

WINTER MEETING

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FEBRUARY 18, 2004

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P-R-O-C-E-E-D-I-N-G-S

DR. BROWN: I'll just talk while you eat.

And I have to admit I feel that I feel a little bit put on the spot here. My talk is not quite as interesting as the C-130, though almost.

Later I'm going to have a two-part presentation, and the second part was going to be a video that we produced actually for our healthcare providers in the VA about our war-related illnesses. And it's a 13 minute video, it sort of depicts the latter half of treatment that we show to VA doctors to get them to use this service on war-related illnesses, our programs that we have. I'm not sure when that's going to come up, but it's going to come up somewhere in this day's meeting. Fortunately, Dr. Drew Helmer in the back here, from our New Jersey VA Medical Center war-related illnesses program. He is here today to answer any questions that you may have that this video generates.

VOICE: Mark, let's make sure that the transcriber can pick up your words. Could you use a microphone, please.

VOICE: Yeah, there's a microphone right there next to you.

DR. BROWN: Okay, what I'm going to talk

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1 about is some work that we've done recently in the  
2 Department of Veterans Affairs. It was really done by  
3 our epidemiology -- Environmental Epidemiology Service  
4 run by Dr. Han Kong (ph.). We have a very strong  
5 interest in trying to get data about veterans from  
6 really any conflict. This really came out of our  
7 experiences with the first Gulf War. And we know  
8 eventually very quickly we're going to get questions  
9 about the health status of veterans involved in the  
10 current conflict, involved in OIF and OEF. Congress,  
11 veteran service organizations, other Americans are  
12 going to start asking us -- asking the Department of  
13 Veterans Affairs about what the -- what's going on  
14 with this population; what kinds of health problems  
15 are they showing; what kinds of -- are any unusual  
16 health problems cropping up in this population; are we  
17 seeing unusual reproductive health problems is always  
18 an issue when it comes to veterans' health; are we  
19 seeing unusual rates of cancer and so forth.

20 In the long run we're going to have to --  
21 we realize we're going to have to do epidemiological  
22 studies to answer questions like that. But in the  
23 short run, we've developed an approach to do a type of  
24 health surveillance, I guess is -- it's health  
25 surveillance of veterans who are serving now in OIF,

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1 those service members who are serving in OIF and OEF,  
2 who then separate from the military service upon their  
3 return, and then become eligible for VA health care.

4 And basically to do this -- thanks. We  
5 have a list -- basically, the Department of Defense  
6 has provided us a list of basic information of OIF  
7 veterans. When I say OIF veterans, I'm talking  
8 specifically about those who served in Operation Iraqi  
9 Freedom, came back, and then were redeployed, and then  
10 separated from military service, and therefore  
11 eligible for VA healthcare. DMDC, Defense Manpower  
12 Data Center, provided VA a file of OIF and also OEF  
13 troops from active duty and reserve, pay combat files.

14 We were able to generate -- we were able to identify  
15 who these veterans were by looking at their pay files,  
16 combat zone tax exclusions, and imminent danger pay  
17 data.

18 And we know from this -- taking a look at  
19 this there's about 438 U.S. troops on a complete  
20 roster. But VA was not provided that complete roster.

21 We -- let's see, can I have the next transparency,  
22 please.

23 We received -- we do not have a roster of  
24 every service member who is currently serving in  
25 either Iraq or Afghanistan. But we have a partial

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1 roster. In November of 2003, DoD sent the first  
2 partial list of OIF veterans who'd separated from  
3 active duty, and then they updated that on two  
4 occasions, in November and then December. And we're  
5 expecting we're going to get essentially monthly  
6 reports from DMDC with this updated data.

7 What we do is then take it and merge it  
8 into a single file, which we then interpret as every  
9 single separated veteran who served in those two --  
10 one of those two deployments. There's some  
11 discrepancies which I'm not going to talk about with  
12 this data. It's not perfect, but it's the best that  
13 we've got. Next transparency.

14 Looking at this combined database, we have  
15 basic military demographic data. At the last month's  
16 count we have 83,752 service members who served in OIF  
17 since 10 of '02 and who had separated from military --  
18 from active duty. We think that that number now in  
19 the latest data set that we've gotten from DMDC is  
20 over 100,000 individuals who've separated from  
21 military service. Of those, we have about 24,000 who  
22 are active duty service members, and the remaining are  
23 Reserve and National Guard. So you can see it's very  
24 slanted towards reserve and guard units.

25 The DoD data did not include the actual

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1 date of separation. We don't have that information.  
2 But what we have is last out-of-theater date of 9/03  
3 for active duty service members, and 8 of '03 for  
4 Reserve and National Guard.

5 Out of the almost 84,000 OIF veterans that  
6 we have on this roster, about almost 10,000 or 11.6  
7 percent have sought health care from a VA medical  
8 facility in '03 or '04 since separation from service  
9 -- since service in Iraq and separation from military  
10 service. Out of that almost 10 -- that 9,753  
11 individuals, almost 10,000 individuals, 149, or 1.6  
12 percent have been hospitalized at least once. And the  
13 remainder have been seen as outpatients.

14 And I should add that the technique ? next  
15 transparency, please -- the technique that we used  
16 once we had this roster from DMDC of names and Social  
17 Security numbers of veterans, was our VA's inpatient  
18 and outpatient treatment files. And basically this is  
19 a system, an electronic database that we have that  
20 records every encounter, every outpatient or inpatient  
21 encounter that -- well, any veteran who comes to VA  
22 for healthcare, and it records all their diagnoses and  
23 a couple of other pieces of data, including the -- any  
24 pharmaceuticals that were prescribed, and a couple of  
25 other data fields that include administrative data

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1 about their visit.

2           And so we can compare that, once we have  
3 the data set from DMDC with identifying Social  
4 Security number, we can bounce that up against our  
5 inpatient-outpatient treatment files and look at the  
6 types of diagnoses that they received. And we checked  
7 this out. The most common diagnoses are -- I mean,  
8 they're all over the place. There aren't -- nothing  
9 that particularly stands out. Wide range of medical  
10 and psychological conditions. There's over 2,000  
11 discrete ICD-9 coded diagnoses. I just used that  
12 number to show how widespread the diagnoses are  
13 amongst this group. We think that they're similar to  
14 those found in other populations of U.S. military men  
15 and women of this age group, although I have to  
16 caution you, obviously this is not an epidemiological  
17 study. There's no control group, and it's a very  
18 select population.

19           No particular diagnosis stood out as  
20 unusual. Musculoskeletal systems were the most  
21 frequent diagnoses. About 2,500 veterans, about 26  
22 percent, have musculoskeletal diagnoses as their  
23 primary diagnoses, which is what you might expect from  
24 a population just deployed like this. Next  
25 transparency.

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1           Most common diagnoses continuing, about 24  
2 percent of the -- all the diagnoses involved diagnosis  
3 of the digestive system. The most common involved  
4 teeth and gums. Sixteen percent of all the diagnoses  
5 involved disorders of the nervous system, and that  
6 included hearing loss. These are in decreasing order  
7 of frequency. Hearing loss was the most common; other  
8 disorders of the ear; disorders of refraction and  
9 accommodation, which means the need for eyeglasses;  
10 and migraine. This is consistent with -- we find just  
11 in general hearing problems are a common disability --  
12 source of disability and claim for disability amongst  
13 veterans. Next.

14           Again, most common diagnoses in this  
15 population, about 14 percent were diagnosed with  
16 mental health problems. The most common were abuse of  
17 drugs, adjustment reaction, depressive disorder,  
18 neurotic disorders, and effective psychoses. Thirteen  
19 percent were diagnosed with diseases of the  
20 respiratory system. We looked at the specific  
21 classification. And it should be obvious why we  
22 looked at these various classifications of diseases.  
23 They tend to be the ones of most interest.

24           Respiratory system was of concern because  
25 of the suggestion that there were unusual rates of

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1 pneumonia amongst this population. But when we look  
2 at their diagnosed diseases that involve the  
3 respiratory system, they don't look particularly  
4 unusual. The most common are allergic rhinitis, acute  
5 upper respiratory infections, as you would expect,  
6 chronic sinusitis, asthma, and so forth. Pretty much,  
7 I think, what you would expect for a group like this.

8 Six percent were diagnosed with infectious disease,  
9 and the most common diagnoses were things like  
10 athlete's foot. Next.

11 Again, continuing with most common  
12 diagnoses, about 17 percent were diagnosed with  
13 symptoms, signs, and ill-defined conditions. As I'm  
14 sure most of you are familiar with ICD-9 codes, this  
15 is a miscellaneous diagnostic category for people who  
16 have symptoms that aren't otherwise definable or  
17 diagnosable. Next transparency.

18 The summary of this effort, among 83,752  
19 OIF veterans who have separated from active duty  
20 military service, about 12 percent have sought care  
21 from VA since their deployment and then subsequent  
22 separation from military service. OIF veterans  
23 present to VA with a wide range of both medical and  
24 psychological conditions. More than 2,000 separate  
25 ICD-9 codes have come in from this population. And,

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1 finally, the health problems of OIF veterans appear to  
2 be really -- nothing stands out. When you look at all  
3 the diagnostic codes that we have for this population,  
4 nothing stands out. They look, as far as we can tell,  
5 normal. Although we have to caveat that with a  
6 warning that this -- you know, the sensitivity of a  
7 surveillance technique like this to pick up something  
8 subtle is not very -- is not high. This is not an  
9 epidemiological study. There's no control group.  
10 It's a very selected population.

11 Is that -- I think that's the final -- oh,  
12 more summary. Well, just to summarize, no unusual  
13 illnesses have been observed amongst the 2,000 --  
14 roughly 2,000 ICD-9 codes that we've seen. As far as  
15 VA is concerned, in terms of the recommendations that  
16 we can develop for our own healthcare providers, we  
17 have just concluded that there's really no  
18 recommendations that we can provide to our doctors  
19 that are seeing these patients about any particular  
20 testing or evaluation of this particular group of  
21 veterans that they might concentrate on. Really, they  
22 have to just look at them as individual patients and  
23 treat them like any other patient. There's no advice  
24 we can give them to look out for any particular  
25 category of illness.

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1           And, finally, VA intends to -- you know,  
2 this -- we've done this now with three updates from  
3 DMDC. We intend to -- we expect we're going to  
4 continue to get data from DMDC, and we'll continue to  
5 do these updates and conduct this type of surveillance  
6 for any future problems that may show up with this  
7 group. And as you saw at the earlier slide, these  
8 initial -- this initial group coming back is very  
9 heavily weighted towards reserve and guard, and we  
10 expect as time moves on, of course, that'll change,  
11 and it'll be slightly more representative of the  
12 demographics of those deployed in OIF overall.

13           And is that it? I think that's my final  
14 slide. Okay, thanks. Sure.

15           DR. CATTANI: Do you have -- you mentioned  
16 -- this is Dr. Cattani. You mentioned a young  
17 military population. But since there are reservists  
18 and guard, do you have any age data on this group?  
19 Because breaking down some of these conditions by age  
20 might be enlightening.

21           DR. BROWN: That's a good suggestion.  
22 Yeah.

23           COL WOODWARD: This is Kelly Woodward.  
24 Are you able to get any more granularity in  
25 specifically where these people deployed in the DMDC

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1 data? In the Air Force, in particular, being an OIF  
2 veteran doesn't necessarily apply that anyone was in  
3 any certain exposure group. For example, we deploy  
4 large numbers of people in supporting roles in places  
5 like Germany at fixed bases where we have family  
6 members and everybody else living all the time.

7 DR. BROWN: No, I -- that's an excellent  
8 point. The data that we have from DMDC is really --  
9 it's a half-measure. It doesn't give us a lot of  
10 information that we would like to have, for example,  
11 about the details of the deployment, where exactly a  
12 person was located. It doesn't even give us the date  
13 of separation. So it's a half-measure.

14 And I think, on the other hand, it's the  
15 best that we have. It allows us to develop -- there's  
16 other reasons that we use this database internally at  
17 the VA. I mean, for example, I'm sure everyone knows  
18 about the two year combat eligibility for healthcare.

19 We have the legal authority to provide free  
20 healthcare, no questions asked, pretty much, for  
21 combat veterans two years after their separation.  
22 And, of course, that implies that we can identify such  
23 a veteran. And this database has been used for things  
24 like that. But it's really -- in terms -- eventually  
25 I think it may turn into the type of database that we

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1 could use for actually conducting the required  
2 longitudinal study that we'll need. But it's not  
3 quite there yet.

4 COL GIBSON: Question for you. You  
5 mentioned drug abuse as one of the things under your  
6 group of --

7 DR. BROWN: Yes.

8 COL GIBSON: -- most prominent things,  
9 mental health.

10 DR. BROWN: Yes.

11 COL GIBSON: Do you have stratified  
12 numbers down on that drug abuse category?

13 DR. BROWN: Stratified by demographics?

14 COL GIBSON: In other words, can you tell,  
15 within this 1,300, what portion of those were --  
16 presented with problems of drug use?

17 DR. BROWN: I gave Col. Riddle a copy of  
18 the actual underlying report, and you can look at the  
19 exact number. I don't recall what it is, but we have  
20 it broken down to absolute values for particular  
21 diagnoses. So if you look at that report, it will  
22 include that -- it will include the data that you're  
23 talking about.

24 DR. OSTROFF: Dr. Berg.

25 DR. BERG: Bill Berg.

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1           Have you presented these finding to any of  
2 the veterans' groups, and if so, what comments did  
3 they have on them?

4           DR. BROWN: No, but we intend to. Our  
5 Undersecretary for Health has regular monthly  
6 briefings with the veterans' service organizations.  
7 And I think -- I mean, I think, as I understand kind  
8 of what you're getting at with your question, this is  
9 -- probably I think the most important observation  
10 that comes out of this is that there's no -- there's  
11 nothing particularly unusual going on. This is about  
12 what you would expect.

13           And if you look at the overall report, it  
14 seems quite compelling. I mean, if we have -- we had  
15 every single visit, not just a single visit that a  
16 veteran might make, but every single visit that  
17 they've made, every diagnosis that they've received,  
18 we can summarize that data. And the fact that we can  
19 say that there's nothing that jumps out as unusual is  
20 helpful. I find that helpful to be able to make that  
21 point. That, you know, we're seeing kind of about  
22 what you'd expect to see.

23           DR. OSTROFF: Dr. Cline and then...

24           DR. CLINE: Barnett Cline. Have there  
25 been any cases of cutaneous leishmaniasis?

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1 DR. BROWN: Oh, I'm sorry. Yes. I guess  
2 I had a slide in here. Maybe it got left off. There  
3 was -- oh, under infectious disease. I had one --  
4 good catch. There was one case of leishmaniasis,  
5 cutaneous leishmaniasis. But since this slide was  
6 made, we had a pathology report back from AFIP, and  
7 they said it wasn't. So now it's downgraded to a mere  
8 rash. Now, having said that, I mean, I think it's  
9 just a matter of time before we will see a case. But  
10 the -- we haven't seen it yet -- not one.

11 CPT OBRAMS: Captain Obrams. Of course,  
12 all these diagnoses are coming from individuals seen  
13 at the VA. Do you have any way to estimate the  
14 numbers or proportion of individuals who are treated  
15 in other facilities or through private insurance,  
16 anything like that? Because that's --

17 DR. BROWN: No.

18 CPT OBRAMS: -- kind of key in terms of  
19 drawing conclusions.

20 DR. BROWN: We don't. And I don't know  
21 quite how you'd go about getting that. You know, all  
22 we can tell you is of the -- about 12 percent -- and  
23 it's been holding steady. About 12 percent of the  
24 service members who returned have already been seen by  
25 VA at least once. The other 88 percent...

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1 CPT OBRAMS: May be seeking care  
2 elsewhere?

3 DR. BROWN: They may be still using  
4 Tricare, they may be using other -- their private  
5 insurance or...

6 CPT OBRAMS: Well, with Tricare you could  
7 link to if you -- since you've got identifying  
8 information.

9 DR. BROWN: That's true. That's true.

10 CPT OBRAMS: I would encourage that.

11 DR. OSTROFF: Do you have any data about  
12 what proportion of veterans tend to use the VA after  
13 other conflicts?

14 DR. BROWN: Well, there's all kinds of  
15 figures that you hear reported for this. But I would  
16 say amongst veterans of the first Gulf War, about half  
17 of veterans who are, you know, separated from military  
18 service and are therefore eligible, about half of  
19 those, 50 percent, have been seen at a VA facility on  
20 an inpatient or outpatient basis at least once.

21 DR. OSTROFF: Over what time period?

22 DR. BROWN: Since 1991.

23 VOICE: So half of them over ten years,  
24 and we're now only six months or less?

25 DR. BROWN: Well, don't forget, in the

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1 long run, to answer the kinds of -- you know, this is  
2 -- I just want to emphasize, this is not a substitute  
3 for a longitudinal, properly done epidemiological  
4 study.

5 Okay, thank you.

6 DR. OSTROFF: Thanks very much.

7 Our next presenter, we'll get back on the  
8 regular schedule, is Roger Gibson.

9 Let me, before he gets -- Roger, before  
10 you start your presentation, I think that Col. Riddle  
11 has a couple of logistical issues to go over.

12 COL RIDDLE: Yeah. One thing is, we were  
13 in contact -- Severine called the Uniformed Services  
14 University. And we inquired specifically about  
15 individuals who weren't physicians or veterinarians  
16 about getting CME credit. They will go ahead and  
17 provide us a general letter of attendance if we can  
18 get the names of those folks, and then those  
19 individuals like FARM-Ds and others can provide that  
20 back to their accrediting organizations for credit for  
21 attendance at the meetings.

22 MS. BENNETT: The other thing is that  
23 those people who want to pick up, it's over on the  
24 handout table. And this is something that the  
25 Uniformed Services University put together which shows

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1 the table of what was covered at the meeting. They  
2 can provide this along with a letter of attendance.  
3 You should be able to apply for credit through those  
4 organizations.

5 DR. OSTROFF: While you were talking to  
6 them, did you ask them if they wanted to put up a  
7 poster of the Board?

8 (Laughter.)

9 COL RIDDLE: And also, please don't forget  
10 to fill out your travel vouchers. In other words, we  
11 need receipts for expenditures over \$75. If you have  
12 any bills associated with phone calls, faxes, Internet  
13 service, anything like that, just list it on your  
14 travel voucher, and then also provide us a receipt for  
15 the hotel. And on that receipt make sure it says,  
16 "Paid in full," sign the two blank pieces of paper,  
17 and get that back for us and we'll go ahead and  
18 process those travel vouchers.

19 Other than that, if you have any  
20 questions, please let myself or Severine know and --

21 MS. BENNETT: Please be sure you sign the  
22 roster out front if you're applying for credit.

23 COL RIDDLE: Yeah. And that'll document  
24 our attendance here for the second day.

25 All right.

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1 DR. OSTROFF: Col. Gibson is going to  
2 update us on Health Affairs.

3 COL GIBSON: A year ago at this time we  
4 were preparing -- we didn't know it, but we were just  
5 about to start into a pandemic of severe acute  
6 respiratory syndrome across the world. Since that  
7 time there's been -- we've reached a point where at a  
8 meeting the other day where it was reported that it is  
9 extinct from humans globally.

10 But, in the face of that, a lot of work  
11 was done by World Health Organization, Centers for  
12 Disease Control, a multitude of other countries, and  
13 within the United States. Certainly DoD has played a  
14 role in how we prepared for outbreaks such as SARS,  
15 and in particular, diseases that we're going to have  
16 to control through quarantine.

17 Quarantine could have a massive impact on  
18 DoD's ability to carry out its operations. I think  
19 that's a given. After you saw where we were today,  
20 you can imagine trying to operate like that in an  
21 environment where you're dealing with a pandemic or a  
22 disease where quarantine is one of your options. The  
23 restriction of movement can be a tremendous problem,  
24 and the host nation problems with that. If DoD were  
25 to be the source of an outbreak in a country as part

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1 of an operation, the political ramifications could be  
2 somewhat traumatic. Next slide, please

3 I would add, as that last bullet talked  
4 about, one of the things, as we begin to talk about  
5 SARS and what it could do to us, it was recruit  
6 settings. Here we have an environment where we have  
7 close contact between folks. We have problems with  
8 respiratory disease to start with. What would it do  
9 to us if we got an outbreak in a recruit setting, or  
10 what would happen if we had an outbreak in a city  
11 where one of our recruit centers were located. Could  
12 we, in fact, continue to operate under the  
13 restrictions of movements that that would cause?

