contractors that developed prototypes searched the literature and used the SCID, the Structured Clinical Interview, as the gold standard. One questionnaire was 170 items, the other questionnaire was 317 items. Again, this is not validated, these are prototypes, but with these questionnaires as much as possible questions were taken from validated instruments in the literature and those instruments are always judged against the SCID. As far as I know, in this arena there is no other gold standard out there and there is interrater variability between SCIDs by two clinicians, so this is a really tough area. As far as ARI and their aim, I don't believe they had any gold standard that they applied it against in terms of noncognitive assessment, but I'm way out

of my area of expertise now.

DR. POLAND: Thank you very much. For members of the Board, the question is before us. Are there any concerns about taking the question on as a Board? We will take that on. Thank you very much.

(Applause)

DR. POLAND: One other piece of business before we break for lunch. I'm trying to find where it is now. The front of Tab 8 has a memo entitled "Force Health Protection for Pandemic Influenza: Risk Management Models for Pre-pandemic Vaccine and Antivirals." The question to the Board detailed in this document carries forward from recommendations provided to the Department by our Select Subcommittee on Pandemic Influenza. I received this a few days ago, based on my review for that request, I accepted the question and will assign it back to the Subcommittee on Pandemic Influenza for action. In the meantime though what I would ask is that the other members of the Board review the question and either provide input to me

or Colonel Gibson today or by Email in the next several days.

Also included, you also have a copy of the Executive Summary from the DOD Pandemic Preparedness Plan so that that is also available to you. For the Board Members, you also received an electronic copy of the full plan.

Is there any other discussion or question regarding any of those issues? If not, then Colonel Gibson can I ask you to close the meeting and talk about lunch?

COLONEL GIBSON: Lunch will be in this room next door, O'Malley's, and will reconvene at 2 o'clock to do the deliberations with the Task Force on the Future of Military Health Care. I ask you to close up your books if you possibly could before you leave because we're going to play musical chairs a bit for this afternoon's session. The Task Force on the Future of Military Health Care will be basically sitting in this area over here so we will be moving some folks around. Thank you very much. This session is adjourned.

(Whereupon, at 11:57 a.m., a luncheon recess was taken.)

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

(2:15 p.m.)

DR. POLAND: Welcome to the afternoon session of the Defense Health Board. I am delighted that we have with us a number of distinguished visitors, but in particular to my right is Dr. Ward Cassells, our new Assistant Secretary of Defense for Health Affairs. Dr. Cassells, welcome. His bio is on your notebooks so that you can read a little bit about his distinguished service to he country. Dr. Cassells, can you to open the meeting, please?

SECRETARY CASSELLS: Thank you, Dr. Poland, and thank all of you for coming. As the delegated principal staff assistant and alternate designated federal official for the Defense Health Board, a federal advisory committee to the Secretary of Defense which serves as a continuing scientific body to the Assistant Secretary of Defense for Health Affairs, and the Surgeons General of the military departments, hereby call this meeting to order.

DR. POLAND: What I'd like to do then is just go around the table and have each individual introduce themselves. Dr. Cassells, I'll start with you and we'll work our way around.

SECRETARY CASSELLS: Ward Cassells, the new Assistant Secretary of Defense for Health, on leave from the University of Texas Health Science Center in Houston where I'm a cardiologist.

GENERAL CORLEY: I'm John Corley. I'm one of the Co-Chairs on the Task Force that will be presenting to you today.

DR. WILENSKY: Gail Wilensky, the other Co-Chair.

COLONEL BADER: Christine Bader, Executive Secretary for the Task Force on the Future of Military Health Care.

DR. LAUDER: Tamara Lauder, physical medicine and rehabilitation, member of the Defense Health Board.

DR. LEDNAR: Wayne Lednar, Vice President and Director of Corporate Medical, Eastman Kodak, Rochester, New York.

DR. MCNEILL: I'm Mills McNeill. I'm from the Mississippi Department of Health and I'm a member of the Defense Health Board.

DR. PARISI: Joseph E. Parisi, Mayo Clinic, Rochester, Minnesota.

DR. LOCKEY: Jim Lockey, outpatient pulmonary disease, University of Cincinnati, Board Member.

DR. OXMAN: Mike Oxman, Professor of Medicine in Pathology, University of California, San Diego, Board Member.

DR. PARKINSON: Mike Parkinson, Executive Vice President and Chief Medical Officer of Lumenos, which is a subsidiary of WellPoint.

DR. PRONK: Niko Pronk, Vice President, Health and Disease Management, Health Partners, Minneapolis, Board Member.

DR. SHAMOO: Adil Shamoo, Professor, University of Maryland School of Medicine.

DR. SILVA: Joe Silva, Professor of Internal Medicine, the University of California, David, and Board Member.

DR. MILLER: Mark Miller, Associate Director for Research, Fogarty International Center at NIH, Board Member.

MR. HALE: I'm Bob Hale, Executive Director of the American Society of Military Comptrollers and a member of the Task Force.

GENERAL MYER: Dick Myers, Task Force member.

DR. MADISON: John Madison, Task Force member.

MAJOR GENERAL ADAMS: Nancy Adams, Task Force member.

MAJOR GENERAL SMITH: Bob Smith, Task Force member.

LIEUTENANT GENERAL ROUDEBUSH: Jim Roudebush, Task Force member.

DR. HALPERIN: Bill Halperin, Chair, Preventive Medicine, New Jersey Medical School; Chair, Quantitative Medicine, School of Public Health, and I'm a Board Member.

DR. GARDNER: Pierce Gardner, Professor of Medicine and Public Health, the State

University of New York at Stony Brook, consultant to the Board.

REAR ADMIRAL SMITH: Dave Smith, incoming Joint Staff Surgeon.

MAJOR GENERAL KELLEY: Joe Kelley, outgoing Joint Staff Surgeon, and Task Force member.

COLONEL GIBSON: Colonel Roger Gibson. I'm the Executive Secretary of the Defense Health Board.

DR. POLAND: And I'm Greg Poland, President of the Defense Health Board, Professor of Medicine and Infectious Diseases at the Mayo Clinic, in Rochester, Minnesota, and Vice Chair of the Department of Medicine.

We normally do this in the very beginning of our session but because in essence we have convened a meeting this afternoon, we have a tradition that was established when I became President of the Board that prior to each meeting we stand for a moment of silence which both symbolic and real in terms of recognizing the

sacrifices that men and women in uniform perform for our country and our recognition that we are here to serve them.

(Moment of silence.)

DR. POLAND: If I could ask Colonel Gibson then to make some administrative remarks and the I will make some remarks and we'll get started.

COLONEL GIBSON: Please sign the attendance roster that's on the table over here in the corner. This is a Federal Advisory Committee meeting and one of the requirements for that Federal Advisory Committee is that we keep track of the attendees. Restrooms are located outside the back door here. If you have telephone, fax, copy, or message needs, please see Ms. Karen Triplett or Ms. Lisa Jarrett who will take care of that.

The next meeting of the Defense Health Board will be September 19 and 20 in San Antonio, Texas. At that meeting we will complete deliberations on a number of open board business

items and receive briefings on the Defense Disability System, amputee patient care, and we will also tour the Amputee Center at Brooke Army Medical Center.

The Board will also conduct a day-long administrative session on September 18. As a reminder, this meeting is being transcribed to please speak clearly into the microphones and state your name before you begin. Also, turn off pagers, Blackberries, cell phones, et cetera. They may interfere with the sound system.

Finally, my personal thanks to the staff at the Holiday Inn National Airport at Crystal City for their help in making the meeting arrangements. Also thanks to the Defense Health Board staff, Ms. Jean Ward, Ms. Lisa Jarrett, and Ms. Karen Triplett, for the behind-the-scenes work. And I would also add thanks to Colonel Bader and her staff for the corollary work that they've done in making this all happen on the right day at the right time. Thank you.

DR. POLAND: Before we begin our

deliberations, I would like to thank the Co-Chairs and members of the Future of Military Health Care Task Force. The Task Force functions as a subcommittee of the Defense Health Board and therefore is directed by the Federal Advisory Committee Act. We are required to deliberate the Task Force's findings and recommendations in an open session as we are doing.