14 Because of this and other questions, the  
15 Secretary of Defense -- these issues of quarantine  
16 became -- he became aware of the problems associated  
17 within the -- he formed -- under the Defense Science  
18 Board, he formed a task force to look at SARS  
19 quarantine back in July 2003. The terms of reference,  
20 as you can see there, were to review and assess  
21 doctrine and processes involved with quarantine policy  
22 within the Department of Defense, and in conjunction  
23 with that would be quarantine as it exists in the  
24 United States. Required cooperation between DoD and  
25 other entities; what are the capabilities of local

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1 commanders; what are the responsibilities of local  
2 commanders; how would they interface with other  
3 organizations. They asked the task force to look at  
4 sample scenarios and to identify and track how we  
5 would identify and track potentially SARS-exposed  
6 individuals. This was an eminent group of scientists.

7 I know it was an eminent group because, first of all,  
8 I served as the executive secretary; and second of  
9 all, the reason I really know is because Dr. Herbold  
10 was one of the members. So it had to be.

11 The primary information sources that the  
12 task force has used, and the task force has met so far  
13 four -- or three times, was the -- a review of the  
14 national SARS concept of operations plan. The DoD  
15 directive on emergency health powers for military  
16 installations, a directive that was signed off by the  
17 SECDEF in mid-2003, so it's a relatively fresh  
18 document. They also got briefings from Central  
19 Command and Pacific Command on their capabilities and  
20 their -- what they considered their command roles with  
21 respect to SARS, in particular.

22 Discussions among CDC, local health  
23 departments, and Department of Defense public health  
24 folks on how they interface, how they work together on  
25 a daily basis. And finally, information on Iraqi --

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1 the infrastructure within the -- within Iraq at the  
2 present time, and, in particular, the public health  
3 resources available over there.

4 Lessons learned included the use of the  
5 CDC's -- the CDC document, the document written on --  
6 for CDC on lessons learned from SARS on quarantine.  
7 Next slide, please.

8 A little more information on the CONPLAN.  
9 It is a federal plan signed off by the secretaries  
10 for federal agencies on -- it's a process, basically  
11 an outline of how they would work together to respond  
12 to a moderate to severe outbreak of SARS in the United  
13 States. The local response or response for an  
14 outbreak would be at the local level. Federal  
15 government would play a role in this, and certainly  
16 HHS would take the lead, which is how this document is  
17 written. But we must keep in mind that local state  
18 health departments would actually be the folks on the  
19 front line, and their rules, regulations, quarantine  
20 guidance would be the starting point for all of this.

21 The plan, itself, is a threat-based plan,  
22 Risk 0 up to, I think, Risk 4 on -- as things get  
23 worse and as we move towards a pandemic, certain  
24 elements of that plan would kick into place. And it  
25 requires coordination from not only interagency but

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1 intergovernment. It is a -- it's a diagram. It's  
2 sort of a -- it's sort of an outline of how we would  
3 do things. It's certainly not a blueprint. It does  
4 not go into infinite detail on how we would respond.  
5 DoD's role --and I would say -- I'm happy to report  
6 that the Secretary of Defense signed off on this  
7 CONPLAN last week. Our role would be supportive to  
8 HHS. And in the event that it was declared a national  
9 emergency and Homeland Defense took over as the lead  
10 role, we would be supportive to them, as well.

11 Next slide.

12 The DoD directive that I talked about, the  
13 emergency powers directive is established under  
14 applicable laws, and it gives powers to the  
15 installation commander and other commanders to protect  
16 installations and the personnel on those  
17 installations. It gives the commander of the  
18 installation the ability to declare a public health  
19 emergency and to take actions to restrict movement and  
20 other actions that he feels are appropriate to control  
21 the -- and including quarantine to control an  
22 outbreak.

23 It also requires a designation of an  
24 emergency public health officer at each of these  
25 installations. That person typically is a senior

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1 medical officer in the facility there, ideally  
2 preventive medicine officer. And that person works in  
3 close -- by design of this directive, works in close  
4 contact with local health departments; CDC; in the  
5 event we're overseas, with the host nation, in that  
6 response. Lots of coordination required as this  
7 process goes into place.

8 One of the -- it's a new document. One of  
9 the things that the task force talked about was:  
10 What's the compliance, where are we with this? And  
11 they asked this basically in about September. We went  
12 back out and started asking that questions. Dr. Chu  
13 ended up signing off a memorandum back to the  
14 secretaries asking them to report back their plans at  
15 how they were implementing this guidance.

16 I'm happy to report, also, that each of  
17 the services came back with a plan on how they are  
18 implementing this with time lines appropriate with it.

19 And basically, by July or -- about July this year all  
20 of these -- all of the services will have implemented  
21 this fully across the Department of Defense, which is  
22 a -- rather rapid for the Department of Defense to be  
23 able to get a new directive deployed and public health  
24 emergency officers designated, et cetera. There are  
25 some plans to do quality assurance associated with

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1 that, as well. Next slide.

2 Status at the present time, we're  
3 preparing a interim report to the Secretary of Defense  
4 which will go out in May '04 as to where we are with  
5 this. There'll be continuing monitoring of that  
6 directive for compliance that will go back to the task  
7 force to give them updates on where we're at. The  
8 task force will also be reviewing the results of  
9 public health emergency exercises as they occur.

10 And also, the lessons learned as we went  
11 through this process of developing an approach for  
12 SARS has migrated over into how we would do this for  
13 other public health emergencies and disease outbreaks.

14 The joint staff at the present time is working on a  
15 response plan, an overall response plan for this.  
16 That will drive a lot of other things to occur,  
17 including using this directive that we talked about,  
18 and attaching instructions to it, which will get at  
19 this issue.

20 If you think about this, it's more than a  
21 medical issue. That directive is not a medical  
22 centric directive. It is a directive to installation  
23 commanders, and the medics support that commander  
24 who's making these sort of decisions.

25 A lot goes into these quarantine things,

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1 as you can imagine. Transportation logistics,  
2 security, those things need to be addressed. And in  
3 most cases, as we talked about public health  
4 emergencies and disease outbreaks, they all have a lot  
5 of commonality. Each individual disease requires a  
6 little different take to it as, you know, inherent  
7 with the disease, and those things can be addressed  
8 potentially through annexes to an overall plan. And  
9 that's what we're working on at the present time.  
10 It'll be a while before that is delivered. That's a  
11 lot of coordination to get us there. We expect to  
12 provide a final report from the task force in late  
13 2004.

14 Questions?

15 DR. OSTROFF: Col. Gibson, thanks very  
16 much. Let me open it up and ask if there are any  
17 questions or comments.

18 Let me ask you a question not directly  
19 related to what you just presented. But as you  
20 probably can imagine, we've gotten a fair number of  
21 questions over the last couple of weeks from  
22 installations in Asia concerning the avian influenza  
23 situation. I'm wondering if you might want to make a  
24 comment or two about what's being done through Health  
25 Affairs related to that situation.

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1 COL GIBSON: I can -- I will defer -- or  
2 let me not defer. I would add that I'm -- that Capt.  
3 Malone will probably have additional comments on this,  
4 because GEIS is playing a lead role in that.

5 We have provided information back through  
6 Health Affairs through PACOM who is the combatant  
7 command for that area, on guidance associated with  
8 that. We had a lot of conversations, CDC -- there  
9 were questions going to CDC that were really DoD  
10 questions on policy, implementation, resources, where  
11 to send samples, et cetera. We vectored those -- as  
12 that information came to us from CDC, we vectored it  
13 back through Army CHIPPM and Pacific Command, back to  
14 provide that support to the folks over there.

15 It's a big issue. It's a very big concern  
16 for those folks, and they need to know how they can  
17 provide laboratory -- or what types of laboratory  
18 support they need, and in one case, the availability  
19 of antivirals.

20 Joe, do you want to add anything to this?

21 CPT MALONE: My name's Joe Malone,  
22 Director of DoD Global Emerging Infection Surveillance  
23 and Response System.

24 We have a large network of overseas  
25 laboratories, as well as military health system

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1 laboratories mostly of research orientation. You've  
2 heard several of them speak this week. Kevin Russell  
3 from NHRC, the AFIP, USAMRID, WRAIR -- Walter Reed,  
4 and NMRC are some of our key partners. But we also  
5 have the overseas labs, AFRMS and NMRU, two in  
6 particular most active with avian influenza. Each of  
7 those labs are providing intensive levels of support  
8 on the veterinary side or with human illnesses to  
9 Thailand. Also Cambodia, Vietnam, Indonesia  
10 obviously. Also some support to Taiwan.

11 But these overseas labs have extensive  
12 contacts from foreign service national workers,  
13 professionals as well as the uniformed ones who have  
14 ongoing relationships with these people. They have  
15 been providing support. As well, we sent somebody  
16 from our hub -- central hub office who is a U.S.  
17 Public Health Service officer, Claire Witt, has been  
18 there to support to WPRO, Western Pacific Regional  
19 Office through Manila, and she's now in Laos providing  
20 direct consultation.

21 We also have Randy Hier who is our  
22 representative at the GORN in Geneva, so there's  
23 actually a naval officer on staff there who is giving  
24 us information. So between these things, we can  
25 coordinate, as best we can, of what DoD is offering,

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1 and coordinate availability of laboratory reagents and  
2 so forth. We also have AFIOH in San Antonio, experts  
3 in influenza. They've provided extensive  
4 consultation, as well. And, let's see, there's -- we  
5 also are in -- we have regular telephone consultations  
6 with CHIPPM, with NEHK, and with, again, AFIOH on the  
7 operational preventive medicine side to ensure that  
8 we've communicated. And then one of our members is on  
9 the CHIPPM peg to make sure policies and coordination.

10 So we have information that we're happy to share with  
11 anyone.

12 LTC PHILLIPS: Additionally, if I -- this  
13 is Steve Phillips. In addition to the scientific and  
14 laboratory support, I believe the inquiry that you're  
15 referring to came from an Army MTF in Korea. And  
16 through the U.S. Army CHIPPM, provided back to them  
17 risk communication tools that they can use, because as  
18 the avian influenza, every new story that pops up in  
19 the news and in the press seems to create an  
20 atmosphere of a growing, you know, fear about, you  
21 know, this, you know, impending pandemic doom that's  
22 going to fall on the earth. And so the risk  
23 communicators from USA CHIPPM also sent some material  
24 forward to them to say -- to assist them with  
25 disseminating appropriate information about the status

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1 of things as they are.

2 COL GIBSON: Can I add one little on that  
3 issue, as a sort of -- as a follow-up. We're -- we  
4 haven't left that alone yet. We're really interested  
5 in this individual, why he went to CDC rather than  
6 going through what would be the typical chain of  
7 command to get the information that he wanted.  
8 Whether there was a break in that process where he  
9 didn't feel as though he was getting the response he  
10 needed through that process, or whether he, in fact,  
11 leapfrogged. And it's of interest to us, because if  
12 there's a systematic problem, we need to fix the  
13 problem. If it's an individual proclivity to do that,  
14 then we can deal with that, as well.

15 DR. OSTROFF: One other -- can somebody  
16 comment about availability of osotamovere (ph.), and  
17 are you also making sure that the folks who are  
18 engaged in some of these investigations are on  
19 prophylaxis?

20 CPT MALONE: Well, we did -- an individual  
21 that I was involved in putting to the field, we were  
22 able to get osotamovere (ph.). It was a special  
23 request, and it was -- I mean, it wasn't in stock  
24 nearby, but we were able to get it in a manner to --  
25 so that she was protected. But I'll defer to Dr.

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1 Gibson as far as the policy involved in that.

2 COL GIBSON: Current policy is -- let's  
3 put it this way, we're looking at stockpiling -- we're  
4 looking at stockpiling. We do not stockpile at the  
5 present time. But this issue, certainly the avian  
6 influenza problem points out the potential to the --  
7 for a need for that. Yeah, we all understand if this  
8 thing -- if we get a shift in this organism or get  
9 mixing within a human being, the possibilities of a  
10 major pandemic are very, very real.

11 DR. OSTROFF: I would simply recommend you  
12 buy it while it's still available.

13 Any other questions?

14 (No response.)

15 DR. OSTROFF: Thanks very much.

16 Our next presentation is by Col. Jones,  
17 and he's going to update us on joint staff issues.  
18 And, as mentioned yesterday, this is going to be your  
19 final performance.

20 COL JONES: Yes, sir.

21 DR. OSTROFF: Take it away.

22 COL JONES: Well, it's my last opportunity  
23 to give a joint staff update, so I want to begin by  
24 just thanking the Board so much for all that you do to  
25 support our soldiers, sailors, airmen, Marines, and

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1 Coast Guardsmen. And it was exciting for me to be out  
2 there today and meet those officers and airmen that  
3 are doing such a great job, and I know that it's  
4 inspiring for me, and I'm sure it was for you, as  
5 well.

6 It's always tough for me to decide which  
7 topic I'm going to cover, because there are so many  
8 things going on. But I thought today that an  
9 initiative that might be of interest to the Board is  
10 one of those future issues that we're trying to work.

11 This one deals with an advanced concept technology  
12 demonstration, or ACTD, Medical Situation Awareness in  
13 the Theater. Now, first of all, to try to say a few  
14 words about an ACTD, again, we have already talked  
15 about, during the meeting, some of the frustrations  
16 with the current acquisition system. Even with all  
17 the acquisition reform and everything, sometimes it's  
18 difficult to get a system fielded.

19 And so the advanced concept technology  
20 demonstration looks at key capability gaps that war  
21 fighters have in the joint arena. It seeks to -- it  
22 has some money set aside to try to figure out where  
23 those key gaps are, and the ones that are most  
24 important, try to get them funded. And, of course,  
25 the idea is that there are advanced technologies that

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1 may be out there that could give us a quick solution,  
2 a quicker solution than we would normally achieve, and  
3 so that's the idea. This is a competitive process, so  
4 again, you're going to have all kinds of war fighter  
5 needs that are going to be put forward.

6 This particular ACTD has been put forward  
7 by Ms. Embrey's group. And so what I've done is I've  
8 borrowed some of the slides that they used for their  
9 presentation in order -- to the group of senior  
10 leaders that are going to be involved in making these  
11 decisions. And so I've been selective and just chose  
12 a few, because I know we don't have a lot of time.  
13 But I want to at least give you a flavor for what's  
14 coming up. Next slide.

15 Some key joint functional concepts that we  
16 have within joint vision is to achieve full  
17 dimensional protection for our forces. Force self-  
18 protection is obviously integral to that full  
19 dimensional protection process. If we don't have  
20 protection from the health threats, we're not going to  
21 achieve that. We need to be able to do that. And I  
22 think we do that well in many ways.

23 But we need to be able to do that  
24 ultimately in such a way, in joint vision terms, that  
25 we really need to support the commander's decision

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1 cycle. So that information needs to be very timely to  
2 support not only the combatant commanders, but the  
3 surgeons that support them with the information that  
4 they need to assess threats, to use operational risk  
5 management principles, to implement the appropriate  
6 countermeasures.

7 And, of course, we're dealing with  
8 everything from a CBRNE environment where things may  
9 -- we need the information very quickly, as well as  
10 with infectious diseases and other things. So that's  
11 what we're trying to achieve. Ultimately, that's our  
12 goal.

13 Where do we stand right now? Well,  
14 unfortunately, there are -- although the Board has  
15 been briefed on a number of very good efforts, and  
16 those continue to improve, one of the big problems in  
17 that second bullet is the issue of stovepiping of  
18 data. And so -- and really, the integration and the  
19 fusion is where we really need to get to. And so I  
20 want to talk about that with the next slide.

21 Again, all these areas that are here  
22 represent even multiple sources of data. You've got  
23 intel, you've got various sources of data, as you  
24 know, on outpatient-inpatient data. We were briefed  
25 at the last meeting on these wide amounts of data, and

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1 it was almost numbing the amount of data that's out  
2 there. DMVI data, joint medical workstation, which is  
3 something I had mentioned during a previous meeting,  
4 and it was also mentioned in this meeting. The DMVI  
5 reporting capability, they're a joint common  
6 operational picture that we're trying to achieve.  
7 That was just as an example, was an advanced concept  
8 technology demonstration in the Pacific Command, AOR  
9 is how that got started. And it eventually evolved  
10 into something that we could transition for OIF and  
11 OEF.

12 Personnel data is critical to this, as you  
13 know. We've got various types of exposures, but who's  
14 been exposed. These units are various locations,  
15 they're moving. So these are all the kinds of data  
16 that we need. And, again, really some good efforts  
17 going on in each of these areas. I briefed last time  
18 on the occupational environmental health surveillance  
19 system report and the improvements that we're making  
20 there. They're all a work in progress, but the main  
21 thing again is that the current data domains don't  
22 connect very well. Next slide.

23 Of course, the only reason I'm putting  
24 this slide up here is just to make a point. That it's  
25 obviously very complex. We've got units all over the

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1 world, various locations. We need to be able to track  
2 down -- we've got tremendous number of sources of  
3 data, we've got all different kinds of groups  
4 analyzing that data and trying to make meaningful  
5 information out of it. And right now it's a very  
6 daunting task to try to take this tremendous amount of  
7 data and turn it into actual information that's really  
8 going to help commanders within their decision cycle  
9 to make decisions. Next slide.

10           Where do we want to be? Well, as a  
11 concept of operations, we really obviously want to get  
12 to the point where these various sources of data along  
13 the bottom from the intelligence, the unit locations,  
14 the occupational environmental, all these threats in  
15 the DMVI data, we want to be able to begin to fuse  
16 that data into something where we get a really -- a  
17 true common operational picture that gives us a full  
18 scope of the threats and so that commanders and  
19 leaders at various levels can make the decisions that  
20 they need to in a timely way.

21           Obviously we also want to be able to  
22 capture that data for future -- in repository, so that  
23 we can do the longitudinally type studies and things  
24 we need to do. Also that data could be very useful in  
25 forming our future operations that we're planning in

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1 similar areas. So very -- this is the general concept  
2 of operations. Next slide.

3 So what would be the deliverables of this  
4 capability if this happened to be funded and approved  
5 for FY05? Well, obviously there's again, the ability  
6 to capture data, not only from these various systems  
7 that we've already -- you've heard brief discussions  
8 on in previous meetings, but we want to be able to --  
9 other types of technologies where we can begin to  
10 capture additional information, even. These need to  
11 be consistent within DoD's communication platform, so,  
12 again, they need to work within the current command  
13 control and communications infrastructure. They need  
14 to be able to be interoperable in that sense.

15 Again, the idea of the fusion of the  
16 technology is what's really important. And, again,  
17 when we're talking about timely assessment of this  
18 information, we're really starting to have to think  
19 about artificial intelligence or division support  
20 tools that are going to really help us to make timely  
21 decisions. Next slide.

22 Well, what are the potential contributors?  
23 Obviously we're not starting from scratch here.  
24 There are a number of things that have already been  
25 developed that we would want to capitalize on. I

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1 mentioned during our last meeting for occupational  
2 environmental health surveillance data, the DOR  
3 system, the IH capability that's a web-based system  
4 that's been fielded. Defense medical surveillance  
5 system you're aware of. There are just a number of  
6 things, from the service-specific systems like GEMS  
7 and SAMS, DIMHRS, JMEWS we've talked about, TRACES,  
8 the visibility of patient movement. So all these  
9 systems, including, at the bottom, we mention some of  
10 the chemical/biological/radiological type systems that  
11 are being developed. Not only the diagnostic set of  
12 it, but the warning systems. And again, within the  
13 CBRNE community, they're trying to achieve the same  
14 kind of thing, which is we've got all these different  
15 sources of data, we're trying to be able to rapidly  
16 assess that information so that we can make timely  
17 decisions. Next slide.

18 And, of course, the commercial  
19 technologies would be key to this. Some of the  
20 applications for integrated databases, fusion  
21 applications, and I've already talked about artificial  
22 intelligence, the web-enabling technologies would  
23 obviously be key to all this. Next slide.

24 And when would we do this? If it was  
25 funded and approved, they would, of course, begin

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1 immediately during FY05 with the concept and  
2 development. But the field trials and the stand up  
3 that the Medical Situational Awareness System would  
4 really begin the last quarter of FY05. Then you begin  
5 in the field trials phases. This would be a spiral  
6 development process, so you would evaluate  
7 technologies. Those that are promising, you continue  
8 to develop; those that don't work in the trials phase  
9 that you delete. And then, of course, the process  
10 would continue on from there into '07 and beyond.