Since their appointment by the Secretary of Defense on 12 December 2006, the Task Force has been fully engaged in gathering information to fulfill their charge of providing an assessment of and recommendations for sustaining the military health care services being provided to members of the armed forces, retirees, and their families. The congressional language that directed the establishment of the Task Force and define the element of its charge are available to the Board Members under Tab 7 of our notebook.

I would also like to personally comment the efforts of the Task Force and their staff for all of their hard work.

I speak for the entire Board when I say that we believe sustaining medical benefits for all DOD beneficiaries is an absolute necessity with long-term national-security implications. The history of this country is that back in the 1600s in the Plymouth Colony, among the first laws passed were the laws protecting the medical benefits in essence of those involved at the time in the Pequot Indian Wars, so there is a long history in our country of providing for those who serve.

Health care finance and delivery is complex as we all recognize at any level and exponentially more so for the largest military health care system in the world. Military health-care system in the world with a global reach serving a population that is constantly on the move.

The deliberations that we will undertake today will focus on the Task Force Interim Report which the Board all has a copy of. Due to the Secretary of Defense and Congress on 31 May 2007,

keep in mind during these deliberations that while the questions and comments during these deliberations will help to inform the report, the report itself is a product of the Task Force.

I wanted to mention that biographies for the Board Members and Task Force Members are under Tab 2 of our notebooks. For those who are in attendance, the session is intended to provide an opportunity to deliberate the draft findings and recommendations in a forum that is open to the public. The discussions will be between the members of the Defense Health Board and the Task Force on the Future of Military Health Care. If time allows, we will take questions and statements from the public at the end of the session. If that is your desire as a member of the audience, we ask that you register to speak at the desk right at the end of the room here. Everyone, however, has the opportunity to submit written statements to the Board, and those statements may be submitted today at the registration desk or by email at dhb@ha.osd.mil, or may be mailed to the

Defense Health Board office. The address is available on fliers located at the registration desk or you can go our website.

What I would like to do is first start by asking the Co-Chairs for any opening remarks they have, so I will ask General Corley and then Dr. Wilensky to make any comments you would like.

GENERAL CORLEY: Good afternoon and thank you, Dr. Poland and other distinguished members of the Defense Health Board. Dr. Wilensky, myself, as well as the Task Force members who were introduced just moments ago join me in presenting if you will our interim report.

If I could, I'd ask that you allow me to provide just a brief bit of context and perhaps a brief discussion of the problems set as well. If we were to examine back in the 1970s a movement toward our all-volunteer force, we created a group of magnificent career military individuals who along with the active-duty members, our appropriate Reserve component, their dependents have all been receiving health care and many of

them move into retirement increasingly so. Along with that I would say that there has been a commitment to very high-quality health care and that has been linked to recruitment and to retention this all-volunteer force.

As we move the clock forward, in 2006 the rising cost of that military health system led the Department to develop a legislative proposal which also included some increases in premiums, the first proposed in fact in 10 years. That proposal met with resistance from the Congress who in turn directed the creation of this Task Force.

The Task Force's charter of which you have a copy in the appendix to the report as broadly defined addresses 10 areas, some of which I will talk about. They include wellness initiatives, disease management programs, the ability to account for true and accurate costs of military health care, and the cost-sharing structure required to sustain the military health-care benefits over the long term. In addition, the charter requested an interim report which is

what we are going to present today that will have preliminary findings and recommendations regarding cost-sharing under a Pharmacy Benefit Program.

To do this, the Task Force adopted a set of guiding principles that are also included in the report for you, and that was really a way that we began to examine and assess the recommendations and try to measure them.

The Task Force concluded that recommended changes should focus on the health and well-being of the beneficiaries but so in a fiscally responsible manner. Perhaps to provide more detail and more specificity on the interim report, I would like to introduce Dr. Gail Wilensky. Dr. Wilensky is truly a phenomenal resource and has been for our Task Force in terms of providing both unique insight as well as guidance. As you have known and have seen from her and have read from her bio, she has extensive experience in terms of developing public policy relating to health-care writ large, its reform, and to the ongoing changes in terms of the health-

care environment. Dr. Wilensky?

DR. WILENSKY: Thank you very much, General Corley. I would like to note that two more of our Task Force members have arrived, which are Shay Assad and Mr. Henke, and that means that we have 11 of our 14 Task Force members present.

I would like to add briefly to the comments that General Corley has made. We have as you can tell from the bios in your book a broad-based group of experts from inside and outside of the Department of Defense who are represented on the Task Force. The nonmilitary members represent extensive experience and knowledge in terms of health-care financing and delivery as well as some of the best practices that are used in business and elsewhere in government.

Our military colleagues bring a vast knowledge of the military health-care systems and the systems that support it. This group has functioned extremely well together assisted by the very able leadership of General Corley. As someone like myself who has chaired or co-chaired

four other commissions and task forces, my experience working with General Corley has exceeded my experiences in the past and I would like to publicly thank him for his support and help. He has also spoiled me for future co-chairs, so they can stand alerted as of now.

We are all committed on this Task Force to making sure that the best health-care system is available for those who are and have served in the military and for their families, and also to make sure that the military medical mission is well accomplished. We have approached our charge recognizing the importance of achieving greater efficiencies by using best practices both learned in government and elsewhere in the private sector and suggesting some ways that the military can become yet better stewards of the enterprise that it runs.

We also recognized the appropriateness of adjusting financial incentives and cost-shares. The recommendations that we have included in the report that is in front of you are focused in four

areas, improving business and management practices, altering incentives in the pharmacy benefit, cost-sharing and realignment of fee structures, and ensuring that TRICARE is a secondary payer. Let me just summarize briefly these recommendations in each of these four areas.

In terms of improved business and management practices, we are recommending that pharmacy acquisition strategies be reviewed to be sure that they are written to as to allow for the best business practices from the private sector, and also to conduct eligibility audits regarding the accuracy of eligibility measures in the DEER (?) system. The second area is altering incentives in pharmacy benefits. We are recommending that there be a change in the co-pay for prescriptions filled outside of the military treatment facility. To increased use of the most cost-effective alternatives, we want to encourage greater outreach to be done to encourage the use of the mail-order pharmacy and other best practices of private companies, and will provide

greater specificity on precisely we think this should be done in our final report.

With regard to the third area that we were asked to opine on with regard to the interim report, it relates to issues concerning cost-sharing and realignment of fees. We have been mindful of the need to both be fair to taxpayers in addition to recognizing the years of demanding service that military retirees have provided to the nation. We want to be sure to continue to provide generous benefits when compared either to public plans or to private plans, but to recognize the very large expansions in benefits that have occurred since TRICARE was introduce in the mid-1990s. The portion of the costs borne by beneficiaries should be increased to levels that are below the Federal Employees Health Care Plan or those of generous private-sector plans and set at or below the share that existed when the program first started in 1996. Again, this is an area where we will provide greater specificity in our final report.

Increases that are made should be phased in over a period of 3 to 5 year and if the Congress is concerned about the impact that that has on retirement pay, it could consider having a one-time increase in retirement pay if it thought that was appropriate. We are recommending that there be an annual indexing of premiums and deductibles for the under-65 retirees. Again, the specificity of that will be outlined in our final report. We also think there should be periodic adjustments to the catastrophic cap. Again, if Congress is concerned that this may have an adverse effect on retiree pay, it could make a one-time or several-time adjustment if it believes that to be appropriate.

We think DOD should increase premiums and cost-sharing in a manner for the under-65 retirees which we have dubbed TRICAP like the MEDIGAP policies that wrap around the Medicare program. We are also recommending that the payment structure be tiered so that enrollment fees, deductibles, and co-pays reflect difference

circumstances of retirees such as the retirement pay grade, and again we will provide more specificity in our final report.

The fourth area that we have made recommendations in concerns ensuring that TRICARE remains the secondary payer that it is by law. We are recommending that independent audits be done to ensure TRICARE is in fact the secondary payer. This was true both for services provided in the MTF and also with private payers who are involved in TRICARE.

There are several areas that we will explore in the future. We are presently outlining them. They include looking more at the role that the Reserve and Guard has played in terms of the types of benefits that they receive and their transitions into and off of active-duty care. We will also be addressing the issues that were in our charge that we have not yet addressed in the interim report in some manner in the final report. With that let me turn the microphone back to you.

DR. POLAND: Thank you very much,

General Corley and Dr. Wilensky. What I'd like to do then is open it up for discussions and questions from the Board and dialogue then with the Task Force. What I'd like to do is first start with any particular comments or questions, and because our time is limited until about 4 o'clock, we are going to need to focus our discussions here. First, are there any questions or discussion about the guiding principles? I will just start with one and wonder whether there was some consideration to two things. One, trying to maintain a set of benefits that are just let me use the word promised at the time somebody enters into military service and maintaining those throughout their service. So they may change and may in fact be different at different points in time for different people, but when they come in if they're told they could count on X. Then related to that, was there any discussion about differential benefits for somebody who would be injured in uniform during an act of war for example that would have lifelong implications for

their health care?

DR. WILENSKY: I'll answer the first part, but I would like to turn it over to one of our surgeons general for the second piece of that with regard to those who are injured, but also they are welcome to comment on the first part as well.

The issue about maintaining the promise is one which we raised among ourselves, had many discussions in open meeting in our meetings in Washington but also as part of our 2-day activity in San Antonio where we had a town meeting and panels of individuals who were speaking before us. We are very mindful of the issue as an emotional and important one.

What we have looked at is to try to within the context of the benefits that were promised particularly the start of the TRICARE program, looked at them in terms of a package of benefits and looked at them in terms of the expansion in benefits that have been made since the program was initiated. It is why when we

talked about altering the deductibles or fees we have left to not exceed the share of costs that it started in 1995 but to be mindful of the very substantial benefits that have occurred without any changes of any sort with regard to fees and co-pays.

As you know, my background is from Medicare and financing of health care and the notion of having small annual changes in deductibles and premiums are integral to the entitlement that exists for our senior population. So while we had a lot of discussion about the issue, we believed that what we are proposing now with both the gradual introduction, the maintenance well beyond what exists in the public or private sector, and not to require a cost-share that would be greater than what was initiated in the 1995 is very consistent with the notion of keeping the promise that individuals were given.

LIEUTENANT GENERAL ROUDEBUSH: Yes, if might speak to your second question relative to the care of individuals wounded in combat or in

wartime circumstances, our charter did not guide us in that direction as a specific area of focus, but that care would certainly fall within our purview in the broader sense. The task forces and the commissions that are currently looking specifically at that care, to include the entire spectrum of both care of the wounded and then the disability evaluation process and the subsequent care of those individuals will certainly inform our discussions as we go forward. So while those activities are more narrowly focused and I think are doing some very important and valuable work in illustrating what the issues are and how we can best attend to them, we will be looking to those bodies of work to help inform our processes to assure that there is coherence and consonance across the spectrum of care for all our beneficiaries many of whom will have been injured in combat but many of whom will have significant or very serious illness and injury that would certainly be cared for within the same processes and activities. So all categories of

beneficiaries certainly be within our purview.

DR. POLAND: Dr. Silva, did you have a comment or question?

DR. SILVA: I found the report very interesting and very much up to date and struggled with some of these problems when I used to be dean -- health care system at the University of California, Davis. We went through much of the same logic.

I think the main beneficiary is the American taxpayer because there are wasted dollars by the way the military distributes its drugs. So the mail-order business I think is a no-brainer and even how one uses TRICARE and forces TRICARE to be secondary and not primary, I am a little concerned about the co-pay and I wanted to know from the committee how raucous was the meeting that was held with the enlisted panels or spouses? How much heat is going to be generated?

DR. WILENSKY: I think there was less pushback to the notion if it was regarded as reasonable. We repeatedly heard acknowledgement

that some change in premiums were likely and the question would be at what level, at what type of indexing, and how quickly would it be phased in. I think there has been widespread recognition that zero change which has resulted by the way in having individuals who were initially paying 11-percent of health-care now paying 4 percent for the under under-65 retirees, again that's the focus of our attention, is very a unusual experience in this day and age.

There was some discussion but very interesting as it evolved over time about the notion of tiering, of having different fee increases or fees for individuals according to their grade at retirement or some other distinction. There were some group who did not believe that that was appropriate, representative groups, but we found far more individuals at both the low end and the highest levels who supported the notion as being fair and appropriate since their pay when they were in the military was differentiated and their pay at retirement was

differentiated, and this seemed very consistent. But there were certainly representations from some groups not to go this direction, but not the majority of comments.

MAJOR GENERAL ADAMS: I think the comment I would make is at least I think three of the groups were all active duty and of course the issue of co-pays is not relevant to the active duty, so that really wasn't one of their primary focuses in terms of communicating with us.

DR. POLAND: I did want to call attention to one thing that I found very innovative actually and I suppose reflective of what happens in the private sector. That is as was pointed out there had been I think four expansions or so of the benefits with not necessarily a long-term view to what the cumulative impact of those would be, and the report on page 3 calls for when making changes in practice or policy, pilot studies or demonstration projects should be used and I think that was a fabulous idea and an innovative one. In fact, I

even wondered about strengthening the language and saying would be required, but that's nit-picky.

I would hear a little bit or be informed a little bit about the discussion around that because it really relates to I think sort of a capstone statement that occurs throughout the report particularly on page 15 where it talks about not diminishing the trust. That decision almost gets taken out of one's hands if a cumulative expansion of benefits occurs that is not well coordinated and for which there are not long-term projections, you have no choice but to pull back from some of those. How would you view that as happening? And it almost relates to an idea I had for a principle of there being something in place that would help guide the evolution of the system. Characteristically, what we all do is we set what we think is a really good system in place and then tamper with it temporally over time but not really in a directed, principled way that allows one to predict how things will evolve and what the processes used would be.

DR. WILENSKY: The call for pilots was particularly focused to the adoption of strategies that were either new to the military or new, period. Actually had a discussion about whether to make it mandatory as opposed to suggested and one of the reasons not to do that is some of our suggestions are so commonplace in our sectors, either other public or the private sector, there seemed to be less reason to have a pilot whereas other strategies that might be thought to be significantly different for this population or just innovative in their own ought not to be attempted without pilots.

The comments with regard to the attention to the financial implications of benefit expansions was more in the nature of a plea to the Congress to be mindful of the longer-term ramifications but recognizing that there really is no way we can force that to occur.

GENERAL CORLEY: That was really what was reflected if you will at the top of page 5 and although principally under the Cost-Sharing

Realignment Fee Structure section where it says, "Benefits have been expanded but it really wasn't clear whether the expansions as implemented were done based on some assessment of the impacts or the effects." We could find no empirical evidence to suggest and no one has presented themselves yet to say that that was the case, there was just a rapid expansion of benefits especially over a given period of time. Then in fairness, there were decisions on the part of the Department not to make increases where they did possess authority which resulted in the share basis for example that Dr. Wilensky talked about before falling from an 11 percent to a 4 percent which was counterintuitive when in the larger population those percentages in increases was in fact increasing or in some respects up as high as 25 to 28 percent.

DR. POLAND: Then the last of my question about would it be appropriate, this one focuses more on a certain set of the large charge that you received, to have something in there that

would guide the process by which future changes would be made so that 10, 15, to 20 years from now we're not back, it won't be us anyway, with somebody else trying to get their hands around a system that had changed substantially maybe in piecemeal fashion in trying to reinvent it yet again.

DR. WILENSKY: At some level you can say that that occurs now because CBO has to score any legislative change if it is a change that occurs through legislation.

It is possible although we have not considered it as our group to put floors in place as for example happens in the Medicare program Part B premium where Congress when it was not inclined to do annual increases to keep the senior share constant, put a floor of 25 percent below which the seniors' share cannot fall. So there are ways to try to put boundaries on the financial ramifications, but I think there was enough sophistication around the table to recognize that it is hard to effectively tell Congress it can't

do things, we can only try to alert people of the consequences of their actions.