11 Next slide

12 Well, who are the players in this process?

13 Again, Ms. Embrey's group in Deployment Health  
14 Support Directorate is playing a leading role in this.

15 You've got MRMC, Naval Health Research Center as the  
16 lead investigator, the PACOM surgeon. Again, a lot of  
17 these things are focused on combatant commanders. So  
18 a particular combatant command, in this case PACOM has  
19 been one of those that have been leaning forward in  
20 terms of volunteering to be the test bed for some of  
21 these new technologies as they were for joint medical  
22 workstation.

23 And, again, I think the issue of politics  
24 was mentioned yesterday, and the ideas that within the  
25 -- Hawaii there's a software developer who's been

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1 integrally involved in a lot of these processes, and  
2 you get the support needed for that in many cases.  
3 Next slide.

4 Well, again, you'd have to obviously make  
5 a transition strategy. And so, again, the idea is  
6 spiral development, introduce and assess capabilities,  
7 continue to transition those that look promising. One  
8 of the key things is, of course, that this should  
9 eventually feed into our longer-term solution, which  
10 is the Theater Medical Information Program. Again,  
11 that -- these technologies, by infusing some money  
12 through the ACTD process, we can begin to test these  
13 things in an operational environment, and hopefully  
14 they can feed right into the development of the  
15 Theater Medical Information Program, is the goal. So,  
16 ultimately, that's where we're transitioning the Joint  
17 Medical Information System PEO would be responsible  
18 for that.

19 So, again, these aren't things that are  
20 just going to be developed in a vacuum and separate  
21 from the current team of development process. But the  
22 idea is, by infusing some funding in, we may be able  
23 to fill some capability gaps in a quicker fashion that  
24 will help us to solve some of these problems.

25 So that is a brief summary of this

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1 particular advanced concept technology demonstration.

2 I don't know exactly when the decisions will be made  
3 for this particular fiscal year. But I wanted to at  
4 least put before you that this is one of the concepts  
5 that being pushed forward.

6 And, again, part of our longer-term  
7 strategy needs to be the actual fusion of data, rather  
8 than just the development of some very good efforts on  
9 individual systems.

10 DR. OSTROFF: Thanks very much. Let me  
11 open it up to questions and comments.

12 COL RIDDLE: Who's the end user, David? I  
13 mean, this is going to be on the desk top of -- at the  
14 command level or...

15 LTC JONES: You know, there is a white  
16 paper that's been developed on it, and it does not  
17 specifically say exactly what level. I think the  
18 idea, though, is that it should be a tool that's  
19 useful at the combatant command level, but also at all  
20 those JTF levels and everything below. So, again, it  
21 hasn't been necessarily described in that level of  
22 detail yet in this concept, but I think it would need  
23 to be something that is applicable at all levels.

24 And, again, the idea of the key -- the key  
25 idea is that it needs to be actionable information.

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1 So wherever the decisions need to be made to take  
2 action, I think that's where it would be important.  
3 And I think that applies at all levels.

4 DR. OSTROFF: Other comments?

5 (No response.)

6 DR. OSTROFF: I guess, help me understand  
7 this concept. It sounds like what you're saying is  
8 similar to what we've heard at previous meetings.  
9 You're drowning in data, but lacking in information.

10 LTC JONES: I believe that's an excellent  
11 way to summarize it. In my personal opinion, I think  
12 that we've got tremendous -- as you -- it's probably  
13 numbing -- it may have been numbing to you as it was  
14 to me in the last series where we were briefed on all  
15 these sources of information. We have tons of data,  
16 and we're getting more and more data, and then the key  
17 thing is, the goal is, of course, not to just produce  
18 data that we can archive and use. We want to actually  
19 begin to make that data more and more that it becomes  
20 actionable information. And that is a daunting task,  
21 not going to be an easy thing to do. But the  
22 individual efforts that we've briefed on in previous  
23 meetings I think are key to that. But eventually we  
24 need to begin to fuse this data in a way that's going  
25 to really provide the common operational picture that

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1 commanders and their surgeons need to make some  
2 decisions.

3 DR. OSTROFF: Well, I'm curious. As you  
4 look through these various data streams and you  
5 determine that, you know, some of them are not  
6 particularly useful or actionable, is there some  
7 strategy or plan to sunset any of them?

8 LTC JONES: Well, again, one of the -- I  
9 think that's a great question. And one of the things  
10 that they talk about specifically in the short white  
11 paper is the idea that with a spiral development, as  
12 we begin to look at these technologies and things, if  
13 there's a determination that they aren't useful and  
14 viable, that's one of the good things, these are being  
15 tested in an operational setting. So they're not --  
16 you know, again, Pacific Command is going to be taking  
17 the lead, and this will be done in an operational  
18 setting. So I think that that's one of the advantages  
19 of the ACDT, is it has a very strong focus in the  
20 operational setting associated with combatant  
21 commanders.

22 So, yes, that is the intent, would be that  
23 we would find out what they really need and find out  
24 what really works, and that that would be the things  
25 that we pursue, if it's done right.

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1 DR. CLINE: Rather than starting from the  
2 bottom up with the data, seems to me it might be more  
3 useful to start with examples of specific operational  
4 decisions and work back and see what actually -- you  
5 know, I think you could come up with some realistic  
6 ideas of what options might be faced in a real-world  
7 situation and work backwards, see what actually helps.

8 LTC JONES: Yes, sir, that's an excellent  
9 point. I think that's exactly -- needs to be a key  
10 part of the process, is to figure out what information  
11 do commanders need to make those kind of timely  
12 decisions. There may be other information that we  
13 want to collect for other reasons from a longitudinal  
14 perspective. But, again, that's going to support  
15 future operational planning in many respects. So I do  
16 think that that's an important way to look at it.

17 DR. LAUDER: Just one quick question. I'm  
18 looking at your list of databases here, and I'm not  
19 familiar with what all of them are. Does the plan  
20 include information like from the outpatient records  
21 that I think is in CHCS, and then does it try to  
22 somehow capture the medical record out in the field,  
23 as well?

24 LTC JONES: Right.

25 DR. LAUDER: Is that all in there?

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1 LTC JONES: Yes, ma'am, it's -- that's the  
2 idea. And, again, what we want to move toward -- and  
3 one of the emphasis on this was that, in some  
4 respects, the systems that we have continue to be  
5 personnel-intensive kind of systems. And, of course,  
6 what we want is solutions that are going to facilitate  
7 people in doing their normal activities. And what  
8 we'd like to do is get those patient encounter  
9 information, which is already being done in systems  
10 like GEMS and I think SAMS, as well. And so that once  
11 we have those patient encounters, that information is  
12 entered once electronically, and then it becomes  
13 accessible very rapidly, so that it doesn't become an  
14 extra reporting requirement like we have now in some  
15 cases. Even when we tried to do the five-item DMBI  
16 reporting on a daily basis, because of chemical and  
17 biological -- particularly biological type threats,  
18 even in trying to do that, not everybody had the  
19 patient encounter module capability, so there was  
20 still some manual uploading kinds of things and it  
21 just --

22 So, yes, we need to really make sure that  
23 we do -- that, yes, that's certainly a part of it, is  
24 the patient encounters, and that we would be able to  
25 do that in such a way that's very timely, that it

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1 doesn't increase the burden on people to report and  
2 analyze the data.

3 DR. OSTROFF: Thanks very much.

4 LTC JONES: Thank you, sir.

5 DR. OSTROFF: Our next presentation is  
6 from the Army, and I think, Col. Underwood, you're  
7 going to make a few opening comments and then turn the  
8 platform over to Col. Shuping?

9 COL UNDERWOOD: Yes, that's right. Col.  
10 Shuping will be presenting on the pneumonia cases.  
11 But I'd just like to give a brief few comments about  
12 leishmaniasis, as Col. Riddle asked me to do.

13 As of the 12<sup>th</sup> of February, from January  
14 2003 to the 12<sup>th</sup> of February this year, we've had a  
15 total of 304 confirmed cutaneous leishmaniasis cases.

16 The vast majority of these are in Army. We've had  
17 two Air Force and one Marine. The vast majority of  
18 these are coming out of Iraq. Over about 50 percent  
19 of them were seen in their exposure, of whom we have  
20 exposure information, was central Iraq, northeast of  
21 Baghdad, about 33 percent in the northern part of Iraq  
22 around Tekrit and Mozel, and about 10 percent in the  
23 vicinity of Telil Air Force Base.

24 Now, the plan is that as they come home,  
25 of course, now they're being seen at Walter Reed.

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1 There's a caveat to that. A lot of these soldiers are  
2 preferring not to come forward, and this is  
3 information, personal communication with Dr. Pete  
4 Wynett who was in theater at that time. And the  
5 thinking is, with the bonding, that they don't really  
6 want to come forward because then they're air evac'd  
7 to be taken care of. We know that this is a self-  
8 limiting infection; however, for some of these people,  
9 especially if they're larger lesions or if they have  
10 multiple lesions or if they have facial lesions, we do  
11 want to treat those to get a better cosmetic result.

12 There is a protocol being followed by Dr.  
13 Naomi Aaronson and her group at Walter Reed. And  
14 currently we anticipate -- or she anticipates that  
15 about ten percent of these people will probably need  
16 to be put on Pentostan for IV treatment. That usual  
17 course was 20 days, but there -- they are taking that  
18 down to 10 days. They're looking also at doing a  
19 short, more simplified protocol for Pentostan.

20 As the 101<sup>st</sup> comes back from theater, we  
21 anticipate that there will be large numbers of  
22 soldiers coming forward that may have leishmaniasis.  
23 So there is a plan underway with an algorithm to train  
24 pathologists at the local MTFs to go ahead and do the  
25 biopsy and look for the promastigotes. And if they

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1 clearly see them, and the sample is clearly positive,  
2 then they will determine what type of treatment they  
3 need or whether they need to be evac'd. If the sample  
4 is equivocal or negative, those samples will be sent  
5 to the Armed Forces Institute of Pathology where they  
6 will be further studied to ensure, to rule out or rule  
7 in, rather, if they truly are leishmaniasis or not.

8 We're also looking to set up a second  
9 center to be based in San Antonio. And we're also --  
10 Dr. Aaronson is also looking at heat treatment. She  
11 has enrolled 18 people on a heat treatment protocol on  
12 which -- and they've been on that for about two weeks  
13 now and doing very well. She's looking to enroll a  
14 total of about 50. So that's also another option.

15 And a third option is a topical treatment  
16 for leishmaniasis. We don't have a -- there's not a  
17 partner for this in terms of a commercial partnership  
18 for the topical treatment with paromomycin. However,  
19 Col. Max Groggle has done a lot of research on that,  
20 and that does look promising. And studies are still  
21 ongoing with that.

22 Any questions at all about leishmaniasis?

23 DR. OSTROFF: Dr. Cattani.

24 DR. CATTANI: I wondered -- this may be a  
25 -- this question may date my knowledge on

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1 leishmaniasis. But WHO at one point was testing a  
2 vaccine for old world leishmaniasis. Does anybody  
3 know what ever happened to it? Was it -- I assume  
4 that it wasn't highly effective or we'd know more  
5 about it. But could anyone give me the status of it?

6 COL UNDERWOOD: I certainly -- certainly  
7 we don't have a vaccine for it, but I can't speak to  
8 what happened to that. I don't have any knowledge of  
9 that. I don't know if anyone -- Dr. Cline?

10 DR. CLINE: I don't. I don't.

11 COL UNDERWOOD: No? I'm sorry.

12 VOICE: Paula, any viscerotropic?

13 COL. UNDERWOOD: No. To date, there was  
14 one questionable case, but that has been -- that is  
15 not the case. So, no, we don't have any visceral  
16 leishmaniasis to date. However, historically, from  
17 Desert Storm we had a total of 12 cases of visceral,  
18 and we had 20 cases of cutaneous leishmaniasis. But,  
19 to date, no, these are all cutaneous leishmaniasis.

20 DR. OSTROFF: What's being done to look  
21 for visceral?

22 COL UNDERWOOD: Good question. That's  
23 obviously, as you know, very, very tough. And I think  
24 Dr. Brown -- I don't know if he's still here --  
25 brought up a good point in terms of our concern in

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1 people redeploying and being released from active duty  
2 who go back, especially Reserve and National Guard,  
3 who may later come up with very ambiguous signs and  
4 symptoms perhaps indicative of viscerotropic  
5 leishmaniasis which may not well be recognized by  
6 their practitioner. So this is of concern.

7 LTC PHILLIPS: This is Steve Phillips.  
8 Also the CHIPPM developed a little wallet card that --  
9 in the redeployment briefings all the returning  
10 soldiers are getting a little wallet card. And it's a  
11 great card, because on the back of it it describes the  
12 symptoms for visceral and cutaneous leishmaniasis, and  
13 says -- basically it says, "If you start getting these  
14 symptoms, take this card to your doctor, and tell him  
15 you were in Iraq and you're having these symptoms."  
16 So to try to put something in the soldier's hands,  
17 especially the reservists who go home and end up  
18 seeing a civilian doctor in Small Town, USA, that they  
19 can give to their doctor and say, "I was in Iraq, and  
20 now I'm having these fevers."

21 COL UNDERWOOD: Thanks. And I think Joyce  
22 Atkins is still here. And we're -- there's a big  
23 informational campaign, a tremendous amount of  
24 information on leishmaniasis on the PD health website.  
25 Also and part of this campaign of taking care of

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1 these people, the information both for the clinicians  
2 and for the redeploying soldiers is a very important  
3 topic. And I believe the CHIPPM has a very big role  
4 to play in this in terms of that campaign. But  
5 they're working closely with Dr. Atkins and her group  
6 and PD health, especially getting -- using their 1-800  
7 number. I don't know if that's been finalized.  
8 Perhaps Dr. Atkins could speak to that.

9 DR. ATKINS: Joyce Atkins. We do have an  
10 800 number for clinicians, and also for patients. And  
11 we're advertising that widely. And we are going to be  
12 replacing the number on the back of that wallet card  
13 because the people at Walter Reed think they're  
14 getting too many phone calls from -- directly from  
15 patients. So we have that.

16 We also have the facts sheets that are  
17 available, and we have an automated briefing for both  
18 patients and providers on leishmaniasis.

19 DR. OSTROFF: Thanks. One more question,  
20 and I'll let Dr. Cline go first.

21 DR. CLINE: Of course, I was a bit  
22 surprised to hear you mention the heat therapy,  
23 because that's something that's been around for  
24 decades. And as far as I know, I really haven't kept  
25 abreast, but I think it's been pretty equivocal. I

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1 think the resident expert, if there is an expert, Dr.  
2 Frank Nell at NIH has worked on that for many years.  
3 You may have already been in touch with him. But I  
4 think he would be a good source of information.

5 COL UNDERWOOD: Thank you. I think Dr.  
6 Aaronson is seeing some -- of course, not all the  
7 results are in. But what was impressive, too, are the  
8 results that Dr. Groggle is getting with the  
9 paromomycin. Very good cosmetic results with the  
10 topical cream on that.

11 DR. CLINE: One other brief comment. When  
12 I see how much leishmaniasis is there, it means  
13 there's lots of sand flies and potentially other sand  
14 fly transmitted diseases, like sand fly fever, which  
15 is not a -- probably terribly important from a  
16 military point of view. But I think there should be a  
17 little flag out there to be looking for that. And  
18 that -- the transovarial transmission of sand fly  
19 fever, and it can emerge very abruptly in the spring.

20 And you can have -- could have large outbreaks. So  
21 it might be interesting to keep an eye open for that.

22 And I assume there are diagnostic capabilities  
23 available to you for sand fly fever.

24 COL UNDERWOOD: That's a very good point,  
25 and perhaps we can put together an information paper

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1 on that to send out. Thank you.

2 DR. OSTROFF: My last question is, as you  
3 look at the data and you recognize particularly hot  
4 spots for leishmaniasis, is there anything that you're  
5 trying to do preventatively to try to reduce the  
6 exposures?

7 COL UNDERWOOD: Yes, we -- in terms of  
8 trying to get out the information, we're consistently  
9 putting out there that the use of DEET, the use of bed  
10 nets, the use of permethrin treated uniforms. And if  
11 they can't get the permethrin treated uniforms, then  
12 to use the permethrin spray on their uniforms in  
13 trying to keep down the -- limit the amount of  
14 exposure.

15 What is interesting, though,  
16 demographically, it appears that most of these people  
17 that have been exposed are really in the combat  
18 support types of MOS's, rather than the combat. And  
19 so there's certainly a lot of information there to  
20 analyze and determine what the demographics of it are.

21 DR. OSTROFF: Thanks. Other comments or  
22 questions?

23 (No response.)

24 DR. OSTROFF: Let's turn it over to Col.  
25 Shuping, who's going to give us an update on the

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1 pneumonia cases that we heard so much about at our  
2 last meeting. Thanks very much for being here.

3 LTC SHUPING: Thank you, sir. Good  
4 afternoon. My name's Lt. Col. Eric Shuping. I'm one  
5 of the team members of the Southwest Asia or SATCOM  
6 severe pneumonia epidemiological investigation. I'm  
7 here today to give you an update on this  
8 investigation. Let's look at the outline for my talk  
9 today.

10 Give you some background. In March, 2003,  
11 there were two pneumonia patients in the ICU at  
12 Landstuhl who were in Kuwait. CHIPPM Europe did an  
13 investigation on these two patients and found no  
14 association between the two.

15 Then in June the first pneumonia death  
16 occurred in Iraq. This prompted military PMX first to  
17 investigate. During the course of this investigation,  
18 it was determined that there were additional ICU  
19 patients with pneumonia at Landstuhl, Germany. Then  
20 the second pneumonia death occurred, and this prompted  
21 the Army Surgeon General to issue a formal task in  
22 EPICON to determine if there was an outbreak of severe  
23 pneumonia in SATCOM.

24 Three teams were deployed. The first team  
25 went to Landstuhl, Germany, which I was a part of.

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1 The second team went to Iraq, and the third team  
2 remained in the United States to coordinate  
3 activities. All three teams reconvened in the United  
4 States in the late September, early October time  
5 frame. We continue to work on this investigation to  
6 date.

7 The methods for the investigation, first a  
8 questionnaire and database were developed. All three  
9 teams in parallel underwent case finding using  
10 standard patient administrative databases and talking  
11 to clinicians. Potential cases had their charts, X-  
12 rays, and labs reviewed. And confirmed cases, at  
13 least the severe cases, were interviewed, and  
14 surrogate interviews were done on the two deaths. The  
15 autopsy results were reviewed on the two deaths. And  
16 finally, 13 of the severe patients were brought back  
17 to Walter Reed for a comprehensive follow-up  
18 examination to include a clinical visit with a  
19 pulmonologist and an allergist.

20 The case definition that we used for this  
21 investigation, the person had to be in the U.S.  
22 military; he had to have served in Southwest Asia  
23 between March and August of 2003; and he needed the  
24 three following features: he needed to be  
25 hospitalized; had to have a chest X-ray suggestive of

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1 pneumonia, and one of the following symptoms: either  
2 fever, cough, or shortness of breath. A severe case  
3 is someone with the above criteria who was either  
4 intubated or died.

5 If one looks at the overall both severe  
6 and non-severe pneumonia in Southwest Asia, in  
7 Southwest Asia there is a comparable rate to the U.S.  
8 Army as a whole between 2000 and 2002. However, a  
9 more perfect comparison might be Army basic training  
10 posts where the day-to-day physical and emotional  
11 stress may be comparable to a combat environment. And  
12 looking at this slide, you can see that the rate in  
13 Southwest Asia was actually a lot less than the basic  
14 training post. However --

15 DR. OSTROFF: That's because they don't  
16 have to worry about adenovirus.

17 (Laughter.)

18 LTC SHUPING: Anyway, looking at severe  
19 pneumonia in Southwest Asia, there's actually a much  
20 higher rate of severe pneumonia compared to Army basic  
21 training post, and that's where the focus of our  
22 investigation lay.

23 This is a time line of our cases. And as  
24 you can see, there is no clustering of the cases.  
25 However, most of the cases started in June and ended

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1 in mid-August.

2 Here's a map of Iraq and the surrounding  
3 countries. On this slide I'll demonstrate that there  
4 is no geographical clustering. As each point comes up  
5 on the map, these are the locations where the person  
6 first developed symptoms. However, in general, this  
7 is where they lived and worked before they became ill.

8 In March there were two cases in Kuwait;  
9 and in April, there was a case in Uzbekistan; May, one  
10 case in the north of Iraq; June, five cases in central  
11 Iraq and one case Qatar; July, five cases spread out  
12 through Iraq; and finally, in July, three cases, two  
13 in Iraq and one in Jibuti.