DR. POLAND: I try to do that as a parent of adolescents too.

Another question that I have pending others that come from the Board, I really pondered this one, and that was the idea that evidently it turns out that a number of people ineligible for benefits were receiving benefits which on the surface it seems like an easy fix, but as I thought of it more and I want to be educated a little bit here, and the Board too, we might think that way from the private sector where we are in fixed installations and relatively small numbers of people, but I was really struck by the idea of the complexity of this system and the largest military health-care system I suppose we could say in the history of mankind. How difficult will it be to fix that part of it? I really didn't see an easy solution to what seems like an easy problem. It would be interesting to hear a little of the discussion of that.

DR. WILENSKY: We don't know that it's a problem. It was raised as an issue that is known to exist in the private sector. We have suggested two areas where we might there may be problems one of which does have some empirical support and one of which does not.

I don't think any of us were aware that there is an eligibility problem with regard to the DEERs system, but the fact is the types of checks that occur which is checking I.D. at the time of use is different from the kind of spot audits that could be done to make sure that the eligibility is in fact appropriate. What our recommendation is to do those see whether or not there is a problem.

There is some evidence with regard to the other area that we have suggested for a right for audit that has to do with whether TRICARE is truly serving as a secondary payer. The GAO has indicated in the past that some of the treatment that is provided through the MTF may in fact have private payment available for funding. But there has also been the issue that it is not clear that

people are reporting when they have private insurance. It is a field that is frequently left blank when individuals use care. So the suspicion is that they may not be reporting private insurance where private insurance exists, but they use it some of the time and they use the TRICARE Extra or Standard other times. This again is a problem that Medicare faces when Medicare is supposed to be a secondary payer and people who are over 65 and are working with private insurance. So there is a little more indication there that there actually may be a problem. The other was more as a best-practice strategy, we ought to look and make sure there's not a problem, but we don't really have any indication there is a problem.

GENERAL CORLEY: To pile on, the thought process was with an eligible population of 9 million people, we need to at least establish a baseline. I agree and I believe the other Task Force members do and even Dr. Galvin who may have identified this issue for us to start with that

there could be an area that would potentially worth an examination from a control measures standpoint, from a best-business, not a best health practices, but a best-business practice worthy of examination.

DR. LOCKEY: I was just curious, in the pharmacy acquisition process, and I'm not knowledgeable in this area, but would that be open to pharmaceutical houses within the United States only or would you suggest that that should be something that can go across borders?

DR. WILENSKY: This is an issue where we are not sure whether we have a problem. There is a single pharmacy benefits manager at Express Scripts who holds the contract for all of TRICARE. We heard from some of the other large PBMs that there are provisions in the language that would preclude from their viewpoint the use of best practices in the private sector. We had some discussion among ourselves and I think we are not positive we either sufficiently understand or agree whether or not that is the case. We have

the advantage of having Shay Assad on our Task Force.

But we indicated that if these large PBMs believe there are provisions that are precluding them from doing their best practices, that in and of itself may be a problem and that we need to make sure that we don't have that. We had heard similar generalized comments with regard to some of the contracting issues in TRICARE in general, just the plea to make sure that the contractual language allowed for best practices most integration of care. We have started now for example in our meeting yesterday listening to various proposals for disease management and wellness and those are issues as we go forward that will be both incentives in making sure that incentives are aligned for best practices and that contractual language allows for the adoption of best practices. It quickly gets very complicated and we had a little bit of dueling views of this issue.

GENERAL CORLEY: If I can, and then I

might ask Shay to comment on this as well, the recommendation was to go back and have an assessment of the acquisition strategies and that's why we're asking for an acquisition strategy expert to try to provide some help to us, because we don't really understand whether this is a legitimate procurement process problem or whether or not we had companies that testified in front of the Task Force that had either an inappropriate or an improper interpretation of a legal provision in terms of the governing of the beneficiary contract. So we did not to the first portion of your question examine other countries and other pharmacies. This was more acquisition strategy procurement process. Shay, do you want to comment on that?

MR. ASSAD: Yes, sir, I think that's an accurate portrayal of the situation. What we're going to do is most of the industrial companies that testified suggested I believe that the contracts were structured in a manner that prevented them from implementing best practice,

and obviously we want to take advantage of commercial best practice whenever we can. So we're going to go back and examine the details of our acquisition strategy as we go forward in our next set of contracts to see if in fact that's the case.

As Gail mentioned, on first blush we don't think that's a problem, we think it may just be an issue of interpretation, but we need to go back and relook at it. In any case, we also are going to expand the opportunities for companies to come in and talk to us about the concerns that they may have with that process so that they understand it and therefore will be able to compete in an environment where they feel they're getting a fair shake.

DR. POLAND: Dr. Parkinson, and then Dr. Pronk. I'm sorry.

GENERAL CORLEY: Just one more quick response to that. There is a law that requires that all of the pharmaceuticals and devices that are used with military members be FDA approved so

that limits the amount of overseas acquisition that could be looked at at the start.

DR. POLAND: Mike?

DR. PARKINSON: Thank you. Mike Parkinson. I think the report is good as it stands. It's a good report because it answers the interim mail which was they want you to comment on the pharmacy and on cost-sharing, but I just want to make a comment and then about two or three questions if I can. My experience in working with now hundreds of companies, and I know Bob is in your Task Force, and Dr. Wilensky you have a lot of experience with this, is it's the tyranny of the stovepipe benefit plans. Employers are now realizing that if I've got PBM vendor and I've got a health plan vendor and I've got a wellness vendor and I've got a disease-management vendor, I'm probably overpaying in every stovepipe and that no one has really integrated it for me in a way that makes sense to my consumer, and by the way, how much does it really cost.

My urge to the Task Force is to be a

relentless purchaser with the taxpayer's dollars to get rid of stovepipes and also to get rid of fees and hidden things that frankly military retirees and beneficiaries really don't care about. What I'm concerned about, we've had some conversation over here about reviewing of the acquisition process because I think it's key, so this is a great interim report. I love the broad scope of the charge here. But in answering just this narrow mail, I hope that we maintain our eye on the prize which is true integration and absolute efficiency that may or may not be stovepipe purchasing of these benefits that we have historically done under TRICARE.

To wit, with pharmacy I go back to that in three buckets, the purchasing of the pharmaceuticals themselves, the benefit design around the pharmaceuticals, and third is the utilization around the pharmaceuticals. What I didn't see in the report is a magnitude of the problem of the pharmacy purchasing. Do we know what proportion of generics for example that DOD

beneficiaries use to relative to best-practice civilian populations? Is that small delta, is it a big delta? It alluded to the fact that it's an issue and we are not optimizing it. Do we know the dollar value of that or the proportion of generics that we're shooting for?

DR. WILENSKY: Let me response a little bit to this first part that you've raised, and I think my colleagues are very sensitive to the issue of the stovepipe. A decision was made for a variety of reasons in the last contracting to have the pharmacy benefit separate from the TRICARE contracts. This will be an issue I don't know where we will come out, but there obviously are tradeoffs involved in terms of integration which would suggest having them be part or in terms of leverage of having them be together, and we will have to deal with that issue. But we have already started that discussion. I'm not sure how specific our recommendations in that area will be, but we will certainly consider that as an issue. And as I've said, we have already started on

discussing issues such as wellness and disease management and how one integrates into their plans and making sure that the incentives are such that if they are separate that they are aligned so that you don't have a push not to do this because of the financial incentives that are in place.

With regard to the generic issue, the military as you probably know is in somewhat of a different position than most other utilizers. It is basically more akin to a state that's a mandatory generic substitution state like Massachusetts for example where the nature of the formulary is where there are generics, generics are used, so it's the ultimate incentive.

Our concern had been more with regard to either making sure that there was best practice with regard to preferred drugs and that the tiering was appropriate. And particularly where we thought there was a lot of potential which is the mail order for chronic meds which has not been used very extensively although there has been some attempt toward outreach and there are some users.

So that was why our focus at this point was to go for the lowest-hanging fruit available and by differentiating financially as well as encouraging the outreach to try to drive much higher use. The question about how do you integrate better prescribing into physician and hospital care is an issue that we will deal with in the final report.

DR. POLAND: General Kelley, did you want to make a comment?

MAJOR GENERAL KELLEY: Just to expand that a little bit. Because of the mandatory substitution, we have a very high use of generics, even higher than most plans in states where they have substitution. As far as the tiering goes, we are pushing currently to use generics based on the tiering, but the cost differential between the tiers is such that it doesn't provide an incentive. And generics may not be the best drug for the patient but the patient may chose that because generics have one co-pay and if there is a newer drug that is only in the brand-name status, it has a higher co-pay. So many of the plans that

we saw used a tiering based on best clinical practices and because you get a better outcome, overall costs are decreased, although pharmacy costs may be increased, but you have a better overall outcome. So that is an area that we wanted to look at in greater detail also.

DR. POLAND: Dr. Corley?

GENERAL CORLEY: If I can, there is a limited amount of additional information in one aspect of your question I believe back to utilization and point of service and why we think there is a substantive delta between where we are today in the Department of Defense and potential best practices that exit.

If you look in just about the past 4 or years' worth of our eligible population, we're seeing of that eligible population an increase in the use of the pharmacy benefit, so more people are taking advantage of that benefit. Where are they going in terms of point of service to obtain that pharmacy benefit? Here is where I think some of the statistical data is a little bit

disturbing.

If we look at areas where we have a degree of control inside of our military treatment facilities, getting that pharmacy benefit there is decreasing and has substantively. If we take a look inside of mail order, regrettably, it too is going down, a bit counterintuitive in terms of the testimony that we received from some others that might be considered best practices.

Where we are seeing a remarkable expansion is in the retail side and as you can obviously tell, with a pretty substantial economic impact there, so to one aspect of it that does give you some trend information that suggests we need to get after this point of service incentives how we deal with the issue.

DR. PARKINSON: If I can just follow on that because those points led right what is very helpful, and again just to share our experiences, in companies that I've worked work with that start moving towards what I would call heavy-handed mail order, mandate is too strong a word, but painful

incentives get pretty closer to it, the employee pushback is oftentimes pretty considerable, and oftentimes what we find is that giving a broader array of choices with a true market exposure and transparency of price is pretty well received.

As you know, the private sector, not the health plan or the PBMs, are coming up new innovative alternative delivery models called Wal-Mart for $4. It won't be too long in this rapidly moving space I predict that the retailization of the pharmacy outside of the PBM industry and perhaps such things as General Kelley mentioned, the value-based benefit designs which are all about if you know anything about the consumer-driven movement, it's to differentiate the things that work and are evidence-based and those things that are largely discretionary and not evidence-based and to float those prices to whatever the consumer and the doctor thinks it's worth, but when you post the real price, it drops like a rock.

So all of my comments are here about to

stay one step ahead of a dramatically changing pharmaceutical marketplace and not be too beholden to our acquisition process thinking or the current vendors and stovepipes because I think this train is moving very fast. As many of you know on the panel, Dr. Wilensky, I don't mean to replace that, but DOD could lead this movement with some innovative purchasing models that are really not even out there yet as much as building on the ones we already have. So I think it's great.

The final comment is that the military has led this in the past. It's called the PEC, the Pharmacoeconomics Center. We were one of the first to compare drug/drug because the FDA doesn't do it to what works. So you've already got an infrastructure inside DOD to do pharmaceutical analysis and then translate that into vigorous purchasing models.

The last question and I assume it's politically off the table because it gets to much press, and that is the VA purchases drugs I guess very differently at the point of source of the

manufacturer versus the way DOD can or does do it. Is that just off the table completely given the current political climate around that issue?

DR. WILENSKY: We think it is actually well reflected in the differentiation that is being proposed and that exists now which is the MTF and the mail order have access to the Federal Supply Schedule and like the VA take over the distribution costs. While the retail pharmacists and the PBMs or those who would like to have that contract would like to have that lower price enforced by law, the fact is they don't take over that distribution cost. So I think politically Congress can do as it will on that, but at an economic and policy level, it is hard to justify enforcing a low price when the functions are fundamentally different. The fact is that a retail pharmacy is a more expensive distribution source because the distribution costs are not being absorbed. And some of the groups who had not come in claimed that they could substantially beat the Federal Supply Schedule anyway, and our

attitude was great, go for it.

So I think the notion of trying to design to try to achieve best practices very much fits in with the notion of considering a pilot that would differentiate tiered payments with value-based design. I am personally a big fan of the value-based design and tying it with comparative clinical effectiveness, but we would have to be mindful that this really is not being used elsewhere and it would be terrific to try it and make sure that we were comfortable. It would not be wise to try to impose it on a system as large as the DOD health-care system.

DR. POLAND: Dr. Pronk?

DR. PRONK: Thank you. I read the report with much interest and thought that actually most of the focus was on financial issues related to pharmacy use rather than medical-management issues that really provides opportunities as well. In particular I was thinking about the use of PBM data that can be used in terms of crafting strategies in the

medical-management area to stimulate the appropriate use of pharmaceuticals rather than seeing overuse, misuse, or underuse, such that the data can used by an intervention team if you will that crafts strategies in the area of medication possession rations or compliance data can be used for that. Could you tell us a little bit did you discuss those kinds of approaches or do they fall more under the disease-management kind of strategies?

DR. WILENSKY: The first answer is we focused where we did because we were directed by the Congress to report on these issues in the Interim Report, so that was a practical concern that we needed to address.

And the answer is yes with regard to the second, that is, we think that the proper or best use of pharmaceuticals in support of medical management is an important issue. We have already begun to discuss this in the last two sessions when we've dealt with wellness and disease management, and we will have it as well as several

others areas that we will be looking at over the course of the next 6 months as we prepare for the final report.

MAJOR GENERAL KELLEY: I think that in answer to that also, one of the direct things that you talked about integrating and using the pharmacy data either for disease management or even increase the use of the TMA pharmacy, the contractors felt that there were prohibitions from doing that based on the current contract. That may not be true and we're looking at that, but that was one of the things that also was addressed, that is the contract design preventing because it separated disease management and pharmacy benefits and health care delivery, was that actually inhibiting doing the best practices. That's one example of that.

DR. POLAND: Dr. Shamoo?

DR. SHAMOO: Adil Shamoo. Most of these questions are on medical economics and obviously they influence everything. As you all know, there is a Mental-Health Task Force and I was wondering

if you have built in some safeguards in the application of this in the future so it will not perpetuate the stigma and the bias toward acquisition of mental-health services.

LIEUTENANT GENERAL ROUDEBUSH: If I may again, in some similarity to Dr. Prong's question relative to the care of the wounded, the work that is being done within the Mental-Health Task Force I think is addressing some of those issues very directly and in a way that I think again will inform our deliberations and our discussions so that we an assure that that's properly reflected and that our deliberations and any recommendations that we might provide either incorporate those aspects are or assured not to impede the kinds of things that I think you very correctly referred to in terms of moving ahead in the area of mental-health treatment and prevention.

DR. WILENSKY: It is also in the area that the presidential commission which I also serve on is looking at in a very focused way. So I would hope between these two other efforts that

we can incorporate whatever is appropriate to make sure that we not exacerbate a problem.

GENERAL CORLEY: Joe, do you want to comment at all on the seven lines of action and the integration of a number of task forces that you have currently ongoing inside the Department, although your question in large measure has not been addressed and is not inside of the scope of this charter, that is not to say that it is not being assessed in other task forces. The dilemma and the concern is, to Jim's point, how do we make sure we have an integrated effort, how do we make sure we don't impede some efforts?

MAJOR GENERAL KELLEY: Yes, sir. There is a Senior Oversight Committee that has been meeting now for 3 weeks chaired by the Deputy Secretary of Defense and the Deputy Secretary of the VA and all the senior leaders from the departments both DOD and the services, the Joint Staff, as well as the VA, and both representatives from the health side as well as from the benefits side. This Task Force when we were chartered did

not deal with VA issues, so if it was a VA issue, it was outside the scope of this Task Force. However, that Senior Oversight Group is within those issues and so that will be the area where we work on resolving those things. I think it goes back to Dr. Poland's first question about are we dealing with that, and the issue of differential pay is probably more a VA issue, but it certainly is a combined issue to be worked between the two and that was an actual discussion item at the meeting that was this week.