14 Demographics of these patients, almost all  
15 of them were in the Army. Almost all were evacuated  
16 to Landstuhl, Germany. And almost all of them were in  
17 different units. There is an exception to the unit.  
18 Two people were in the same unit; however, they did  
19 not overlap or spend any time in theater together, and  
20 their illnesses were separated by four months.

21 The 3<sup>rd</sup> PERSCOM maintains a database of all  
22 soldiers, all Army soldiers deployed in Southwest  
23 Asia. On this table I compare the CENTCOM Army severe  
24 pneumonia soldiers to the 3<sup>rd</sup> PERSCOM database. The  
25 Navy sailor and the Marine was excluded this, giving a

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1 net of 17. In looking at this table, you see that  
2 there's no difference in terms of sex; service  
3 component, being active duty, reserve; their age; or  
4 their rank.

5 This table shows the military occupational  
6 specialties of these patients. And you can see  
7 there's no clustering to one particular occupation.  
8 Medical history of these patients was generally  
9 unremarkable. There was no asthma in any of these  
10 patients. Prescription medications, one patient had  
11 hypercletchialimia (ph.) and took Simvastatin  
12 (Simistatin)(ph.). Some people took doxycycline, some  
13 took mefloquine for malaria prophylaxis, but their  
14 compliance was variable with this. And another  
15 patient was diagnosed with a latent TB infection at  
16 his predeployment screening and was prescribed INH.

17 Various over-the-counter medications were  
18 taken. Three took ibuprofen or aspirin as needed for  
19 aches and pains; three people took vitamins on a  
20 regular basis; one person took creatine as a muscle-  
21 building supplement; and another person took an over-  
22 the-counter stimulant to help stay awake on guard  
23 duty.

24 This table shows the distribution of  
25 symptoms of 16 of the patients. We were unable to get

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1 this information on the two deaths and one other  
2 patient. If you look to the left, you'll see that  
3 most of the patients had non-specific symptoms of  
4 pneumonia: fevers, chills, shortness of breath,  
5 fatigue, and cough. There was very little sputum  
6 production in any of the patients, and there was no  
7 hemoptysis or rash in any of the patients.

8 Their clinical course, all patients were  
9 febrile; all had respiratory distress; and most of  
10 them had elevated white counts. Their chest X-rays  
11 all showed bilateral infiltrates, and ten had pleural  
12 effusions. The table here shows the various  
13 antibiotics that they were prescribed during their  
14 acute hospitalization, and eight patients were given  
15 steroids. This is a representative X-ray showing the  
16 bilateral infiltrates on this one particular patient.

17 In ICU medicine there's a ratio called --  
18 that I call the PF ratio, and that's the amount of  
19 oxygen in the blood as measured by blood gas divided  
20 by the amount of inspired oxygen. And a PF ratio of  
21 less than 200 is a criteria for ARDS. And 12 of these  
22 patients met this criteria. Three patients had a PF  
23 ratio of between 200 and 300, which is called acute  
24 lung injury. Two patients had a PF ratio between 300  
25 and 400, which is far from normal, a value of 500 or

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1 greater being normal. And we don't know the PF ratio  
2 on two of these patients.

3           During the acute hospitalization many lab  
4 tests were run. And I'll go over the pertinent  
5 positives. One patient had a positive streptococcal  
6 pneumoniae culture obtained by sputum; another had a  
7 positive acinetobacter obtained by bronchoscopic  
8 alveolar lavage; and a third patient had a positive  
9 strep pneumoniae obtained by streptococcal urine  
10 antigen.

11           At the fall visit many lab tests were run,  
12 and a summary of these tests is available in your  
13 folder, the inclusive tests. And I'll go over some  
14 pertinent positives which include three of high Q-  
15 fever titers, one of a high legionella titer. And  
16 there were various low-level titers to various  
17 respiratory pathogens, such as chlamydia, pneumoniae,  
18 and microplasm pneumoniae. These follow-up tests were  
19 run anywhere between two to six months after  
20 incubation, so that -- what I'll call late  
21 convalescent serum. In order to determine if these  
22 titers were the cause of the pneumonia, they needed to  
23 be compared to acute serum that we have stored at  
24 WRAIR in a paired serum analysis. And this is a  
25 project that we're working on right now. In addition,

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1 all fungal and parasitic antibodies were negative.  
2 And it was also considered that perhaps some of these  
3 patients were having an immunological reaction to  
4 cigarette smoking, and we did tests of tobacco leaf  
5 extract IDG and this was uniformly negative in the  
6 follow-up patients. However, in the Japanese  
7 literature they describe pneumonia of eosinophil  
8 patients reacting to tobacco smoke extract, and that's  
9 something that we've tested, but the results are  
10 currently pending right now.

11 Talk some more about the pneumonia of  
12 elevated eosinophils. Ten patients had evidence of  
13 eosinophils; four with lung involvement and six with  
14 peripheral eosinophils only. Of the ten patients,  
15 eight were new-onset smokers as defined by restarting  
16 smoking or smoking for the first time when they  
17 arrived into theater. And if you look at the table to  
18 the right, all of these -- all the new-onset smokers  
19 developed eosinophilia. I also want to point out that  
20 the median time between symptoms to the first notice  
21 of the eosinophilia by blood test was approximately a  
22 week. Next slide.

23 This table -- during the hospitalization  
24 all patients were put on medications that could induce  
25 eosinophilia, and this table shows that no single drug

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1 is associated with eosinophilia. However, this does  
2 not rule out a idiosyncratic reaction to an individual  
3 drug in an individual patient. Next slide.

4 On our questionnaire we found no common  
5 exposure to occupational, environmental, and further  
6 infectious disease questions, such as insect exposure  
7 and contact with sick locals. I also want to point  
8 out that no common medications were taken prior to  
9 their illness. I talked about smoking in prior  
10 slides, and 37 percent of these patients smoked a  
11 mixture of foreign and domestic cigarettes. No one  
12 smoked only foreign cigarettes. Next slide.

13 This graph shows the time spent in theater  
14 prior to illness onset. If there were a common  
15 pollutant or allergen in the environment, one would  
16 expect to see a clustering in time, which is not  
17 apparent in this graph.

18 We also considered smallpox/anthrax  
19 immunizations as possible causative agents. And these  
20 graphs show the time from last immunization to illness  
21 onset, and these graphs show no temporal association  
22 between becoming ill and the immunizations.

23 So our findings to date, we have seen a  
24 high rate of severe pneumonia in Southwest Asia as  
25 compared to Army basic training posts. However, we

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1 see no common link in terms of person, place, or time,  
2 or common exposure. There is a variety of possible  
3 infectious etiologies. In looking at the eosinophilia  
4 cases, new-onset smoking could potentially be a risk  
5 factor for this. We find no common infectious cause,  
6 and no specific medication.

7 Also want to point out that we did test  
8 tobacco products. These were some products that the  
9 patients actually smoked and random samples from  
10 country, and we found no evidence of contamination of  
11 any of these cigarettes.

12 So, to give you a little bit of update,  
13 Southwest Asia was quiet in terms of severe pneumonia  
14 between mid-August and mid-January 2004. Then, in  
15 mid-January there were two new cases. Both had rapid  
16 onset of respiratory distress. They were both  
17 transferred to Landstuhl, Germany, both admitted to  
18 the ICU. One patient required mechanical intubation.

19 Both patients had peripheral blood eosinophilia, and  
20 one patient, the intubated patient, had a bronchoscope  
21 with eosinophils in the BAL fluid. Both these  
22 patients began smoking, and to date there is no  
23 infectious etiology identified. And complete recovery  
24 is expected in these patients. Both have been  
25 discharged and are on CON leave right now. Next slide

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1                   So       current       work,       our       ongoing  
2       investigation, I mentioned Iraq and Kuwait. We've  
3       identified seven severe patients with eosinophilia.  
4       We also have four non-severe pneumonia patients with  
5       eosinophilia. We talked about the three CENTCOM  
6       countries with eosinophilia. There's also a case in  
7       Korea, severe pneumonia with eosinophilia identified.

8       So if you take all these cases, plus our new cases in  
9       January, that's 17 patients with pneumonia with  
10      eosinophilia. In addition, AMSA did a retrospective  
11      case finding. Using key words, they found 17 other  
12      potential cases of pneumonia with eosinophilia. Two  
13      of these cases were mentioned in a military medicine  
14      article in 1997 by Dr. Geocovy. These two patients  
15      were at MTC, went home to Madigan (ph.) and developed  
16      respiratory failure and eosinophilia. Col. Shanks  
17      reviewed the record of the patient in Macedonia who  
18      was transferred to Landstuhl, developed respiratory  
19      failure with eosinophilia. We hope to review the  
20      records of the other 14 patients to look for any  
21      future associations with the other 14 patients we  
22      haven't identified yet from the 17 from AMSA. Next  
23      slide

24                   Ongoing, our current projects, a case  
25      control study of the severe pneumonia patients are in

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1 progress. I already mentioned the paired serologic  
2 analysis of the severe cases. Also Q-fever has proven  
3 to be an infectious cause of pneumonia in Iraq, and  
4 we're doing a pre- and post-deployment serum study to  
5 better define the prevalence of Q-fever. Provider  
6 education has been done. The team that went to Iraq  
7 put in place clinical practice guidelines for  
8 diagnosis and treatment of severe pneumonia. However,  
9 new providers are coming in, new troops are coming in,  
10 and in order to educate the new providers, the team is  
11 going to Landstuhl next month to provide a patient  
12 education experience on treatment and diagnosis of  
13 severe pneumonia. In addition, written material is  
14 being sent to providers within Iraq for the diagnosis  
15 and treatment of severe pneumonia.

16 So, in conclusion, as I worked on this  
17 project, I asked myself many times why did these  
18 patients become sick -- you know, so severely sick.  
19 And, unfortunately at this point in time we cannot  
20 give a definitive answer to this. We see that in this  
21 series of 19 patients we've had multiple different  
22 infectious etiologies which you would expect in a wide  
23 diagnosis like pneumonia with many possible  
24 etiologies. And it should be considered that we're  
25 dealing with susceptible people. Not necessarily

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1 susceptible in a genetic sense, but perhaps they have  
2 weakened immune systems during the physical, emotional  
3 stress of being in a combat zone. Also to be  
4 considered is the heat with the decreased appetites  
5 and dehydration, dust, and tobacco smoke. And  
6 probably the answer lies in a combination of all these  
7 factors.

8 I want to thank all the members of the  
9 EPICON team that are listed here. As everyone knows,  
10 there are many, many different organizations, AFIP,  
11 GEIS, who've been involved in this investigation. I  
12 want to thank the AFEB for their support and guidance  
13 during this investigation.

14 And that includes my brief, subject to  
15 your questions.

16 DR. OSTROFF: Col. Shuping, thanks very  
17 much for a very nice presentation. And let me  
18 acknowledge the fact that Col. Smoak is sitting back  
19 here and was certainly very heavily involved on site,  
20 and she may want to add some comments on her  
21 perspectives on this situation.

22 Let me just ask one question, because I  
23 didn't see it, and I don't know if you necessarily  
24 have the data in terms of the new-onset smokers and  
25 the ones that resumed smoking. You didn't present any

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1 information on how long after they had resumed, these  
2 pneumonias developed.

3 LTC SHUPING: How long...

4 DR. OSTROFF: After they either started  
5 smoking or resumed smoking this happened?

6 LTC SHUPING: I don't have that data  
7 today, sir.

8 DR. OSTROFF: First Greg and then Dr.  
9 Berg.

10 DR. GRAY: Thanks. This is Greg Gray.

11 As I recall in the Japanese literature,  
12 looking at this some months ago, they had, in addition  
13 to some of the tests that you're running, they had a  
14 challenge test. And I'm wondering, of the people that  
15 were in theater that developed eosinophilic pneumonia  
16 of this severity, how many of them stopped smoking; do  
17 we know? And if they've stopped smoking, has anyone  
18 considered a challenge? I mean, running one -- I  
19 don't know what you're going to do with your EI  
20 against smoke, but there are many different products,  
21 I think, in smoke, and it -- to weed out which one  
22 might be causing the reaction might be difficult.

23 The Japanese took a very aggressive stance  
24 and did some sort of challenge study. So do you know,  
25 number one, if they continued to smoke; and, number

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1 two, if anyone's considered sort of a challenge study  
2 to look at -- to actually have them smoke and then  
3 look at their immune response?

4 LTC SHUPING: Most of these patients quit  
5 smoking. Has a history of, "My last cigarette was,  
6 you know, the day I got ill." However, some of these  
7 patients -- and I can't give you an exact number --  
8 but let's say maybe 25 percent have resumed smoking.  
9 And as far as the challenge test, I think that'd be an  
10 IRB challenge to administer.

11 DR. GRAY: Why?

12 COL ENGLER: My department is involved in  
13 the allergy --

14 DR. OSTROFF: You need to come to a  
15 microphone.

16 COL ENGLER: Yeah. We discussed that, but  
17 in regards to particularly a hypersensitivity  
18 pneumonitis, the affects of rechallenge when the  
19 potential for causing serious disease exists and you  
20 have a choice for avoidance is very clear. You don't  
21 do it. I mean, it's not in the standard of care. It  
22 would only have to be done in the context of -- you  
23 know, of informed consent, and I'm not sure a human  
24 use committee, given some of the guidelines that exist  
25 regarding challenges in the hypersensitivity

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1 pneumonitis literature, would approve it. And that's  
2 one of the reasons we coordinated with Roy Patterson  
3 (ph.) -- or rather with Paul Greenberger at Chicago,  
4 was to try to do some of the assays, and also to look  
5 at smoke and the content of the cigarettes, to try to  
6 clarify, you know, if there was a potential for it.  
7 But, I mean, I don't know any human use committee,  
8 certainly not Walter Reed's Human Use Committee, that  
9 would authorize the challenge.

10 DR. GRAY: Well, I mean, certainly without  
11 informed consent. But if you consider that 25 percent  
12 are smoking anyway, and that there's the additional  
13 risk of passive smoke, one might argue that it would  
14 be in their interest, in a controlled environment, to  
15 challenge them, at least to a limited extent, and see  
16 if they have a --

17 COL ENGLER: Well, the -- see, the  
18 perception of the work ops as the cases were reviewed  
19 in our clinical case discussion is that the suspect  
20 cigarettes are the black market, on-the-ground  
21 cigarettes, not American cigarettes. And whether --  
22 and that was why the search for some kind of content,  
23 you know, potential lacing or whatever. So I'm not  
24 sure challenging them with American cigarettes would  
25 be relevant. That was the clinical impression in

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1 reviewing those cases.

2 DR. BERG: I was going to suggest you  
3 might not need to do a rechallenge, you would just  
4 follow them, see how many restart on their own.

5 Renata, though, raised an interesting  
6 point. If you're that concerned about the possible  
7 adverse effects, what were these people told about  
8 starting smoking again? Were they told that this  
9 could be life-threatening?

10 COL ENGLER: They were vehemently  
11 counseled extensively in regards to the risk, and that  
12 they should avoid both active and passive smoke. And,  
13 you know -- and they were offered extensive help,  
14 also, and support to -- in terms of nicotine  
15 replacement therapy. Because obviously just telling  
16 someone to stop smoking has a less than two percent,  
17 you know, efficacy. So we offered nicotine  
18 substitutes, et cetera. So -- but the behavior is  
19 certainly -- even with replacement, you have a failure  
20 rate, you know, that's over 50 percent.

21 So -- but again, it was our perception, in  
22 talking with these patients, and every case was  
23 presented to the entire staff in the allergy rhinology  
24 department. We reviewed these at length. Is that it  
25 would -- that the real potential culprit was the black

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1 market cigarette. And in some cases they had smoked  
2 -- you know, been exposed to smoke, you know, regular  
3 cigarette smoke passively prior to their deployment  
4 and had no problem. So we were suspect. Or the  
5 combination of the heavy dust exposure, you know, is  
6 there -- was there a permissive process by virtue of  
7 being in Iraq and in that environment.

8 One of the things that we are -- the issue  
9 of -- redeployment sites for the reserves like Fort  
10 McCoy have contacted us because they have a very high  
11 volume of people coming back with respiratory  
12 symptoms. So actually Col. Harten and one of my  
13 fellows is right now up at Fort Dix to try to do a  
14 survey about respiratory symptoms and seeing if we  
15 could segregate whether it's asthma or new-onset  
16 asthma or whatever. So I think this is an issue that  
17 -- on the clinical level. And maybe with the VA  
18 connection and follow-up as to how long does this take  
19 to recover after return.

20 DR. BERG: What contaminants did you test  
21 for and how did you select them?

22 LTC SHUPING: What, what --

23 DR. BERG: You said you tested the tobacco  
24 for the contaminants.

25 LTC SHUPING: Oh, right.

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1 DR. BERG: Which ones, and how did you  
2 come to choose those?

3 LTC SHUPING: Could you go to Slide 40,  
4 please. 4-0. This is what we did. Dr. Jack Heller  
5 at CHIPPM, he was the lead person on the tobacco  
6 analysis. And some of the patients -- one patient  
7 smoked cigars, and we actually had a bag with one of  
8 the cigars that he smoked. But that was,  
9 unfortunately, the exception than the rule.

10 A lot of these patients were way gone by  
11 the time we knew about this investigation. Certainly  
12 the March, April, May cases. But for the June-July,  
13 they picked APCs, stores that the soldiers could have  
14 potentially bought cigarettes. And I don't have the  
15 exact methodology of what they sampled, but they did  
16 take a random sampling from potential stores that they  
17 could -- soldiers could buy cigarettes from.

18 DR. BERG: Thank you.

19 DR. OSTROFF: Dr. Gardner?

20 DR. GARDNER: I keep -- we really haven't  
21 sorted out very well that this is an infectious  
22 hypersensitivity reaction to either dust or toxin or  
23 smoke. But, and we have ten of the -- only 10 of the  
24 17 smoked. That's -- you've got seven to explain  
25 where the smoke isn't an exposure. And, again, nine

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1 out of -- I guess we have ten that have some sort of  
2 -- no, I'm sorry, we have ten also who have  
3 eosinophilia; right? That's -- so, again, we have  
4 quite a large number to explain. And the other thing  
5 that's -- continues to bother me, no one really  
6 documented whether the eosinophilia was there at the  
7 beginning and evolved in the pathogenesis of the  
8 pneumonia, or whether it was a response to something  
9 that they received. They receive a lot of drugs and  
10 things, and eosinophils were documented, I think, on  
11 an average of somewhere around five or six days into  
12 the illnesses, as we heard on the telephone. So  
13 that's the other big block here. Is this -- was this  
14 here at the beginning, or was it a -- something that  
15 happened. Eosinophils complicate lots of pneumonia  
16 therapy. So it's not too uncommon, if you look a week  
17 later, to find eosinophils in the recovering pneumonia  
18 even. So I'm still a little bothered with the -- the  
19 missed opportunity here was to learn more about what  
20 happened at the very beginning, what was the  
21 observations. We -- some of the cases, I thought, at  
22 the beginning were not febrile at all, the ones we  
23 heard about on the telephone. And, again, some had  
24 productive cough with sputum and many did not. So  
25 there's -- I viewed this as a potpourri. The overall

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1 incidence is well within background noise. And I'm a  
2 little loath to label this as a new type of finding  
3 and give it a new name of Iraqi pneumonia or whatever.

4 It seems to me we've got a collection here with  
5 probably multiple etiologies.

6 COL UNDERWOOD: I think your  
7 interpretation is where we're going, is that it's  
8 definitely multiple etiologies. Part of the problem  
9 of making a diagnosis in theater is one, as you were  
10 shown today, is that a soldier who becomes ill out in  
11 the field, his first contact with medical is that with  
12 a person or a medic who will have antibiotics but no  
13 way of making any diagnoses other than a clinical  
14 diagnoses. And their first reaction is to try to  
15 treat and get the guy back to his job.

16 And it's only -- and that's why, when you  
17 start reviewing these cases, you'll see there will be  
18 multiple -- usually they have gone to the BAS or some  
19 first-level echelon of care once or twice in order to  
20 try to -- and probably 90 percent or 95 percent of the  
21 cases can be handled locally, and then they go  
22 forward.

23 But even at the hospitals in Iraq at the  
24 time, the only way, if they wanted to do a manual  
25 count, it had to be done -- they -- to get

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1 eosinophilia they had to do a manual blood count, and  
2 that just wasn't normal -- that wasn't standard of  
3 care.

4 DR. GARDNER: I recognize that, but things  
5 like fever, no fever, sputum, no sputum, they have to  
6 be able to follow the patient from the beginning on  
7 through. And they're the questions that we've been  
8 raising yesterday, should there be, and maybe it's not  
9 possible -- again, a tube of blood would have been  
10 really helpful even if you had no facilities to do it.

11 So maybe that's a possibility, think about getting a  
12 tube of blood.

13 COL UNDERWOOD: Well, a tube of blood in  
14 the United States sounds like a very reasonable thing.

15 A tube of blood in Iraq was, you know, again, not  
16 having -- you might have been able to get a red top  
17 because the caches were able to do -- you know, for  
18 blood banking purposes, have some tubes like that.  
19 Again, refrigeration is a major problem. How are you  
20 going to transport that tube and keep it -- you know,  
21 the ambient temperature is 130 degrees. It's a very,  
22 very harsh environment, and many of the -- even what  
23 you would think are minimum standards of care would be  
24 almost heroic to maintain in an environment like that.

25 I mean, I think now --

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1 DR. GARDNER: Sorry for the clinical  
2 observation.

3 (Laughter.)

4 DR. OSTROFF: Dr. Patrick.

5 DR. PATRICK: It's impressive -- Kevin  
6 Patrick -- the clustering in the summer, and we were  
7 chatting a little bit at lunch, what's the role of  
8 heat and dehydration in this? I'm sure there was  
9 speculation on that, but I'm just wondering what the  
10 conclusion was?

11 COL UNDERWOOD: I'm not actually sure  
12 about dehydration because there was actually a very  
13 active campaign in theater to keep people hydrated and  
14 try to get water -- there was water rationing, we were  
15 only allowed about three bottles of water a day and  
16 then, you know, whatever you could steal during meals  
17 and stuff like that. But people seemed to be  
18 relatively well hydrated. If anything, it was some  
19 people were over-hydrated. That message that you  
20 needed to drink was there.

21 But I can't even describe -- the closest  
22 thing I can describe about the heat is turn on your  
23 oven and open the door and put your face in it, and  
24 that's the sensation of how hot it was. I mean it is  
25 hot, so hot that when you went to the store to buy a

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1 little candy, they were completely melted in one glob.

2 I mean totally hot. So I think the heat had more of  
3 an effect on people's appetite and an unwillingness to  
4 go eat or even to really wanting to have to -- if you  
5 didn't have an MRE, having to walk down a quarter of a  
6 mile, half a mile to a chow hall, because then, you  
7 know, the more activity you do, the hotter you get,  
8 too.

9 So while I can't -- we've been trying to  
10 document the decrease in nutritional status during  
11 that time period and everyone involved, from the  
12 physicians and from soldiers themselves will tell you  
13 it was not unusual for soldiers to lose 20 pounds and  
14 stuff like that during that time period, because it  
15 was just literally too hot to eat.

16 DR. OSTROFF: I would presume that it was  
17 cool in January.

18 LTC SHUPING: Yes, sir, here's some  
19 objective data on the average daily temperature in  
20 Iraq, and between June and August the average daily  
21 temperature was between 35 and 40 degrees Celsius, so  
22 it was very hot then. January, we don't have that, we  
23 have February, much cooler. Actually we only have  
24 Kuwait in February since we weren't in Iraq at that  
25 point. But 15 to 20 degrees Celsius is an average

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1 daily.

2 DR. OSTROFF: Let me ask you one more  
3 question and I think we'll have to probably move on.  
4 Since we are the Armed Forces Epidemiology Board, can  
5 you at least describe a little bit the case control  
6 study and what you're doing in terms of the selection  
7 of controls?

8 LTC SHUPING: Certainly. Each patient  
9 that came back for the patient interview, they  
10 identified five people that lived and worked with  
11 them, and the questionnaires are being sent to the  
12 respective bases of these individual soldiers and the  
13 preventive medicine physician at that base is doing  
14 the questionnaire to these identified controls.

15 DR. OSTROFF: And how many controls per  
16 case?

17 LTC SHUPING: We're looking at three  
18 controls per case.

19 MAJ WINTERTON: Major Brad Winterton from  
20 the Air Force Institution of Operational Health.

21 Just for a reference point for those who  
22 haven't been to this part of the world, when you're  
23 talking about air temperature of about 120 degrees, if  
24 you take a baby doll stem (ph.) thermometer and set it  
25 on the ground, it will read 160, so bottled water that

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1 these troops are drinking in theater that sits on a  
2 pallet in the direct sunlight is somewhere between 120  
3 and 160 degrees when they drink it. And part of the  
4 problem is that the troops -- it's unpalatable. It  
5 may be safe, it's definitely wet, you know, but it's  
6 unpalatable when it's that hot and that prevents  
7 troops from drinking what they should.

8 VOICE: Are these quart or pint sized  
9 bottles?

10 MAJ WINTERTON: One liter bottles. Some  
11 are one liter, some are two and a half, depending on  
12 the supplier and the base.

13 VOICE: In a hot environment like that,  
14 you can sweat two to three quarts out.

15 MAJ WINTERTON: Absolutely.

16 VOICE: You can only sustain that up to  
17 about 12-15 per day, but three bottles isn't going to  
18 replace 12 quarts a day.

19 MAJ WINTERTON: And just as another point  
20 of reference, when you open the oven in your kitchen  
21 and you get that -- you know, you're a little too  
22 close to it, and you don't get burned, but it's a  
23 little bit painful, that's what it's like to walk  
24 outside in the middle of the day in this part of the  
25 world in the summer -- it hurts, it's physically

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1 painful to the skin.

2 VOICE: I never felt that.

3 (Laughter.)

4 MAJ WINTERTON: You're used to it, sir.

5 DR. OSTROFF: Last question for you. When  
6 do you anticipate having the case control study  
7 completed and analyzed?

8 LTC SHUPING: Part of the answer depends  
9 on when the controls come back in the country. It's  
10 not feasible to track them down when they're in  
11 country, so I would say three to four months. Most of  
12 these troops are rotating back.

13 DR. OSTROFF: Can I make a request that we  
14 have an update at the May meeting, so that we can hear  
15 some of the findings of the case control study?

16 LTC SHUPING: Yes, sir.

17 DR. OSTROFF: Thanks very much.

18 Why don't we take our 15 minute break now  
19 and then when we return, we'll have the update from  
20 the Navy/Marines.

21 (A short recess was taken.)

22 DR. OSTROFF: I think that Capt. Kilbane  
23 is going to make some comments and then plans to yield  
24 to Commander McMillan, is that correct?

25 CPT KILBANE: Yes, sir. For the court

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1 transcriptionist, I'm Edward Kilbane.

2 I just want to make a very few brief  
3 comments so that we have enough time for the  
4 presentation and for questions on the malaria outbreak  
5 that was a -- those were Marine Corps patients with  
6 Navy doctors.

7 Let me just say briefly in summary for the  
8 Navy update, the requisite policies are being crafted  
9 and published, the programs for preventive medicine  
10 are being executed, and we still have overweight  
11 people who smoke and drink too much and don't  
12 exercise. That's our current status.

13 One positive note. I went through the  
14 list of some of the AFEB recommendations recently, and  
15 the one that I think we are making progress on, and I  
16 know we're making progress about this because  
17 Commander McMillan was complaining to me this morning  
18 on the bus about it, is the preventive health  
19 assessments. Somehow, somewhere in previous regimes,  
20 someone had the great stroke of genius to put the PHA  
21 as part of the physical fitness program, which is not  
22 managed by the medical department, it's actually  
23 managed by a bunch of aggressive E-6s who want to make  
24 chief petty officer, so therefore, it will be done.

25 (Laughter.)

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1 CPT KILBANE: This is the first year that  
2 they're really -- so far, they're enforcing that  
3 requirement that nobody can take the physical  
4 readiness test without having a current preventive  
5 health assessment done.

6 There's a field on the computer screen  
7 that must be filled out, and it must be within a year,  
8 so we'll see how many of those are attempted to be  
9 filled in. Hopefully that will work.

10 The very last thing I want to say is that  
11 I took over the job back in July, and I'm discovering  
12 more and more about my job. And I'm just coming to  
13 the realization of how sausage is made there. It was  
14 explained to me that in an effort to elevate the level  
15 of preventive medicine in the Navy, that our office  
16 was 18 months ago divided into three sections, put  
17 into different departments that can't communicate with  
18 each other. So, hopefully, there's a move afoot  
19 within the next few months, I think, to, hopefully,  
20 fix some of that. So I'm looking forward to better  
21 things and to give you a better update next time about  
22 those fat people who are smoking and drinking and  
23 beating their kids.

24 Okay, I'll yield the floor to Commander  
25 McMillan, who will give you, hopefully, the final

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1 story on the malaria outbreak.

2 CDR MCMILLAN: I always hate to follow  
3 such entertainment as that. Just as a bit of a  
4 trivial thing, I don't know how many of you people  
5 know that of the six men in this picture, one at the  
6 time was the equivalent of a Navy hospital corpsman, a  
7 pharmacist mate. And it's this guy right there, and  
8 he was one of only three of these six that lived  
9 through the next two weeks of this battle. Next,  
10 slide.

11 Today we're going to talk about malaria  
12 outbreak that occurred last August. The group, or the  
13 situation with the Marines of a Marine Expeditionary  
14 Unit assigned to an Amphibious Ready Group. These are  
15 all the terms for you. It was to go ashore at Roberts  
16 International Airport and provide security while some  
17 engineering repairs were made at the airport. So a  
18 quick reaction force, which is a small group of  
19 Marines were assigned with that responsibility. Next  
20 slide.

21 So what we did following the -- and where  
22 this presentation is coming from is this was an  
23 investigation that was done aboard ship immediately  
24 after the outbreak, off the coast of West Africa,  
25 because what we needed to find out was as best we

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1 could what happened, and the key was to determine  
2 whether we needed to make some dramatic changes for  
3 future operations to avoid similar outbreaks. Next  
4 slide.

5 In a meeting that we held in Washington,  
6 D.C., we had -- all these organizations were  
7 represented, including Dr. Ostroff who joined us by  
8 teleconference. Next slide.

9 So to kind of help define some of the  
10 populations that we looked at and that we're talking  
11 about here, there were 290 people that spent some time  
12 ashore, and we'll see that a little bit later, and  
13 I'll point it out as far as a denominator that was  
14 used. The quick reaction force with a group of  
15 marines, and that was 225 people. This was a joint  
16 task force, so there were more than just Marines  
17 involved in this overall, but that was the group that  
18 of course we looked at most closely, and we surveyed  
19 157 of those aboard ship. We got serum mefloquine  
20 levels on 135, that parentheses is because only 133  
21 were testable. We'll see that a little later.

22 The sequence of events, basically the  
23 Marines were ashore at the time between the 14th and  
24 the 26th of August. When they came back aboard ship -  
25 - and this is a little bit maybe misleading, it's just

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1 that a good number of them, probably over half, had  
2 some vague symptoms, some with just headaches, some  
3 felt a little hot, some had some abdominal pain and  
4 diarrhea, constitutional symptoms, and the surgeon  
5 aboard the USS Carter Hall immediately suspected  
6 malaria and he told them, hey, go ahead and double up  
7 on your mefloquine, we're going to get this treated.  
8 Probably pretty good catch for a guy that was straight  
9 out of a pediatric internship from his scholarship  
10 program at the Navy, and now he's off the coast of  
11 West Africa taking care of Marines coming out of a  
12 tropical location.

13 But the symptoms pretty quickly resolved,  
14 most of the guys started feeling well, and at that  
15 point he goes, well, it couldn't have been malaria,  
16 they got well too quick. But then on the 3rd of  
17 September, Marines started reporting again with  
18 abdominal pains, fever, and chills. Next slide.

19 And then on the 4th of September, it  
20 became suspicious that there was some type of  
21 outbreak, they weren't really sure what it was and  
22 they -- Carter Hall requested assistance from Iwo  
23 Jima. Two of the Marines got significantly worse and  
24 were transferred over to Iwo, they had abnormal blood  
25 chemistry studies, they had a hypotension that was not

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1 responding to fluid boluses. They were even given  
2 thrombocytopenia. One of the surgeons on board the  
3 Iwo Jima who had just completed the military tropical  
4 medicine course a few months prior made the  
5 confirmation of malaria by peripheral smear.

6 So at this point in time, on the 5th  
7 actually, the two Marines here were medivac'd up to  
8 Landstuhl, and they went up and started doing some  
9 kind of active case identification for anybody with  
10 fever and abdominal pain, and 31 were identified and  
11 evacuated up to Bethesda. The following day, ten more  
12 cases were identified.

13 So in the total cases that were  
14 identified, it was 80 total, and this shows the  
15 breakdown. Of course, the majority were Marines, but  
16 seven Navy were the corpsmen attached that were out in  
17 the field also, had one Army and one civilian; 51 had  
18 positive smears, either at Bethesda or aboard ship.

19 So when we look at the AFMIC prediction  
20 for unprotected population in Liberia, it was 11 at 50  
21 percent. And so those that slept ashore, that group  
22 had a 44 percent attack rate, so we kind of validated  
23 AFMIC's suspicions. For those in that 290 group, the  
24 larger group, 28 percent of those had spent any time  
25 ashore, had an attack rate.

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1           We had some questions that we needed -- we  
2 felt we needed to answer regarding future stuff, and  
3 some one of them was there was a generic mefloquine  
4 was used, so the question was was this bad -- did it  
5 not have the correct potency, was there something  
6 wrong with the medication. We actually had some of  
7 the Marines that were medivac'd to Bethesda, we  
8 reached in their pockets and pulled out the blister  
9 packs of mefloquine and sent those off in addition to  
10 some that was in the pharmacy, so we tested stuff that  
11 they were actually taking at the time. And they  
12 determined everything was at least within their  
13 guidelines as far as they were concerned regarding the  
14 formulation and the potency.

15           Compliance with the mefloquine, we did the  
16 133 serum levels that were tested, and only seven had  
17 evidence of both a protective level and evidence of a  
18 steady-state level.

19           We had 19 that had a protective level, but  
20 they didn't have evidence of achieving a steady state  
21 ratio, 93 overall had good ratios but without a  
22 protective level. In other words, it indicated they  
23 had probably been compliant at some point in the past,  
24 but not at the time, and the blood was drawn fairly  
25 soon after they got back aboard ship, so within about

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1 a week or so.

2 And then WRAIR did some testing, and the  
3 parasite was determined not to be resistant to  
4 mefloquine at the levels at which we determined would  
5 be physiologically active, 620 nanograms per  
6 milliliter. It wasn't as sensitive as a sensitive  
7 parasite that they used kind of as part of their  
8 control in the testing, but once again, given the fact  
9 that at the levels -- blood levels that we expected to  
10 see, there's plenty of slack to make sure that those  
11 people would be -- it would have been protective.

12 So then we looked also at the issue of  
13 DEET use. They did have a long acting formulation  
14 that's available now. It's the one that the New  
15 England Journal of Medicine did an article sometime  
16 ago on repellents, and it was the one that they found  
17 best. Consumer Reports even gave it their star of  
18 approval. And this is 27 percent used DEET at least  
19 once. So that was a pretty low bar we set for just  
20 that.

21 Permethrin-treated uniforms, only 12  
22 percent had them available ashore. They had their  
23 uniforms all treated, but they had their desert  
24 camouflage uniforms treated. They went ashore with  
25 their woodland camouflage, so there was only a few

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1 that had that treated.

2 Bed nets, when this was initially planned,  
3 this was a three to five day evolution, they wanted it  
4 to be man portable, get off the helicopters, get out  
5 there, set things up, get back on, go back home. It  
6 was not looked at as being a long term thing, and  
7 since they were going to be staying around the  
8 airport, the ability to easily set up bed nets, they  
9 just didn't decide to take those. As it kind of kept  
10 creeping longer and longer and longer duration,  
11 exposures continued. There were no screened areas,  
12 there was no area to get away from the mosquito  
13 populations.

14 So some of the things that we've done as  
15 far as improvement efforts following this is for the  
16 current redeployment or our current deployment back to  
17 Iraq this time, the Marines got their uniforms treated  
18 by a commercial establishment. They sent them out and  
19 got it done. Some of the issues there were the fact  
20 that the new Marine uniform, they're kind of digital  
21 uniforms, have a permanent press treatment, and the  
22 question was how is that going to affect permethrin  
23 adherence and durability. So they were able to do  
24 some quick tests on that and found out it really  
25 didn't appear to have any problems with durability.

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1 They're still testing long term on that, but right now  
2 it looks like that wasn't going to be a problem. And  
3 of interest, there is actually, if you go look at the  
4 stock numbers, there are factory treated permethrin  
5 uniforms in the stock system, but nobody's ever  
6 bothered to do contract and get them put into  
7 production.

8 So whether we'll be able to get that done,  
9 but right now we have a good system for getting the  
10 commercial treatment done.

11 Refresher training for medical staff prior  
12 to deployment for the OIF-2 version, they locally  
13 worked that together. Right now we're trying to work  
14 with several different organizations towards who best  
15 can provide this kind of training to the medical staff  
16 before they go out.

17 And then the issue of we're actively  
18 looking at trying to get an improved bed net system.  
19 Change the slide. This is kind of a picture of it,  
20 it's a self supporting kind of spring loaded. It's  
21 just sitting on the floor here, little straps where  
22 you can strap it down to a cot or you can actually  
23 strap it to a stretcher for patient transport. It's  
24 actually lighter weight than the current four wooden  
25 poles and net. And so the trouble is that the fabric

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1 is made in China, and it's assembled in Korea, so when  
2 you look at some of these buy in America for DoD  
3 acquisition stuff, that kind of changed the apparent  
4 price. It's a very small vendor, it's a DoD -- it  
5 turns out it's a DoD owned patent, so we didn't run  
6 into any problems with that, but it's a very small  
7 vendor so the Marine Corps SISCO has ordered 1000 for  
8 further evaluation and also just to see how long it's  
9 going to take the vendor to get them at least 1000 of  
10 them.

11 Some future efforts, stuff that we're  
12 working kind of with the Navy on is to get Malarone  
13 and quinine added to the ships' pharmacy. These guys,  
14 the two that were medivac'd to Landstuhl were put on  
15 IV quinidine. The rest of them were treated with  
16 doxycycline.

17 There is a rapid serological test for  
18 malaria, kind of as an anecdote. It's certainly not  
19 FDA approved at this point in time, but they had  
20 several of them that were down at the Uniformed  
21 Services University, used as part of kind of a  
22 demonstration, this is what it looks like. So they  
23 went and got a handful of them, compared them to --  
24 tested some of the sera on patients that they had  
25 smears on, and one of the tests came up positive that

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1 they had had a negative smear on. They went back and  
2 looked at the smear again, and it indeed was positive,  
3 they had missed it. So they were pretty impressed  
4 with the results of the little serological test.

5 And then of course malaria vaccine  
6 research is something that we're supporting and  
7 continuing.

8 Any questions?

9 DR. OSTROFF: Thanks very much. Let me  
10 open it up to questions, but I'll just preface my  
11 comments that this gives airport malaria a whole new  
12 dimension.

13 You know, there was a lot of discussion  
14 when we last heard about this, about the fact that  
15 they all basically said that they were taking their  
16 medication. Did somebody go back and do some sort of  
17 an assessment of what actually happened? I mean, you  
18 know, as was pointed out the last time, this was  
19 essentially a total system failure in terms of  
20 protecting these people. Part of it on their part and  
21 part of it on the Navy/Marines part.

22 What was the real story once you got the  
23 lab results back?

24 CDR MCMILLAN: There were only -- I do  
25 know the two Marines that were eventually diagnosed

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1 with having cerebral malaria were one of I think only  
2 about four that had essentially no detectable levels  
3 of mefloquine. Everybody else had some evidence of  
4 past compliance, of at least taking some medication.

5 DR. OSTROFF: I thought at one point, if I  
6 remember correctly, weren't they all being lined up to  
7 take it once a week on board ship and supposedly  
8 somebody was watching them take it.

9 CDR MCMILLAN: It varied by unit, as it  
10 turned out. I mean, there's mefloquine Monday, and I  
11 don't know they've got all sorts of -- psychotic  
12 Thursday, I don't know, but each unit would pick a day  
13 of the week that they would remind the people okay,  
14 today is the day to take your medication. There was  
15 not really any directly observed therapy across the  
16 board. Some units did it in formation, some did not.