So those wider issues that involve interagency issues are being addressed and I think in the next few weeks there will be some more information coming out about those, but there are seven different areas that are being looked at and there is a specific group that is looking at traumatic brain injury and posttraumatic stress disorder and in that is the whole stress relationship thing and the mental health. So I think that those will be addressed in that forum across the departments.

DR. POLAND: Dr. Parkinson?

DR. PARKINSON: I apologize for coming back again, but some more questions what I think is very constructive. I would hope that the demonstration authority or the demonstration thoughts that you have include a major commitment to at least pilot a consumer-driven model. Most employers will be implementing consumer-driven plans this year. They are uniquely suited I think to the military philosophy of primary emphasis on prevention with evidence-based care with incentives, and I've provided as background material to Colonel Bader some of the experience that we've had in over 100 companies doing this.

But the importance is the total transparency of the cost and that the consumer sees the resources spent on their behalf as his or her own whether or not they are in an HRA or whether they really are in an HAS. What it does is a couple of things. We only focus on prescription drugs, we take over-the-counter alternatives which in many cases are the same drug

off the table because the OTCs actually cost more than the current no co-pay of a prescription drug. We have seen this where essentially I'll get my purple by prescription but I've got Prilosec OTC which under the perverse incentives of a co-pay model actually is cheaper to get the prescription than the OTC which is biologically equivalent. So somewhere in the discussion should be OTC alternatives to the most-commonly prescribed drugs, and looking at all 100 companies we look at, in DOD I'm sure the top three categories of drugs are some version of a purple pill which is going to be your Nexium and Prilosec, that group, because it is in all the companies we look, antidepressants, antienceolitics (?) and sleeping pills for which often times there is very few generic equivalents and they certainly aren't pushed, so it's very high, and the third group of course is all your statin drugs. If we can look at the OTC piece equivalence to some of this in the dialogue, it would be useful.

MAJOR GENERAL KELLEY: And I think that

that was looked at in the same concept that we talked about, the value tiering, and so some of the companies that presented to us did use a small number of OTCs because of the cost differential and the equivalence in treatment capability, Prilosec being one.

DR. PARKINSON: Look into some of those.

MAJOR GENERAL KELLEY: Yes, and so that is the value proposition.

DR. PARKINSON: Perfect. Thank you.

DR. WILENSKY: We will definitely look at the HSA issue. It is an issue that we have indicated we will consider. It will be important to look at the likely economic effects. It is not clear. As somebody who is an HSA proponent in general, I think we need to do some financial estimates and make sure that it would actually be the soundest strategy for the particular population that we have here. It is very different because of the distribution of users, and particularly the distribution for the under-65 retirees between the Prime, Extra, and Standard

make it not clear that you would be financially better off within HSA with that population. So it is something that we have on the table but I think we would want to do careful both financial analysis as well as look at the incentive structure as the effective medical case use and to make sure that was the best way to try to get responsible behavior as opposed to potentially other strategies.

DR. PARKINSON: I might just add my experience in dealing with this issue, and we spend some time on the Hill not surprisingly during this time of the year, I think the HSA is overly politicized or certainly can become overly politicized particularly in a very benefit-rich environment. The HRA with incentives gets pretty much the same economic return and result with just the consumer seeing the money spent on their behalf by DOD as their own money with some rollover potential and that I think is probably more powerful and appropriate as it is for most employers than at HSA. So down the road as you

get to that juncture, you may want to opt for some experience and thoughts there, but I do think it's very powerful because it removes the third party from saying you must do a tiered anything, here's the cost, here's the options, talk to your doctor, and we immediately see a 15-percent reduction in pharmaceutical with zero to no friction compared to a PPO with three to five tiers. Pharmaceutical companies and PBMs are looking at this movement very suspect because it produces some dramatic results.

DR. WILENSKY: And I think while we look at it, the formulary-driven nature of the DOD really is very different both in terms of the use of generics but also the limited use of other brand products because of the Pharmacoeconomic Advisory Group that goes through a lot of these activities where in other companies it is a much more open vista of what you can choose, but it is certainly worth exploring.

DR. POLAND: I also invite any other members of the Task Force if any thoughts come to

mind regarding the questions that have been asked.

LIEUTENANT GENERAL ROUDEBUSH: If I might just add one comment for Dr. Parkinson's thoughts, I think it is a very valuable construct to look at. We have had some very wide ranging and I think very interesting and productive discussions within the Task Force, but in some aspects, HSA begins to alter the pay and benefit package that the fundamental compensation package certainly for active duty and retires. So the impact on that baseline to keep equity across the system if in fact we took a slightly different tact in that would be a consideration so it begins to move out of the health benefit and into the broader pay and benefit scheme. So it's just an aspect that also comes into play when we discuss opportunities or options such as that.

DR. POLAND: Dr. Silva?

DR. SILVA: One thing raised, a question, which is how much of an audit will count for false billing? Do you have any notions of what that is? Because people are on military

bases and who's using their I.D. cards, it did creep into the record as a recommendation and I was surprised at that. Are there going to be substantial savings here?

DR. WILENSKY: I don't think we know, and we are not suggesting a full audit by any means as much as a spot audit to see what we find. We don't know that this is an issue. It was suggested that it has been an issue in even the most carefully structured private plans, you ought not to assume it's not an issue unless you go look. As I've indicated, I think the potential as a secondary payer problem seems more likely, but that again we are assuming a limited audit and the results of a limited audit will suggest whether further audit seems appropriate. If it doesn't produce a lot of return or more return than the cost, then we'd certainly stop. In general, we don't know what we don't know.

DR. SILVER: Thank you.

DR. POLAND: Dr. Lednar?

DR. LEDNAR: Wayne Lednar. Obviously a

very complex issue and a tremendous amount of understanding to get to this point. It seems that for a lot of us, and I am from Eastman Kodak, we get sort of depleted of our energies after we get through the blocking and tackling, the mechanical and structural aspects, how do we set up co-pay and cost-sharing structures, how do we source it, who do we buy it from, how do we distribute it, mail order or retail. But I think there's an opportunity here to really improve the clinical quality and therefore the value to the DOD beneficiaries that I hope can remain in view.

For example, in the area of pharmaceuticals, we spend a tremendous amount of money as an employer in paying for the employer portion of prescription drugs including specialty pharmacy. It is a very sobering and disappointing figure to find out how many of those pills we paid for never leave the bottle, never get out of the medicine cabinet, never get taken, and we wonder why clinical improvement does not occur.

So to the extent that whatever we

purchase can be more fully utilized, whether it's adherence, compliance, helping patients through side effects, I think there are resources that we have not yet effectively engaged to help us get the value out of the money we have already spent. We have found that it isn't necessarily self-evident how the resources of the structural parts can best be put together. For example, PBMs have clinical pharmacists, health plans have behavioral health programs and resources, and how does it fit together? And these stovepipes don't talk to each other.

So it is really our job I think in managing the system to structure it in a way that the parts coordinate, and in fact in our thinking to put enterprise level, supply channel level performance metrics that put all elements of the supply chain at risk for the same performance, the performance of the combined supply chain including fees at risk. So I think we have purchasing technologies that if we full deploy we can get a whole lot more value out of the monies that we're

already spending.

DR. WILENSKY: There is a real problem that exists in the current way benefits are structured for retirees. I think that is and should be a matter of some importance and is of some importance for the active duty and their dependents. And it is also easy to see that for the retiree Prime program which is MTF based. The problem is that so much of the resources are and will in the future be going to under-65 retirees who are part-time users of the Department of Defense TRICARE system because they have Extra or Standard so they use the military system on a part-time but not full-time basis for the most part with these individuals. In addition, we have even higher users of the over-65 population which use Medicare and TRICARE and attempting to get integrated delivery becomes extremely difficult because these are individuals who depending on where they live may sometimes use the Medicare private system, may sometimes use the MTF, and they sometimes use the VA, and it really will be

challenging as to how you integrate care when you have people bopping in and out of systems.

I don't know whether this Task Force will look into the issue about whether or not to consider piloting models that would incent people to choose a system and take their money with them or otherwise try to unify where they get care, but as it now stands outside of the activity and their families who are not the expensive part of the users and particularly not the projected expensive part of the users, this is going to be a big challenge to getting the best medical value and the best quality of health care for individuals that have these various points when they use different health-care systems that have nothing to do with each other and don't talk to each other.

DR. POLAND: Any other questions or comments from the Board?

DR. PARKINSON: Yes, Parkinson again. Dealing with many companies that do a lot of business with DOD, they're delighted when they get DOD retirees to come work for them because as you

just said, they've got a bargain and they are not going to have anybody picking up their health-care benefits. So I would encourage your committee because you're given such a broad legislative charge to think creatively about how you deal with military corporate partners around innovative ways to perhaps voucherize a DOD benefit that they can spend. There might be something out there that is not currently on the table that would be very attractive to the 15 companies that you could name right now off the back of your head that make our weapons systems and our intelligence systems and our IT systems that would be attractive and a win-win because they are going to be government contractors for a long period of time and yet the walk away at $460 a year versus what they're spending which is $14,500 for a family of four this year is far apart, but there may be a new business model out there that they create every day in thinking about news ways of doing contracting. So I would encourage you to do that because we see the other side where frankly they

count on the ghosts or the antighosts or whatever the military calls them, somewhere in between there might be a middle ground which makes good clinical sense for us and business sense for them.

DR. WILENSKY: If you have any ideas, we are already struggling. I've struggled on and off for the last couple of years with this issue and have found it very vexing, so any of you who would like to suggest ideas, please send them to us and we'll gladly consider your thoughts.

DR. POLAND: Are there any other questions from the Board Members, from the Task Force Members? Did I miss one? Sorry, Dr. Shamoo?

DR. SHAMOO: When there is military, at least this is just a point of information since I'm not as expert as you are, there is a job being cost in medical care somewhere. First, is that insignificant, or how does it get covered, or do you just cut everybody else just like it shifts towards a balloon and then everybody else gets shallow?

MAJOR GENERAL KELLEY: For most of the costs that come from a combat operation are covered separately from the budget in supplementals. So there is a big piece of health-care dollars that are being discussed in the supplemental that's on the Hill right now and has been in the news. There is a big chunk of providing extra care that happens which predominantly related to activating Reservists and Guardsmen who were not eligible for care before and now are with all their families, but it also includes other aspects of the care of the injured.

DR. POLAND: General Smith?

MAJOR GENERAL SMITH: That was one of the main points I wanted to drive out as we active besides supplemental one of the vectors that we're looking is with the increased use of the Guard and Reserve in more and more operational phases of the military and then coming with their families where are we going with that? We more had a steady state, but now with the increased use of the Guard and Reserve, we've got to understand of the cost

vectors. So some of the things that we are doing in the Task Force by looking at what are possible cost vectors and pressures on the military health-care system as we look to the future.

We have already stated one was the expansion of some benefits that in 1995 were not there that we are now covering that we weren't covering before where this vector of the Guard and Reserve is more of an operational force and you can be talking about a million-plus when you talk about Guard and Reserve resources coming to the system, there are going to be increased cost vectors that we're still dealing with.

DR. POLAND: The Board will now open the meeting for comments from the public. I think we do have one. Ms. Jarrett, if you would call that individual up.

MS. JARRETT: Steve Strobridge?

MR. STROBRIDGE: My name is Steve Strobridge. I'm the Director of Government Relations for the Military Officers Association of America, and I also Co-Chair the Military

Coalition. We had testified before the Task Force a little bit earlier. The one question I would have is about cost, and particularly when we're talking about a percentage cost-share it is easy to figure out what the numerator is, it's not so easy to figure out what the denominator is.

For example, when the government goes to war and we ship the doctors to Iraq, we send more people to the private sector which costs more money. That is a cost of war. It's not a benefit value to the beneficiary. So our concern is what costs do you exclude, and did the Task Force address that? In other words, what's the cost to the government versus value to the beneficiary?

One other example, when we talk about the costs that we had when TRICARE first came in in 1995, that was when a large share of the care was being delivered in military facilities at no cost to the beneficiaries. We have subsequently downsized all those hospitals and clinics, the services have downsized their medical corps which again drives more beneficiaries to the private

sector which costs the government more money.

On the pharmacy side, we've talked a lot about the benefits of using the mail-order pharmacy and that is one thing the military associations have been very concerned about. We're trying to hold down costs because we're very sensitive that the rising cost creates pressures to say let's charge the beneficiaries more. We have gone to work with the Department of Defense. We have approached them and said let's do a partnership to try to find ways to encourage more beneficiaries to use the mail-order system which we all recognize saves the Department of Defense much more money. The Department of Defense refused to partner with us to do that.

Last year Congress passed a provision, or the Senate did, mandating federal pricing in the retail system. The administration opposed that and it was defeated. The question that we had to the Department of Defense is now since those things cost the government hundreds of millions of dollars, are you now going to deduct

those costs from the DOD cost-share from the denominator of this fraction so that beneficiaries don't have to pay a share of costs that the government imposes on itself by its own inefficiencies?

I'm just anxious to hear whether the Task Force tried to identify the distinction between costs the government imposes on itself versus costs that actually deliver value to the beneficiaries.

DR. WILENSKY: Let me start, and then any of our other Task Force Members are welcome to chime in.

The issue about what actual costs are in the government system are not easy to allocate and it is not clear to me that some of the statements that you've made are correct, and in at least one case with regard to the Federal Supply Schedule, I reject your assumption that it was not taking advantage of an efficiency by not mandating by law that retail pharmacies have access to the Federal Supply Schedule. It is correct that the

government, the administration, did not choose to push for a price control on a retail system that has higher costs than the MTF and the mail order to be given to the retail sector. I would say that is appropriate because in fact the costs of providing care in that sector are distinctly higher because there is not another group taking over the distribution costs as occurs in these other two places.

Furthermore, with proper incentives it is sometimes observed or at least claimed by the PBMs that they can do as well or better. So I would say our strategy has been to both welcome outreach and to suggest incenting users to go to the lower-cost facilities which include the MTF for pharmacy and mail order as appropriate strategies.

With regard to the issue about how to properly allocate costs and whether or not the costs of care in an MTF environment are greater than or lesser than the private sector, I would just tell you the answer is not obvious. It is

very difficult to calculate because among other things the MTFs are run by people who are serving an alternative mission which are seeing now which is military readiness and that has its own costs and consequences. The issue about how much to provide in terms of health care within the bases and how much outside is far more complex than where care used to be provided, and particularly when we are looking at populations that we are discussing which are the over-65 retirees and who are for the most part working, what we are suggesting is to begin to index on an annual basis still providing care that is substantially greater than the more generous private plans or the public plans I think really goes against this notion that we are ignoring the consequences of these actions that go on in an interim process.

So I think we're mindful and we have repeatedly indicated the importance of having the Department be good stewards of trying to get the efficiencies that are possible, to get better value in the pharmacy area, but in other areas

that we will be addressing like disease management and wellness programs. But at the same time, when we look at the financial implications that have occurred with repeated expansions in the program and absolutely zero change in the costs borne, not the costs shared, just the literal costs borne since the program was introduced in 1995, that also suggests itself as being ripe for change.

So we are very interested in finding efficiencies where they exist, but I would not say imposing price controls by law on a more-expensive meets at least my economist's view of an efficiency.

MR. STROBRIDGE: I was giving that as an example rather than an assertion. The frustration I think that the beneficiaries have and the reason very frankly why this Task Force was the formed was the lack of transparency in, as you said, the very uncertainty of what should be counted in calculating these costs.

When we went to the Department of Defense to discuss these kinds of things, and I

think most of our associations would be in the camp that we're not naïve enough to think the costs are going to stay flat forever. On the other hand, it was a conscious DOD decision to keep those costs flat for one thing, and when there is a proposal to raise fees by discussing restoring a percentage of DOD costs that existed at some time in the past, that is what gives rise to the question what exactly are those costs and what are we counting.