17 DR. OSTROFF: So has that problem been  
18 addressed?

19 CDR MCMILLAN: There is a JAG manual  
20 investigation that's floating its way through the  
21 system. It's still at the European commander's desk.

22 And that I believe is going to serve as an impetus to  
23 really address the unit leadership issues that may be  
24 involved here.

25 We've looked at the issue and that's been

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1 questioned before as far as lining people up and doing  
2 the direct observe therapy. Depending on the  
3 situation, that may or may not be a good idea. Aboard  
4 ship, it's probably not a difficult thing to do, but  
5 once you get them into the field, it may be tactically  
6 disadvantageous to do that.

7 So we're trying to work around what's  
8 going to be the best thing, but -- and that's the  
9 reason I kind of qualified this at the beginning.  
10 This was a quick and dirty kind of epidemiological  
11 investigation, to look at just the issues of  
12 medication, parasite resistance and then, of course,  
13 compliance to see what was the failure and where the  
14 problem was.

15 DR. OSTROFF: I guess from my -- I mean,  
16 not necessarily wanting to place blame, because that's  
17 not particularly helpful, but looking forward, you  
18 know, when you have people going into a zone where the  
19 risk is approximately 50 percent likelihood of  
20 acquiring malaria in a week, you've got to do  
21 something to make sure that they take the medication.

22 And it's just not acceptable to say, you know, maybe  
23 we'll do directly observed or whatever, because, I  
24 mean, it's guaranteed that in a similar situation,  
25 you're going to get right back where you were before

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1 if you don't systematically put something in place to  
2 make sure you've done everything that is feasible  
3 within your power to make sure that they get  
4 protected.

5 CDR MCMILLAN: And I think that's what has  
6 been brought up before, is the issue of complacency  
7 here. I think it was an issue of a crying wolf once  
8 too many times, they had been in Iraq, and they'd been  
9 on the malaria prophylaxis and you know, those that  
10 were non-compliant or poorly compliant suffered no  
11 consequences of it, and they just, I think, really  
12 failed to realize -- and I think they also had some  
13 failure in communicating the difference in risk that  
14 was -- that they were going into.

15 DR. SHAMOO: But that's not an acceptable  
16 explanation. Iraq doesn't have a history of malaria;  
17 Africa is full of malaria. There's one million deaths  
18 a year from malaria in Africa. So the knowledge and  
19 information from the medical command should have known  
20 that.

21 DR. OSTROFF: Jackie.

22 DR. CATTANI: Yeah, Jackie Cattani. I  
23 think your comment when you said regarding the  
24 insecticide treated bed net, that they thought they  
25 were going in there quickly, and they wanted to get

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1 out quickly, and put that together with the fact that  
2 there was mefloquine in a lot of the blood samples,  
3 but not a stable dose, is a factor of mefloquine, that  
4 in fact they need to be taking it two weeks before  
5 they go into a place in order to have stable levels  
6 when they go in. And a drug like Malarone would have  
7 been useful in this occasion because you can take it  
8 the day that you go in. So if you are using it on a  
9 very short term basis, in a small group of people,  
10 even though it's more expensive, and it needs to be  
11 taken daily, it seems like this would be the perfect  
12 indication for a drug like Malarone.

13 And I think the other thing that's very  
14 important, when you look at resolving this whole  
15 issue, comes back to risk communication. And I don't  
16 think there's been a very good job across a lot of  
17 areas of communicating risk. I mean we talk about oh,  
18 yeah, you have to tell them that there's malaria out  
19 there. But I think you have to do more than that.  
20 You really have to talk about -- you have to address  
21 the issues. If they're concerned about the side  
22 effects of mefloquine, we can sit here and say that  
23 there is no good scientific evidence or that their  
24 studies have never conclusively proved, but the fact  
25 is people that have had their experience with

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1 mefloquine and don't like it are going to look for  
2 reasons not to take it. And unless you are honest and  
3 above-board -- if you go to these forces and say well,  
4 you take this mefloquine, there's nothing wrong with  
5 this, this is just all in your head, you know.  
6 They're not going to buy it. I think if you expect  
7 them to take it, you have to be up front about the  
8 side effects or you have to offer them a different  
9 option, and I think in the case of these short term  
10 issues, that Malarone would be a good option.

11 DR. OSTROFF: Let me just say I agree with  
12 you 110 percent, that this is the ideal situation for  
13 Malarone.

14 VOICE: I'm not sure why you chose  
15 Malarone over doxycycline in this instance, but in  
16 both cases, you have to realize that the problem with  
17 the daily dose -- well, first of all, Malarone is  
18 extremely expensive, and that's why it really hasn't  
19 made its way into the military pharmacy as a drug  
20 that's used for a large number of troops. And that's  
21 why we still rely on doxy and mefloquine.

22 DR. OSTROFF: I'm tired of hearing that  
23 drugs are expensive. Honey, get your head out of the  
24 sand. Malarone is a great drug, and it ought to be a  
25 viable option. I mean if you, to a certain degree,

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1 empower the troops to make decisions about which  
2 choice of prophylaxis they would like to take, your  
3 compliance is going to go up a lot.

4 DR. CATTANI: Especially in the case where  
5 it's short term and relatively small numbers of  
6 people. And it's a quick entry, like these helicopter  
7 guys that we were talking to today, they go in, they  
8 don't have much advance warning -- it's the best drug.

9 And the reason I would suggest Malarone over doxy  
10 really apart from cost -- I know Malarone is expensive  
11 -- is that it has even fewer side effects. I mean  
12 doxy does have some, you've got -- and then there are  
13 people that don't like doxy, that get upset stomachs  
14 and photosensitivity, and Malarone really has very few  
15 side effects.

16 VOICE: The other point I was going to  
17 make is the length of the deployment. Just as they  
18 thought they were going to go in and out quickly, they  
19 weren't able to do it. Likewise in Somalia, there was  
20 a Marine unit that went in on doxy and where it had to  
21 be switched to mefloquine is a policy decision and  
22 again got into the problem of it's not two weeks, it's  
23 actually seven weeks you have to be on mefloquine to  
24 reach steady state levels. And did not have enough  
25 overlap and then had over 60 percent -- not 60 percent

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1 -- 60 individuals that came down with malaria while  
2 they were in Somalia.

3 So none of these are easy decisions to be  
4 made, and I think, you know, it is true we need  
5 command emphasis, and that command emphasis comes from  
6 the line, and it's a medical responsibility for us to  
7 educate the line as much as possible and to advise  
8 them to do direct observation. And you know, that's  
9 what our job is on the medical side.

10 DR. OSTROFF: Yeah, I agree with you, but  
11 I think that, you know, all of us who deal with  
12 malaria and deal with travel medicine and things of  
13 that nature know that trying to get people to comply  
14 with mefloquine, particularly in this population,  
15 you're swimming upstream if you think you're going to  
16 be able to improve their willingness to comply with  
17 this therapy. And so I think that particularly in  
18 very high risk locations, you've got to think of what  
19 plan B is, and you know, plan B is not necessarily  
20 just doxycycline. You know, somebody at some point  
21 has to reasonably think that Malarone is a great  
22 alternative.

23 COL GIBSON: I would point out that  
24 including Malarone as an alternative anti-malarial for  
25 resistant areas was a policy statement that was made

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1 by Dr. Tornberg, the Deputy Assistant Secretary in  
2 '02, late '02. And it is in our formulary, and we've  
3 been asking some questions back to the joint staff  
4 about when messages are put out as to what types of  
5 malaria prophylaxis should be used, statements from  
6 the combatant commanders why Malarone is not included  
7 as at least an option on those things.

8 Now in my mind -- and I'm speaking  
9 personally here -- the cost issue is way, way at the  
10 bottom. All the other things that Bonnie has pointed  
11 out are very true, and certainly what you said about  
12 short term, getting them on, is absolutely true, but  
13 that drug needs to be part of our materiel. The AFEB  
14 has issued recommendations on those, and from a Health  
15 Affairs standpoint, we have very much taken those  
16 recommendations to heart. Risk communication -- and I  
17 was hoping Dave would mention the knowledge, attitudes  
18 and beliefs study that we're beginning on anti-  
19 malarials as a whole and anti-malarial prevention as a  
20 whole, to get our hands wrapped around it, for two  
21 reasons -- with respect to mefloquine, for two reasons  
22 -- one, we need to know why, clearly why we have this  
23 resistance so that we can target risk communication.  
24 And if it's so profound, we need plan B.

25 So the results of that are going to be

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1 very helpful.

2 DR. OSTROFF: John.

3 DR. HERBOLD: My favorite diagnostic tool  
4 is the retrospectroscope, and if I could afford it,  
5 I'd buy two.

6 (Laughter.)

7 DR. HERBOLD: That said, I'd like to shift  
8 the emphasis back to the statement about the risk  
9 assessment, and the phrase I saw up there was that  
10 AFMIC said the risk was 11 to 50 percent. My question  
11 is about the precision of the estimate, having used  
12 AFMIC information before. Was that about that  
13 particular airport, was that about Liberia, was it  
14 about that quadrant, was it about this time of year or  
15 was it no better than going on the CIA website and  
16 getting their national medical estimate? That's my  
17 question.

18 DR. OSTROFF: I don't know the specifics  
19 of that, but everybody knows that you get malaria in  
20 Liberia.

21 (Laughter.)

22 DR. OSTROFF: It doesn't make any  
23 difference where you are in Liberia, you're at risk.

24 DR. HERBOLD: So if somebody was going,  
25 and for our people, for our embassy people, are they

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1 all on anti-malarials when they're assigned to  
2 Liberia?

3 DR. OSTROFF: I can't answer that.

4 DR. HERBOLD: Or for all travelers going  
5 to -- staying in the city in Liberia -- that's my  
6 question, is about the precision of the estimate and  
7 the risk, because that, I think, might be something  
8 that we could back up into the medical intelligence  
9 side and be able to say whether we know or don't know.

10 DR. PATRICK: I want to pick up on  
11 something Roger said and also Jackie. This notion of  
12 risk communication, which in my world they call health  
13 behavior change, and you mentioned that there's a  
14 knowledge, attitudes, and beliefs study, but in my  
15 world, that's fairly old fashioned. Knowledge,  
16 attitudes, and beliefs don't mean much, you use covert  
17 and subversive strategies to change behaviors and  
18 other things that really don't depend a lot on this.

19 Actually we heard this story of the fellow  
20 who briefed us this morning, about what soldiers are  
21 doing, take this, take that, what-not.

22 Again, these are changeable things,  
23 they're difficult to change, but research suggests  
24 that you can chip away at them, and I think we -- and  
25 I don't think this is isolated to malaria, there are a

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1 whole bunch of drugs that are going to be in the  
2 pipeline down the road that require having to take  
3 them, and they have uncomfortable side effects, but  
4 until we get to bio-implants and things like that,  
5 this is going to be something that's going to be  
6 important. And I think I for one would like to hear a  
7 briefing on the research that's being done and the  
8 interventions that might be being put in place to chip  
9 away at this issue of lack of compliance. It's not  
10 going to be solved overnight, but I think if there's a  
11 population in which compliance with medication is  
12 important, it's this population, and I think DoD, we  
13 have a real opportunity to really encourage genuine  
14 research for this, and whether it's developing  
15 competitive strategies, novel strategies, tailoring  
16 information using information technologies, using  
17 reminders or whatever, this is a critical issue. And,  
18 again, whether the medication costs a lot or not  
19 doesn't matter. It costs a fortune if they don't take  
20 the medication.

21 We sort of blow this off. I always tell  
22 people when I was in medical school, the fact that  
23 someone was a smoker was like saying that they were  
24 5'9" tall, it was a fact of life. Now we act on that,  
25 we act on it through behavior change, through

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1 pharmacological interventions, through other  
2 strategies. The same thing has to happen in this  
3 area, and I think we really need to really hear what's  
4 being done to improve compliance at every level with  
5 these things. And again, the behavioral researchers  
6 will tell you don't give up, there are theory-based  
7 excellent strategies that can be used, and we should  
8 be deploying them and finding out whether they work in  
9 these populations, what, if they don't, what can we do  
10 to improve them.

11 COL GIBSON: I'll point out that one of  
12 the recommendations from the AFEB was a knowledge,  
13 attitudes, and beliefs study on anti-malarials, which  
14 is one of the reasons we're starting along this track.

15 I'd also -- this morning's, or our little trip today,  
16 you saw one of our best knowledge, attitudes, and  
17 beliefs changer right there when the general said we  
18 take our pills. This is a leadership issue, to a  
19 great degree it's a leadership issue in ensuring  
20 compliance.

21 From my standpoint -- and this is not  
22 Health Affairs' opinion, this is my opinion -- we set  
23 ourselves up for this problem in Liberia to some  
24 degree by recommending preventive precautions in Iraq  
25 that didn't fit Iraq.

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1 DR. OSTROFF: I agree with you 100  
2 percent.

3 COL GIBSON: And doing that, we trained  
4 these folks not to listen to us. And we are going to  
5 have to live with that and fix it. And I can tell  
6 you, there is -- I've spent the last two weeks working  
7 on this issue alone, so there's a lot being done. We  
8 can try to provide a briefing on how we're chipping  
9 away with it, but we're developing risk communication  
10 tools where we are working this issue actively. I  
11 don't know that we're at state of the art yet, but  
12 we've got some pretty good risk communicators that are  
13 working on this issue right now.

14 VOICE: Can I follow up on that a little  
15 bit? I'd like to know if the physicians involved here  
16 were USIS graduates, because in the mid-'80s, Dr.  
17 Lectors, Chairman of the Preventive Medicine  
18 Department, developed an exercise, a week long  
19 exercise that we did with every senior medical class  
20 that involved a scenario, they called it CENTCOM,  
21 where they invaded Iraq -- or Iran, and one of the  
22 scenarios was exactly this scenario, a unit that got  
23 malaria because they didn't take their pills. And  
24 every single USIS graduate for I think the next 15  
25 years went through that scenario and knows that the

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1 only way to do it is observed taking of the pills in  
2 order to prevent exactly this scenario from happening.

3 You know, if we can't get it -- if we  
4 hammer it in to every graduate, and we still can't  
5 make it work in the field, then I don't know what else  
6 we can do.

7 DR. OSTROFF: Last comment and then we  
8 need to move on to the next presentation.

9 VOICE: Let's talk about chemo prophylaxis  
10 and doxy versus mefloquine versus Malarone. We need  
11 to understand that in the scheme of protecting people  
12 from these and other diseases within the DoD, these  
13 chemo prophylaxis measures were never meant to act on  
14 their own. They were meant to act in concert with the  
15 DEET and with the permethrin. And so the compliance  
16 with those items is as important, maybe even more  
17 important in my mind, than the compliance with the  
18 drugs, because --

19 VOICE: Not in Liberia.

20 VOICE: That may be true, but at least as  
21 important. And as our experience from Iraqi Freedom  
22 shows that almost no one showed up from their home  
23 station with their uniforms treated and with the  
24 requisite three tubes of DEET in your bags with you --  
25 almost no one. Some had one or the other, some had a

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1 couple of treated uniforms, some had one tube of DEET,  
2 but almost no one showed up with all of the required  
3 items to protect themselves.

4 And when we asked them, the deployers as  
5 they arrived, why -- you know, not getting mad at you,  
6 help us understand why you didn't have these things  
7 when you arrived. Their answer was either they told  
8 me I didn't need it, or they told me I'd get it when I  
9 got here. And so we took it on ourselves to call back  
10 to some of the bases and say okay, help us understand  
11 why you didn't send your people with these items. And  
12 the answer from there was oh, well, we used to send it  
13 with them, and they always brought them home unused,  
14 they never used them.

15 So, you know, I'm glad we don't adopt that  
16 same attitude with helmets and flack jackets. Sorry,  
17 soldier, you didn't use your helmet and your flack  
18 jacket last time you deployed, we're not going to give  
19 it to you this time. I agree with Col. Gibson, this  
20 is a command issue, commanders being held responsible  
21 for issuing their people the items that they need to  
22 protect themselves when they get there.

23 DR. OSTROFF: Thanks. Thanks for the  
24 presentation.

25 Our next presenter is Col. Woodward.

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1 COL WOODWARD: Good afternoon. Glad to  
2 see the hardy are still here.

3 Before I do my presentation, I'd like to  
4 just mention a couple of issues from my position as  
5 the Chair of the Joint Medicine Policy Group. First,  
6 I'd like to acknowledge all the support and  
7 collaboration and participation of Col. Riddle in our  
8 group over the years and wish him all the best in his  
9 new endeavors and are very proud of his contributions  
10 to our collective works.

11 Also, Lt. Col. Dave Jones, who as was  
12 mentioned before is going to be moving on to new  
13 adventures and has been a very valuable member of our  
14 team, bringing a joint staff perspective as well as, I  
15 think, taking back to the joint staff some of our  
16 perspectives, and it has been incredibly valuable and  
17 we thank you and look forward to hearing about your  
18 further successes.

19 Also Col. John Gardner, who is going to be  
20 retiring from his position at Health Affairs, who has  
21 also been very active in the joint preventive medicine  
22 work groups and many activities we've been doing. He  
23 has been a valuable member of our team and we wish you  
24 well as well.

25 And finally, I thank Dr. Berg and Dr.

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1 Gardner, both of whom are not here now, they left a  
2 little while ago, but we do very much cherish our  
3 relationships with the Armed Forces Epidemiological  
4 Board and the opportunity to work with all of you and  
5 get your perspectives and recommendations on our  
6 complex problems, and we very much appreciate their  
7 contributions.

8 Two other things real quickly. Capt.  
9 Kilbane mentioned briefly kind of a follow up on one  
10 of your recommendations and that was about periodic  
11 health assessments, the recommendations you all had  
12 made to the Board. There is action in all services in  
13 regard to those recommendations in having a more  
14 standardized and effective method for periodic health  
15 assessments, and that is moving along. It has been  
16 discussed among the surgeons general specifically, and  
17 services are about working their plans for meeting  
18 pretty much the spirit and content of your  
19 recommendations.

20 Other recommendations, three others that I  
21 can say we're making steady progress on -- one is your  
22 recommendation regarding periodicity of HIV screening,  
23 there's policy in final coordination, I believe, on  
24 that, that matches, I think, pretty closely to the  
25 letter of your recommendations.

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1           Also, Col. Gibson mentioned before the  
2 recruit assessment program. That one I have to say  
3 has been a little bit more fits and starts and some  
4 stumbling blocks, but I am very confident that we are  
5 all on the same trajectory there.

6           And then the last is that I know you all  
7 have made a recent recommendation regarding G6PD  
8 screening, and the Army has taken up changing their  
9 policy regarding that, and that is in coordination as  
10 well.

11           So let me give you a follow up on some of  
12 the many things that are being worked, most of them  
13 spurred along, if not conceived, through your  
14 recommendations.

15           Finally, I just want to mention this  
16 morning at Hurlburt, there was mention of the  
17 international health specialists program, and it's an  
18 Air Force program where we have people who work  
19 somewhat as liaisons for the combatant commands in the  
20 Air Force with various nations, and I just want to  
21 mention that my coworker, Major Meland Wynn, who is  
22 sitting behind Dr. Ostroff, was actually selected for  
23 a position in Guam responsible for several Pacific Rim  
24 countries, a highly selective process, and she'll be  
25 moving on to that position. You heard a little bit

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1 about that, but there's a face to that process.

2           Okay, now let me talk about what I really  
3 had prepared in these slides. This is an entirely  
4 different angle for you all from today's discussion,  
5 and maybe a welcome change of focus for a few minutes.

6 I wanted to put some attention on some health  
7 promotion issues and specifically the Air Force's  
8 fitness program and welcome your thoughts as I  
9 describe very quickly some changes that were made to  
10 the Air Force fitness program. Next slide.

11           First, let me just say that it was  
12 interesting as we started briefing our new fitness  
13 program, and many other issues have come up recently.

14 There has been a recent release of a survey of health  
15 risking behaviors among military personnel, caused the  
16 services to all go back and look and see what we're  
17 doing in regards to some of the highest priorities for  
18 health promotion, disease prevention in the nation, as  
19 reflected by the 10 leading health indicators, and  
20 it's safe to say we have initiatives in all these  
21 areas. What I'm going to talk about is actually the  
22 top two physical fitness and overweight and obesity,  
23 where we have in our fitness program recognized the  
24 inextricable link between those two issues. Next  
25 slide.