I certainly agree with you about the difficulty of saying how do you attribute the costs of care in military facilities when part of our facility is built to care for those who go to war, to address their wounds, and that's exactly one of the reasons why we're saying we do think that to have credibility with beneficiaries if we're going to base some cost-sharing on percentage of DOD costs, we do have to be clear and have a reasonable and understandable agreement on what costs we're talking about, what is attributed.

I certainly concede the difficulty. If it were easy, there wouldn't be a Task Force. All I'm asking is that the Task Force try to address that.

DR. WILENSKY: One correction. I said over 65 when I meant that our focus is on the under-65 retiree population. You have spoken to us. As you know, our deliberations are open. We have begun to hear from and will continue to hear from individuals to help guide us in terms of understanding what projections reflect what's in the numerator and denominator. We have not suggested tying the co-pay to a particular percentage of DOD costs. What we have noted is that there has been a precipitous decline which I would say however you're going to define the numerator or denominator would show up since the numerator has been flat dollars and the denominator like every health-care cost has not been. So that it is directionally clear and what we have proposed in our Interim Report is the importance of picking an amount, deciding on an

index which we discussed the various indices that we are inclining toward although have not chosen one, and that we will make sure that at the end what we have done will not make individuals worse off in terms of having the share of costs that were covered when this program started before the several expansions are not at least that good. So we have not suggested a system that literally keeps it at an X percent of DOD cost irrespective of what else has gone on.

But mainly our deliberations are open and anyone who is interested should come and listen to where we are and send in whatever comments or otherwise involves themselves as they wish.

DR. POLAND: I think a couple of the Task Force Members also have comments.

MAJOR GENERAL ADAMS: I think Steve you actually gave us more of an answer than you think and I think it's in the second part of your statement specific to the value to the beneficiary. That is much easier for us to

quantify and I think we just heard a number from the other side of the table where the value of the health benefit to outside corporations is around $14,000 a year for what we in TRICARE are paying around $400 a year. So I think we need to look then what is the value to our beneficiaries and then what is reasonable and fair in relationship to the value of the care they're receiving. The health-care benefit that we're giving today is much better and different than what the promises were made for in the mid-1950s when we talked about space-available care in military treatment facilities. Now it's not space available, it's I dare say universal access between the network physicians at our MTFs and it's the highest quality of a benefit with very few limitations. So I think if we start looking, because we can argue the costs and the variables, they change almost daily in terms of the deliverable, but what doesn't change is the value of the benefit and what is represented there.

MAJOR GENERAL SMITH: A couple things

that we have been doing on this getting arms around the costs in our deliberations in some other meetings, one, we have had all the Surgeons General in and we have discussed like efficiency wedges and the processes of Six Sigma to see if we can help validate some of the costs and get some of this transparency understood. We have been working those processes. We have also had the head of the GAO and the GAO is due out this month where we had demanded from the Military Coalition about an independent report Senator Lindsey Graham had of the costs that were going on in DOD both from procedures being paid and what are we paying for procedures and equipment. That report is due in at the end of May according to Dave Walker which will also give us an insight about the costs that are in this DOD formula. And yes, we are trying to understand. We know that there's war costs which are going to be a little different with supplementals and things, but we've also got to figure out as we alluded to earlier that military readiness, what does that really cost us

as part of the formula. It's not clear that when you have to have doctors and nurses and people in place what that cost is for military readiness. It is not the same cost you're just having people in place to do a process.

But those issues are being addressed and we've had several meetings getting into the DOD costs from several different aspects. As a matter of fact, we even brought back one of the people who testified at the very first hearing for another session of going through costs. So I can at least think of three or four times we have had DOD in going through their costs and trying to understand and increase our awareness of understanding before we propose any type of possible fee structure changes because we're trying to make ourselves sure that we understand as you said numerators and denominators. So there are significant efforts going on in that range.

DR. POLAND: In the interests of time, what I'm going to now ask is if Dr. Wilensky, General Corley, and then Secretary Cassells have

any summary comments to make, I'll make some summary comments, and then we'll be adjourned.

DR. WILENSKY: Dr. Wilensky, do you have any summary? General Corley? Secretary Cassells?

SECRETARY CASSELLS: Thanks, Dr. Poland, Dr. Wilensky, General Corley. I'm new at this but I can see -- I thought I was getting a handle on this so I came to this meeting. This is a very, very complicated topic, but on behalf of Secretary England and Secretary Gates, I want to thank the members for putting so much effort into this, thoughtful effort, and obviously passionate effort. And to have this much time from our Surgeons General and General Myers, it's fantastic for health affairs. We are just delighted with this help, and I'm sorry Ellen Embry can't be here. I want to acknowledge her work on this. And particularly Admiral Arthur who is serving on two other Task Forces as well, mental health and traumatic brain injury, when he really could be sharpening up his putting now, and here he is serving on all these task forces.

We have had a big strategic planning process at Health Affairs over quite a few months. Many of you have participated. It's triggered lots of light and a little bit of heat and the ball has moved pretty down the field. A couple principles that really are guiding our thinking right now have been alluded to already, transparency as Mr. Strobridge said, keeping our casualties and their families first and foremost in your minds, shifting the locus of control as much as possible over time to the patient and their family so that they have ownership of the process so that they have more choices, and that is not as strong a tradition in the paternalistic military health system as it is in some other systems, and Mr. Parkinson alluded to this and I appreciate that.

As we move forward with your electronic records, we hope to be more informative, more transparent, and to give patients the tools they need and many of them want already to drive their own health care. I think you said patient-driven

health care, Mr. Parkinson, I'm certainly on board on that. And we hope to give them for example web-based tools for triage. As some of the spouses said at Fort Bragg yesterday, when my husband is away I don't want to spend 6 hours in the ER and then go home with Tylenol, I'd like to be able to get some guidance on the web and avoid that visit to the ER. I'm a part-time teacher, I got kids in school, this is a pressing need for me. So a personalized health record that they own and take control, triage tools, educational tools, and I think Dr. Wilensky said incentives for prevention, incentivizing certain outcomes, paying not by the number of patients you've seen, but by whether they're lost weight, whether they've got their blood pressure down, whether their cholesterol is down and their sugar, whether they're getting their mammograms and their vaccinations. Incentives for the doctor, for the patient, for the nurse and her team, for the system, these are all doable now. We're moving in this direction not as quickly as any of us would

like.

When we have that system in place we will see that there are opportunities beyond the pharmacological, someone alluded to this and thank you for that. Pharmacy is a big item in our budget. Half of those ladies at Fort Bragg, I think if I could get them going out and exercising every day in the sun we would have stronger bones, better cardiovascular fitness, better balance, fewer falls. Secretary Gates has charged me with reducing accidents in the military. And better mood. These kinds of things are not pharmacologic and we need to keep some of these things in mind. So Dr. Wilensky, thank you saying you're going to tackle the wellness issue, you've tackled so many tough topics, and I look forward to your guidance on that. Thank you, Dr. Poland.

DR. POLAND: As I read the report and listened today, a couple of sayings came to mind. One is that any idiot can make something complex, but genius occurs when a complex problem is broken down into actionable, feasible, focused action

items, and certainly that is my impression of what the Board has done, or the Task Force. The other saying that came to mind is that what gets measured gets done, and in that regard, the Task Force to my way of thinking has diligently sought and examined the data and suggested some objective metrics by which solutions could be devised and then progress measured.

So from the point of view of the Defense Health Board, you are to be congratulated on what is and remains a complex task, we are grateful for your work and your expertise, we are very supportive of your interim findings and recommendations, and we look forward to the final report. We also stand ready to assist in many manner that you as chairs or as a Task Force would deem helpful. Thank you very much for your work on a complex topic.

(Applause.)

DR. POLAND: Dr. Cassells, could we ask you to close and adjourn the meeting?

SECRETARY CASSELLS: As the Delegated

Principal Staff Assistant and Alternate Designated Federal Official for the Defense Health Board, I hereby adjourn this meeting.

(Whereupon, the PROCEEDINGS were adjourned.)

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