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1           We started on a journey quite awhile ago -  
2 - about two years ago -- in the Air Force to relook at  
3 our fitness program, and our current Chief of Staff,  
4 General Jumper, took a very personal interest in the  
5 physical fitness of the Air Force. Heretofore, the  
6 Air Force, some long time ago, made physical fitness  
7 an individual responsibility, and that has resulted,  
8 perhaps, in some complacency on the part of  
9 individuals. Some people were very good at  
10 maintaining their physical fitness, some people were  
11 not so good at it, and the Chief of Staff was very  
12 concerned, as were actually several other of our four  
13 star leaders in the Air Force, all simultaneously sort  
14 of came to this same concern about the fitness of the  
15 Air Force and the ability to demonstrate and be very  
16 confident that our troops are ready and fit to fight  
17 in increasingly austere environments that have extreme  
18 physical and mental demands, and so the Chief of Staff  
19 set out last spring to revamp the Air Force fitness  
20 program. And in this, he recognized very clearly this  
21 issue of commander responsibility. Next slide.

22           So what he directed is to go back -- to  
23 move away from purely individual responsibility for  
24 fitness but make it a command and unit level  
25 responsibility to ensure that troops are fit. This is

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1 not at all foreign to the other services because I  
2 think they, to a letter, all have much more of a unit  
3 based fitness program, but as I said the Air Force  
4 wanted to try something different, and now we have  
5 changed our approach. So General Jumper has charged  
6 that all units will have a fitness program that  
7 includes regular physical training including  
8 recognizing that it's very important that we make sure  
9 people have the time they need for physical fitness,  
10 whether that be during duty or otherwise, and that  
11 that is an acceptable part of our military  
12 responsibilities. It needs to be tailored to the  
13 needs of the mission, meaning that some places can do  
14 it and may have to approach it in different ways than  
15 others and that it's a commander who is responsible  
16 for ensuring the fitness of his or her troops and  
17 knowing at all times who needs help and who's doing  
18 well.

19 Like all great public health endeavors,  
20 this presented an opportunity to the medics. General  
21 Taylor, surgeon general of the Air Force, was tasked  
22 to actually develop the new fitness program. Even  
23 though it was a commander driven program, this was a  
24 fortuitous thing that General Jumper asked the medical  
25 community to construct this program, and I think that

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1 was again a very fortuitous opportunity, and General  
2 Taylor seized it, to come up with a fitness program  
3 and a fitness assessment that will achieve objectives  
4 that improve health and decrease the risk of disease  
5 and injury, not just demonstrate physical prowess or  
6 something like that.

7 So what we have is consistent with the DoD  
8 directive, we have a new physical fitness program that  
9 combines into a single program aerobic fitness, body  
10 composition, and muscle strength and endurance. Our  
11 aerobic fitness test is now a 1.5 mile run, and our  
12 physical training is not necessarily specifically a  
13 mile and a half run, but the regular ongoing training  
14 needs to address each of these components but doesn't  
15 necessarily have to match the specific assessment.

16 The other piece of our physical fitness is  
17 an assessment of body composition with which we use a  
18 single measure of abdominal circumference as promoted  
19 by the NIH. And I'll talk a little bit more about  
20 that.

21 And then finally, we use pushups and  
22 crunches as our assessment for muscle strength and  
23 endurance, but our programs for the actual physical  
24 training that ought to be an ongoing year-in and year-  
25 out, day-in and day-out process, includes a whole

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1 variety of muscle strength and endurance and  
2 flexibility training. Next slide.

3           Along with this, from the medical side, is  
4 we wanted to ensure that our physical training and our  
5 physical assessment programs didn't increase the risk  
6 of illness or injury or adverse events for our  
7 members, and this has been a very important thing.  
8 Some of you may not be aware that the Air Force 10  
9 years ago or so actually went away from a timed run as  
10 an aerobic assessment and adopted a computer-based  
11 psycho-odometry (ph.) test to estimate VO2 max. And  
12 that was done because we were losing several people a  
13 year to cardiac events that occurred when they did  
14 their run, their timed run. What we call maximal  
15 test.

16           So now when we moved back to this run --  
17 and that was mainly at the preference of the Chief of  
18 Staff, we recognized that we needed to assess people's  
19 risk and intervene so as to minimize the risk of  
20 cardiac event in particular, and identify people who  
21 shouldn't participate in one or more of these  
22 components of our fitness program.

23           We leveraged some of the programs we  
24 already have in place, our periodic health assessment  
25 program that you all are aware of is now going to be

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1 augmented by an annual automated computation of  
2 framing ham (ph.) risk for cardiac events and linked  
3 to interventions. We've trained all of our providers  
4 in what constitutes the framing ham (ph.) risk  
5 assessment and the interventions that are needed to  
6 reduce that risk, and we have an in-place program to  
7 limit people who should not participate in certain  
8 parts of the fitness program, either the training  
9 program or the specific assessment. Next slide.

10 This is really the meat of the focus of  
11 our new program and the novelty, I guess, is our  
12 fitness assessment which is an annual requirement by  
13 DoD policy to assess physical -- excuse me, assess  
14 aerobic fitness and muscle strength and endurance, and  
15 then there's also a separate DoD policy requiring  
16 assessment of body composition. What we decided to do  
17 was to put these into a combined composite index that  
18 would, hopefully, not over -- that would give people  
19 the opportunity to improve their fitness and not  
20 necessarily, if they're on a positive trajectory and  
21 doing better and better, would allow them to not  
22 necessarily be punished if their body composition, for  
23 example, wasn't as good as we'd like it to be, or they  
24 had a good body composition but weren't as aerobically  
25 fit, we thought that they ought to be combined

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1 together, because then people can work on all these  
2 things simultaneously. So in other words, improve  
3 their body composition by being more physically active  
4 and so on.

5 So what we have in our program is a  
6 composite score that is a -- 50 percent of the score  
7 is based on the aerobic fitness which is -- the scores  
8 are all based on tables for males and in five year age  
9 groups and females in five year age groups, and they  
10 get a time for the mile and a half run that equates to  
11 a VO2 max, as determined by the scientific literature.

12 And that constitutes 50 percent of their score.

13 They get an abdominal circumference  
14 measure, a single measure just above the iliac crest,  
15 and that is probably the biggest change in this  
16 program, and the one that requires the most  
17 explaining, I guess, is that abdominal circumference  
18 is now being recognized as probably the single best  
19 measure for body composition -- assessment of the body  
20 composition's impact on risk of morbidity. And so we,  
21 I think, are probably the first program I'm aware of  
22 that actually has systematically adopted that as our  
23 body composition measurement. We feel like it's a  
24 better measure than body mass index, a better measure  
25 than percent body fat, and it is highly reproducible,

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1 easy for individuals to do to assess -- kind of  
2 monitor their own progress, and, again, it's a good  
3 approximation of visceral fat, which is really the  
4 risk factor.

5           Anyway, so for that, people get 30 percent  
6 of their composite score of a total potential of 100  
7 points, is from body composition, and the real key  
8 thresholds for a male, for example, is 40 inches,  
9 that's a CDC threshold for high risk abdominal  
10 circumference. CDC is implying that there's a median  
11 sort of risk threshold of 35 inches for males. Women  
12 it's 29 and a half inches for a moderate risk and 35  
13 for high risk. And our tables -- our assessment is  
14 lined up accordingly.

15           Muscle fitness, abdominal -- excuse me --  
16 crunches and pushups each account for 10 percent of  
17 the score. They are a lower proportion of the score  
18 because there's very little scientific data to really  
19 equate how many pushups or situps someone can do with  
20 the association of that with relative risk for  
21 morbidity or mortality. As you are aware, VO2 max,  
22 which is what aerobic fitness scores are based on, is  
23 a very good predictor of risk for mortality. And as I  
24 said before, abdominal circumference is a very good  
25 way to assess risk for morbidity. Next slide.

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1           So people get a score, as you saw,  
2 additive, on that table there, and then these scores  
3 fall into some categories, and, again, these are  
4 somewhat arbitrary, but it's a way to start. It  
5 starts to put people on a scale that gives them a  
6 direction that they need to be moving, and then it  
7 links with actions related to how they do on the  
8 assessment. People who do very poorly, score less  
9 than 70, need to be retested in three months, they  
10 attend mandatory programs both for behavior change as  
11 well as exercise prescription as well as more frequent  
12 testing. People who have a marginal score retest in  
13 six months and also get education. And we have  
14 standardized programs that are available that we are  
15 implementing across the Air Force. And then people  
16 who have good and excellent scores just retest in a  
17 year. But we are looking at some -- giving some sort  
18 of favorable recognition to people who score in the  
19 highest category.

20           This has been very interesting. The  
21 interventions have been developed with teams of  
22 experts that looked at various interventions to help  
23 people address each part of this composite score,  
24 whether it's a body composition issue, an aerobic  
25 fitness issue, a muscle strength and endurance issue,

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1 and we're working to continuously improve those  
2 programs. Next slide.

3 The other part of our program, and this is  
4 also, I think, powerful in terms of inculcating  
5 fitness, and our attention to addressing the growing  
6 concern in this country with overweight and obesity is  
7 the environmental facilitation, if you will, of good  
8 lifestyle habits. So all of our installations are  
9 going about assessing their facilities for support for  
10 physical fitness programs. They're improving the  
11 community environment to make it safer and more  
12 attractive for people to participate in physical  
13 training, not only the active duty members, but their  
14 family members and our civilian employees.

15 Also, as I said before, we're making  
16 standardized fitness and nutrition programs, and then,  
17 finally, our healthcare services to support this are  
18 being -- we're inculcating the recognition of in every  
19 visit we assess people for their ability to perform  
20 physical training, how they're doing, where do they  
21 need help, what are their cardiovascular and other  
22 risk factors that we need to intervene on. Next  
23 slide.

24 There's been a lot of turbulence and  
25 change here. It's incredible how this whole notion --

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1 we sort of lobbed this notion of abdominal  
2 circumference all the way to the senior leadership,  
3 and boy, I'll tell you, everybody said where did that  
4 come from, what is that all about, and we had a lot of  
5 explaining to do, but there is a pretty good body of  
6 literature suggesting that it's a very good measure,  
7 and I think even the NIH is now considering putting  
8 more emphasis on abdominal circumference than the  
9 current emphasis on body mass index. Body mass index,  
10 as you all know, doesn't actually account for the most  
11 important distribution points for the fat, which is  
12 the visceral fat, is really the point where the risk  
13 occurs.

14 So we think it's a good measure, and we're  
15 going to collect a lot of data and see how it plays  
16 out here in the next year. But we'll be happy to  
17 share some results. I think we'll have some very  
18 interesting results. The composite score is novel,  
19 but we had a pilot program out in our space command  
20 for over 7000 people, who participated in that pilot  
21 program, not using the exact same program as this, but  
22 using a composite score methodology, and it was very,  
23 very powerful at getting people motivated to improve  
24 their overall fitness in combination with improving  
25 their body composition, which we think is a powerful

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1 combination.

2 The other interesting thing about  
3 abdominal circumference is as a risk factor, it's  
4 independent of age, height, and race or ethnic group.

5 People ask us repeatedly what do you mean, taller  
6 people have to have less than 40 inch waists too?  
7 Well, yes, if you look at the risk for morbidity, the  
8 data suggest that, yeah, you do have to have a smaller  
9 waist too. Age, we know people as they age, their  
10 abdominal circumference goes up but, guess what, if  
11 you want to keep your risk down, you need to keep your  
12 waist down as well.

13 So we're on that journey, people are now  
14 starting to accept it, and I think they're starting to  
15 recognize the sort of simple beauty of it, and we'll  
16 see how it plays out again.

17 The other thing is the change back to a  
18 maximal aerobic test. When people go out into a timed  
19 run, they tend to push themselves pretty hard, and so  
20 we know people are going to red line their hearts, who  
21 maybe haven't done so in awhile, and we want to  
22 mitigate any risk associated with that. I think Col.  
23 Gardner had published some very interesting, good data  
24 about the experience in Army or in deaths in the  
25 military during exercise, and there have been a lot.

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1 And we'd like to keep that down.

2           Finally, we want our focus to be on  
3 actually fitness training, not on the test. So we  
4 actually want people to be out regularly exercising,  
5 and then when it's time for your assessment or your  
6 test, you already know how you're going to do, we  
7 expect you'll do well. If you aren't going to do  
8 well, we should have known about that, and that's kind  
9 of Gen. Jumper's main message, is I want people to be  
10 out exercising regularly, and I want commanders to  
11 know about it, so that there aren't any surprises.  
12 When it's time for an assessment, it's the commander's  
13 problem if somebody gets a result that the commander  
14 didn't know about. We think that's a very effective  
15 approach. So this issue of command leadership, we  
16 think actually this is a very powerful message from  
17 the Chief of Staff to really want to get back to  
18 physical fitness, but also to recognize and be willing  
19 to link it to abdominal circumference and body  
20 composition as a risk factor for disease. So I think  
21 it's going to yield some great benefits.

22           And that's all I have. Thank you.

23           DR. OSTROFF: Thanks very much. I think  
24 that seems terrific to me. I know that there are  
25 others on the Board who are more familiar with this

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1 area than I am, but it sounds like a very interesting  
2 and refreshing approach to looking at this issue, and  
3 I congratulate Gen. Taylor and Gen. Jumper for  
4 thinking about implementing such a program. I don't  
5 know, do others on the Board have any thoughts about  
6 this?

7 DR. CATTANI: Yeah, I think it's a great  
8 idea -- Jackie Cattani. I was just curious as to the  
9 7000 people who have gone through some kind of  
10 composite score. Do you have the figures on how they  
11 break down between excellent, good, poor, whatever?  
12 Just out of curiosity.

13 COL WOODWARD: I was afraid you were going  
14 to ask. I left it in my files that are on the network  
15 back in my office. What I do know -- I don't actually  
16 remember the distribution, but what I do know is the  
17 curve shifted toward the higher scores over the course  
18 of a year, very substantially. And we haven't --  
19 we're withholding our most rigorous analysis for this  
20 new program because there are some changes made since  
21 then, but the whole concept of command ownership, that  
22 program was very much a command leadership issue and  
23 the composite score and ensuring that people could  
24 slip away when it was convenient during duty time, and  
25 those are the things -- and getting commanders to

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1 recognize that, all of that resulted in, over the  
2 course of a year, a substantial increase in their  
3 composite score. And what is -- particularly people  
4 were able to most easily improve their aerobic fitness  
5 and their muscle strength and endurance tests. It's  
6 interesting, the abdominal circumference one is the  
7 one that really -- there's not a huge amount of data  
8 to say how much change you can expect over what period  
9 of time. So we have a little bit of learning to do  
10 there, but -- and I know there's plenty of ads on TV  
11 about all kinds of creative ways you can lose inches  
12 in weeks, but --

13 (Laughter.)

14 COL WOODWARD: -- I'm not sure our program  
15 is going to bear that out.

16 So we will get back to you. We are -- we  
17 have promised to not only Gen. Jumper, but to actually  
18 the Undersecretary of Defense, that we will do a very  
19 rigorous analysis later this calendar year, and we  
20 hope to have some very interesting data.

21 DR. OSTROFF: Dr. Patrick and then Dr.  
22 Cline.

23 DR. PATRICK: I second this, I think this  
24 is a great area, it's an area that I work in too,  
25 physical activity and dietary behavior change, and

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1 this is really great, including building in the  
2 environmental changes which I think again you have a  
3 wonderful opportunity to explore, if you're really  
4 putting this into place, how much or how little those  
5 types of changes might contribute on a going forward  
6 basis to this, so I really do hope -- and it seems to  
7 me we've seen a paper or two generally related to some  
8 of this. And I'm hoping we can see some good  
9 evaluation studies.

10 I do have a question. You mentioned duty  
11 time physical training. So actually this is built  
12 into the 40 hour work week or into the time, the  
13 actual time to be active? Did I hear that correctly?

14 COL WOODWARD: Well, no. Let me say  
15 that's a very fascinating thing, and it depends on how  
16 you define -- what it comes down to is people have  
17 been asking, well, what's the duty day. And some  
18 people would say it's 24/7. That wasn't the  
19 intention. Gen. Jumper actually did say -- and, by  
20 the way, what he has done to follow through with this,  
21 that quote I showed in an earlier slide was last July.

22 Every month since then he has followed with a quote  
23 to the field about the fitness program. He is  
24 following through very regularly with his expectation  
25 that this be done.

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1                   But what he did say is he has authorized  
2 commanders to allow up to 90 minutes three to five  
3 times a day of duty time -- I'm sorry -- three to five  
4 times a week for -- thank you -- three to five times a  
5 week for physical training.

6                   Now every commander out there has the  
7 responsibility to sort of figure out how to massage  
8 their way through getting that implemented without  
9 sort of toppling the mission. So, for example, among  
10 medical staff, for example, is one of the hardest  
11 places to do it, because we are putting a large  
12 emphasis on efficiency and appointments are scheduled  
13 between 7:30 in the morning and 4:30 in the afternoon,  
14 and you can't just, you know, walk out of a clinic  
15 full of patients. So there are lots of fits and  
16 starts, and we're looking for lots of creative ways  
17 for how to fit that into a duty day and what  
18 constitutes a duty day. Some are doing more than  
19 others.

20                   It also doesn't necessarily require  
21 commanders to assemble the whole squadron, if you  
22 will, and all go out and exercise together, because  
23 that doesn't work either, a whole security forces  
24 squadron, some of them have to stay back and guard to  
25 gate and that sort of thing. And some of them are

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1 working shift work. So we're actually empowering them  
2 to be very creative but Gen. Jumper has said if you  
3 can manage it, you certainly can offer up to 90  
4 minutes three to five times a week, including for our  
5 civilian employees.

6 DR. PATRICK: Can I ask, do you have a  
7 time certain evaluation, a point for this? Are you  
8 going to be doing something at 12 months or at 18  
9 months?

10 COL WOODWARD: We expect to start  
11 analyzing the initial data by September. The program  
12 just started actually four weeks ago. And between the  
13 active component and the reserve component, we have  
14 600,000 people. We think by September, there ought to  
15 be enough data in there to start getting an  
16 evaluation. We promised to do it annually at least  
17 for the next few years.

18 DR. CLINE: Barnett Cline. I echo my  
19 enthusiasm for this program. I have a couple of  
20 questions.

21 I'm just curious what triggered Gen.  
22 Jumper's interest in motivating him to make this  
23 decision. Was there specific data that came in or  
24 comparable data with other services or other groups?  
25 And my second question is was any thought given to

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1 somehow including smoking in the composite score  
2 because of its overriding importance?

3 COL WOODWARD: Let me answer the latter  
4 one first, because the former is a little more  
5 interesting story. We haven't actually figured out --  
6 we haven't explored how to incorporate smoking into  
7 sort of the composite score, but I will say we have  
8 put a -- we continue to put an increasing emphasis on  
9 commanders' awareness of things they can do to help  
10 intervene in smoking as well as making sure providers  
11 have realtime visibility to who are smokers and who  
12 are not, as well as including any opportunity  
13 including this opportunity when we do evaluate people  
14 to assess them for smoking and connect them with  
15 interventions. Haven't thought about how to add that  
16 to some sort of composite score, but that's an  
17 interesting thought. I'll have to think about that.

18 Regarding the former question about what  
19 sort of inspired or what prompted Gen. Jumper to get  
20 into this, a couple of things. First, I am very  
21 convinced that Air Force commanders were cascading up  
22 to Gen. Jumper a message that our -- we were using --  
23 our physical assessment before was this computerized  
24 perdometry (ph.) test on a bicycle, and I'm here to  
25 tell you I think commanders out there just felt like

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1 this isn't relevant, it's not tangible, I can't tell  
2 whether or not a troop can get from here to there in a  
3 minute and a half, judged by what their VO2 max score  
4 was generated by a black box on a bike. I think it  
5 was just not relevant, and they needed to see people  
6 out doing things that they could say okay, that person  
7 is doing well, and that person isn't. And it needed  
8 to equate to a physical training program that somehow  
9 would predictably improve people's performance.

10 That and I think there was some comparison  
11 among the services about the different programs, and  
12 it was very clear that the other services had a much  
13 more well established culture of unit-based training  
14 and people visibly seeing people out doing physical  
15 training. So I think if you didn't change the  
16 assessment program, the training program might not  
17 change either, so I think he really wants for  
18 commanders to be able to have something that they can  
19 see how their people are doing and see that they're  
20 out exercising. So I think it was a relevance thing,  
21 the type of test that would be relevant.

22 DR. OSTROFF: Thanks very much. That was  
23 a great update, and all I can say is it looked like to  
24 me all the people that we saw this morning looked  
25 pretty fit. Maybe you can figure out some way that

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1 they can do some exercise during the 13.5 hours of  
2 their 14 hour flight, when they seem to be just  
3 sitting there doing nothing.

4 Our next update, Commander Ludwig from the  
5 Coast Guard was unable to attend this particular  
6 meeting and sends her regrets, but we do have Capt.  
7 Obrams, and I was going to ask if you had any comments  
8 to make or anything to present.

9 COL OBRAMS: I will not keep you with a  
10 presentation; however, out of the many, many questions  
11 that have arisen in the last two days, there's one  
12 that particularly caught my attention, which was  
13 several questions that arose about active duty  
14 suicides and their risk factors.

15 I wanted to give you a piece of  
16 information and a website. The DoD has had annual  
17 suicide prevention conferences, the last one was in  
18 November of 2003 at Quantico. I happened to be one of  
19 the service representatives to this meeting, and at  
20 the website, which I have on the slide which I created  
21 for you, under the heading "After Action" -- in other  
22 words, after meeting actions, there are all of the  
23 PowerPoint presentations that summarize all of the  
24 service suicide prevention programs as well as some  
25 presentations on risk factors for suicides and suicide

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1 attempts in the various services.

2 I prepared one, for example, for the Coast  
3 Guard. And if you're interested in this particular  
4 topic, I think you might find this website of value to  
5 you in answering at least some of the questions or  
6 raising some additional ones.

7 Thank you.

8 DR. OSTROFF: Thanks very much. Our last  
9 presentation, but certainly not least is from our  
10 colleagues to the north in Canada and, Dr. Mark  
11 Zamorski, who has given us some terrific presentations  
12 in the last several meetings, I'm sure we're really  
13 interested in hearing what you have to say today.

14 DR. ZAMORSKI: Thank you very much. It's  
15 an honor and pleasure to be here.

16 We didn't capture Osama bin Laden,  
17 unfortunately we let him get away.

18 (Laughter.)

19 DR. ZAMORSKI: And this is sort of meant  
20 to be the flip side of the last presentation I gave,  
21 which was on a post-deployment assessment process. So  
22 if you would go to the first slide, please -- and  
23 next, thank you, yes, you can keep going, this is just  
24 the basic outline here, go to the next slide, please.

25 First and foremost, just like you guys,

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1 we've always done some medical screening before people  
2 went away, and we've also had a psychosocial screening  
3 process that we followed as well that typically is  
4 pretty cursory -- the psychosocial part, it takes  
5 around five minutes. And the general physical is  
6 often done in the context of, you know, no problems  
7 here, no problems here; yes, sir; yes, sir; yes, sir.

8 And it's over with, and you're good to go. The next  
9 slide, please, thanks.

10 We noticed, however, at the time of our  
11 post-deployment assessment on our first Afghanistan  
12 deployment that there was relatively disappointing  
13 health status. You may recall -- I'll show you the  
14 figures in just a moment, but the general health  
15 status was substantially poorer than that of the  
16 Canadian general population of the same age and sex.  
17 Next point.

18 We didn't have any pre-deployment data,  
19 but when we actually talked to the people who were  
20 doing the assessments, they said many of these  
21 problems clearly pre-dated deployment. And next  
22 bullet point. So the question was were we deploying  
23 sick people, which we thought was probably not a good  
24 thing. And then next bullet point.

25 And so the Chief of Land Staff, which

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1 would be our equivalent, I guess, of the Chief of the  
2 Army, said that we should do an enhanced pre-  
3 deployment screening prior to going back to  
4 Afghanistan. Next slide, please. Thank you.

5 So the process was as follows -- this was  
6 about one month prior to deployment. We had wanted to  
7 do it about three months prior to deployment, but  
8 logistically it didn't work out. Next slide.

9 The member completed a survey booklet,  
10 which took around 20-25 minutes. Next point.

11 And the surveys we used were the SF-36  
12 which measures health related quality of life, the PHQ  
13 which measures mental illness and physical symptoms,  
14 the audit which is a measure for alcohol problems, and  
15 the PCLC of course for post-traumatic stress  
16 phenomenology. Next point.

17 The medical officer reviewed a survey  
18 report that was generated from the members'  
19 questionnaire responses, because these are  
20 questionnaires that you can't necessarily eyeball, so  
21 you really have to have interpreted first. Next  
22 point.

23 As it happened, there was some sloppiness  
24 here -- well, not sloppiness, but logistically we had  
25 a shortage of medical officers, which is a chronic

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1 kind of problem. So as it happened, some of the  
2 people who clearly were identified with mental health  
3 concerns at the time of the survey, they happened to  
4 be seen by a mental health professional first, for  
5 sort of a screening mental health interview, and then  
6 they saw the medical officer. Next point.

7 And the medical officer did the normal  
8 medical exam. Next point. The medical officer  
9 indicated green, yellow or red -- green meaning  
10 they're good to go; yellow meaning more information is  
11 needed, it's not clear whether they're good to go; red  
12 means deployment is contraindicated medically. Next  
13 point.

14 And then they had consultations, if  
15 needed. Next point. And then, ultimately, they were  
16 either declared fit or unfit at the very end. And for  
17 this group of people -- we're still actually, believe  
18 it or not, trying to figure out how many people ended  
19 up being fit and unfit, but my best guess is probably  
20 about six percent or seven percent were unfit, which  
21 was perhaps a little bit more than we would have  
22 expected using our conventional processes. Next  
23 point.

24 So here are the results from the surveys.  
25 We have about 1643 out of about 2054 who actually

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1 ended up in theater. The respondents were virtually  
2 everybody who was deploying out of the principal base  
3 that was mounting the deployment. People who were  
4 augmentees, there were a couple of large reserve  
5 units, a construction engineer's battalion that did  
6 not pass through the staging area, so they were  
7 missed.

8 As you can see, 90 percent male, 31.3 is  
9 their average age, 60 percent married, virtually all  
10 land forces or Army. They've had an average years of  
11 nine years of service, six percent of them were  
12 officers, and, unfortunately, we didn't capture, due  
13 to a programming error on my part, the previous  
14 deployments. However, we can get that figure  
15 elsewhere, and our guess is it's probably about 2.3  
16 previous deployments. Next slide, please.

17 So here are the SF-36 results. For those  
18 of you who are not familiar with the SF-36, it is the  
19 most widely used health-related quality of life  
20 instrument, and it measures health along eight  
21 different dimensions or scales, and the physical  
22 health measures are on the left of the scale, and the  
23 mental health measures are on the right of the scale,  
24 and those in the middle reflect both mental and  
25 physical health. Just to quickly name the scales

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1 without going into much detail -- PF is physical  
2 functioning; then role physical; bodily pain; general  
3 health perception; vitality; social function; role  
4 emotional; and mental health.

5           What you see in red there, this is for the  
6 Canadian general population of approximately the age  
7 and sex distribution of the members who deployed to  
8 Afghanistan. This is a typical SF-36 profile where  
9 you'll see this sort of sloping line and then a trough  
10 at vitality and then sort of this curve up through  
11 mental health, and you'll see that pattern is  
12 persistent.

13           If you'll go to the next line, this was of  
14 APOLLO post-deployment assessment, this was our first  
15 Afghanistan deployment, the one that raised questions.

16       As you can see, the health status is substantially  
17 below that. And the magnitude of that difference is  
18 equivalent to the health effect of many serious  
19 diseases. So not only are these statistically  
20 significant, but these are huge differences, and the  
21 vitality score there -- this is for everybody, but  
22 just for the land forces, I pointed out last time, the  
23 average vitality score was the same as a 60-year old  
24 diabetic, which is not exactly what we're searching  
25 for. Go to the next slide.

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1                   Just another sort of comparison point  
2 there. In green, you'll see U.S. Gulf War veterans,  
3 this is from the Iowa study, and this is their SF-36  
4 scores. As you can see, they look quite similar to  
5 our Afghanistan deployment, except actually better.  
6 And why they look better than the Canadian general  
7 population is a bit hard for me to explain  
8 immediately. I have some theories on that.

9                   Finally, this is the data from Operation  
10 ATHENA, our pre-deployment assessment. And, as you  
11 can see, there is a substantially elevated perception  
12 of health and well-being in these people -- a huge  
13 difference there, especially if you look at in blue,  
14 that's the post-deployment line. If you go to the  
15 next slide.

16                   So the Op APOLLO is worse than the general  
17 population. Next point. And Op ATHENA is much better  
18 than everybody, basically. Next slide, please. One  
19 more, please. Great. And you can make the bars  
20 appear, one more set. Thank you.

21                   So this is looking at the PHQ diagnoses,  
22 these are mental health surrogate diagnoses that come  
23 from the instrument, and you can see the percentage of  
24 people with the diagnosis on the left and the  
25 different diagnoses that we could make. And I'm

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1 comparing here the Op APOLLO post-deployment  
2 assessment figures with the OP ATHENA pre-deployment  
3 assessment figures. And as you can see, next slide or  
4 next point there, that the rate of mental illness is  
5 much, much, much lower, and that is consistent with  
6 what we saw in the SF-36 scores. If you go to the  
7 next slide.

8 We asked people to fill out a satisfaction  
9 form, evaluation form, to try to see what they thought  
10 about this process. The first question there -- these  
11 are in -- it's a Leckard (ph.) scale, five point  
12 Leckard scale -- green is good, and red is bad. And  
13 the first question, logistics was, the logistics were  
14 satisfactory overall. You can see substantial  
15 satisfaction. Mental health was my mental health was  
16 reviewed in appropriate detail. My physical health  
17 was reviewed in appropriate detail. And probably the  
18 last bar is the most important, comfort is I felt  
19 comfortable sharing personal information with my  
20 interviewer. And, as you can see, virtually everybody  
21 was either at least neutral about that, and there were  
22 very, very few people who strongly disagreed, on the  
23 order of I think a couple percent who disagreed or  
24 strongly disagreed.

25 Go to the next slide. Again, the first

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1 bar here is really to the important one and that is I  
2 was able to answer the questions about my health  
3 honestly. Again, this is an anonymous survey, we took  
4 great pains to make sure that people could pass this  
5 out without anyone knowing who it was. And again, you  
6 see just that little teeny sliver of people who felt  
7 they were unable to be honest. Understood is at the  
8 end of the interview, my interviewer understood my  
9 current social situation. The timing was appropriate,  
10 and I found this process useful overall.

11 So not only is there substantial  
12 satisfaction with this process, on the two key  
13 variables of I was able -- I felt comfortable and I  
14 was able to be honest, it appears as though these  
15 people felt like they could share problems if they had  
16 them. And I'll get onto the significance of that in  
17 a second. Go to the next slide.

18 This is sort of an entirely parenthetical  
19 thing that I just thought was interesting. On the  
20 evaluation form, I asked people were they concerned  
21 about the effects of deployment-related stresses on  
22 their long-term health. And, as you can see, -- in  
23 here, the colors are reversed because the scale is  
24 reversed. So strongly disagreeing is a good thing, I  
25 guess. But the people who were concerned, who agreed

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1 or strongly agreed, were about six percent total. And  
2 I think there may have been one person who said they  
3 strongly agreed, and that was about it. And let me  
4 remind you, this is an influence that we know is toxic  
5 to people's health and well-being.

6 In contrast, we asked people, are you  
7 afraid about the effects of medications, vaccinations  
8 or exposures that you will experience in theater, that  
9 they may harm your health over the long-term. And  
10 here you see, about 18 percent who either agree or  
11 strongly agree with those figures. So here we have  
12 something on the right that we believe is  
13 substantially safe and something on the left, we know  
14 is substantially toxic. And our members have  
15 precisely inverted senses of vulnerability. And what  
16 to do about this is interesting. Next point. So,  
17 again, next point.

18 And then the other one here is that  
19 there's also more uncertainty with respect to  
20 exposures, that half the people were uncertain as to  
21 whether the exposures would be toxic and about 39  
22 percent -- PowerPoint cut that figure off -- with  
23 respect to the effects of stress. Go to the next  
24 slide.

25 And we asked what were you concerned

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1 about, and the three topics that came up were anti-  
2 malarials and vaccines and air quality. By far the  
3 number one was anti-malarials. If you go to the next  
4 slide.

5 So there's some important limitations  
6 here. First and foremost are unavoidable biases that  
7 have to do with the context. And especially I'm  
8 comparing a pre-deployment interview, which is done  
9 for a deployment that this group wanted to go on, and  
10 you can see that by the really low rates of people who  
11 were going to be kicked out. Because in the end, for  
12 most cases, we're relying on the member to come  
13 forward and say that they're having a problem or they  
14 think they ought not go.

15 And then, of course, on the return side,  
16 you have people who want to make sure that any  
17 complaints they have get on the record. This is not  
18 an anonymous survey. This was a clinical exercise,  
19 and so the person who is answering it knew that  
20 someone else was going to review it. The other is of  
21 course it's unpaired data, I'm comparing one group,  
22 pre-deployment with another group, post-deployment.  
23 Go to the next point.

24 It's a preliminary analysis, we're still  
25 making the adjustments. I don't think the overall

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1 conclusions are going to change. Next point.

2 I did not correct for all of these  
3 confounders, including the age distributions that are  
4 slightly different in the different populations, but  
5 if you look at them, it's not going to make much  
6 difference whatsoever over a reasonable range of  
7 assumptions. If you go to the next point.

8 There's some possibility of selection bias  
9 in the evaluation data in particular. I'm a little  
10 concerned that those people who were flagged as being  
11 sick may have had less of an opportunity to complete  
12 the evaluation form. And I'm still trying to figure  
13 out if that really is the case or not.

14 So conclusions, first and foremost, the  
15 self-reported physical and mental health status one  
16 month prior to deployment is dramatically more  
17 favorable than that of the general population, matched  
18 for age and sex, and of a similar group of soldiers  
19 about four months post-deployment.

20 And second of all -- and this is probably  
21 the most important thing in the whole business -- is  
22 that much of this difference cannot be accounted for  
23 by simple deception. I think if you look at the  
24 anonymous evaluations, people felt they could be  
25 honest and forthcoming. And the number of people who

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1 weren't, even if you assumed that all those people  
2 were dreadfully ill, you would still see a  
3 dramatically favorable health status. Can you go to  
4 the next point.

5           So it seems to me -- and this is one of  
6 the things especially someone who's never deployed,  
7 doesn't spend a lot of time actually working with  
8 people in that kind of environment -- is that our  
9 members genuinely feel great pre-deployment. And this  
10 really pumped up sense of well-being. This group in  
11 particular had this huge elaborate training exercise  
12 that they'd just been on for six weeks under really,  
13 really difficult conditions. And some people were  
14 weeded out in that process, but the people who  
15 remained were given the message every single day, you  
16 guys are ready for this, you're going to do a great  
17 job, you're going to make a difference, et cetera.  
18 Next point.

19           And this is sort of a cautionary note --  
20 if that's their frame of reference, how they felt when  
21 they left, my sense is even if they come back just the  
22 way they were say six months before they deployed,  
23 they're going to be disappointed, and I think this is  
24 where a lot of this sort of, when you talk to veterans  
25 with post-deployment illnesses, they'll give you this

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1 picture that they were in the most spectacular picture  
2 of health before they went. And I think a lot of  
3 times I interpreted that to mean, you know, in the  
4 year before I left, I was in this absolute prime  
5 state. In fact, I think what they mean is when --  
6 their frame of reference is just when they left. And  
7 when that happens to people, they're likely to be  
8 disappointed. Go to the next point.

9 Members were quite satisfied with the  
10 program. We were pleased with that. I personally  
11 thought it was going to be a total bust. I thought  
12 that the members would say why are you doing this one  
13 month before I deploy, this is a ridiculous exercise.

14 But they -- you know, most people seemed to think it  
15 was okay. Go to the next one.

16 And then sort of parenthetically, a  
17 significantly greater proportion of members reported  
18 concerns about long-term health effects of exposures  
19 rather than the long-term effects of stress. I'm not  
20 sure what the conclusion there is, that we should make  
21 people worry more about one thing that there's  
22 probably not much they can do about anyway, or worry  
23 less about the other. If you go to the next point.  
24 Okay, that's the end.

25 So questions?

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1 DR. OSTROFF: Thanks very much. Let me  
2 open it up to questions or comments.

3 Dr. Patrick.

4 DR. PATRICK: I think that's fascinating.  
5 This actually speaks back to our previous discussion  
6 about the compliance issues, especially this last  
7 point related to, you know, the concerns about  
8 exposures.

9 The next level of questions that this begs  
10 are questions that relate to items on which one could  
11 intervene -- why might they have these concerns about  
12 exposures as opposed to stress? The media and all the  
13 stuff that's out there sort of pumping up these things  
14 and the concerns. And if there are ways to develop  
15 scales or measures of the processes by which they  
16 gather that information, which then can be acted upon  
17 through interventions, then that's the source of the  
18 types of experiments that we're really talking about.

19 And it was the spirit of my comment on the knowledge  
20 -- this is knowledge and attitudes, but it's not done  
21 in an actionable way. You really need to deconstruct  
22 this into, you know, the mediating variables that  
23 really lead them to this point. So again, this is  
24 highly important research for the types of stuff we're  
25 talking about. It's really neat, interesting study.

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1 DR. CATTANI: Jackie Cattani. I was just  
2 curious, Mark, these anti-malarials, is this, do you  
3 feel associated with a particular anti-malarial that's  
4 given out by the Canadian forces, or do you have any  
5 insights into that at all? Like, is it mefloquine?

6 DR. ZAMORSKI: Yeah, I think in this case  
7 it was mefloquine because the people who had come back  
8 -- the first rotation as they come back actually  
9 received terminal prophylaxis with primaquine, and  
10 some of them, they were mentioning the primaquine was  
11 an issue. But in this case, I think the people were  
12 principally focusing on mefloquine. This is a free  
13 text thing, so sometimes they said malaria pills,  
14 sometimes they, you know, butchered the spelling of  
15 what looked like mefloquine. But it was pretty  
16 consistent that that was the issue. It was a big  
17 issue in the newspaper in Canada during that whole  
18 period of time as well.

19 DR. OSTROFF: You know, there's a travel  
20 medicine person in Ottawa, Ann McCarthy, who has a  
21 fabulous malaria risk assessment form that she gives  
22 to people pre-travel that helps them assess their risk  
23 and walks through the various choices of anti-  
24 malarials and actually empowers them to make their own  
25 decisions. You might want to take a look at it if

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1 this is such a big concern among the Canadian forces.

2 DR. ZAMORSKI: That's a good point. And  
3 of course, the fact is that again, if they didn't take  
4 that going to theater, it's unlikely that they would  
5 have much trouble -- they're going to be in Kabul,  
6 where I understand --

7 DR. OSTROFF: Yeah.

8 DR. ZAMORSKI: -- malarial transmission is  
9 really not an issue.

10 COL GIBSON: What malaria prophylaxis was  
11 being prescribed?

12 DR. ZAMORSKI: Mefloquine was the  
13 standard, doxycycline was the backup. I don't know  
14 whether Malarone is formulary or not. It could be --  
15 if it was our formulary, we could procure it, but  
16 mefloquine is standard.

17 DR. CATTANI: It's registered in Canada,  
18 is that what you mean?

19 DR. ZAMORSKI: No, whether it's on our  
20 formulary.

21 DR. CATTANI: Oh, I see.

22 DR. OSTROFF: Other comments?

23 Dr. Cline.

24 DR. CLINE: Mark, I've got a little  
25 trouble reconciling the very rosy pre-deployment

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1 picture with the statements and the background that  
2 many problems appeared to pre-date deployment.  
3 They're not directly comparable, but it seems a bit  
4 incompatible.

5 DR. ZAMORSKI: I think what the point was  
6 is that if you listen to people's story about, say,  
7 their depression, that they indicated they had had  
8 troubles with depression beforehand, and my hypothesis  
9 is that they had a remission, if you will, a temporary  
10 remission of depressive symptoms that was brought on  
11 by the milieu of the pre-deployment mindset and all  
12 that excitement and all that distraction, and to some  
13 extent some optimism.

14 I mean depressed people often have this  
15 belief that there'll be some kind of geographic cure.

16 And amid all the pessimism is often these little  
17 glimmers of optimism that, you know, if I get a new  
18 truck, I'll be better or, you know, if I go to  
19 Afghanistan, I'll just get all this stuff behind me  
20 and such. So I agree with you, I can't reconcile it  
21 unless I say that there is some sort of a pre-  
22 deployment blip in well-being that is present, at  
23 least at one month prior to deployment. And I wonder  
24 how much -- if that's true, I wonder where it starts.

25 DR. OSTROFF: And how do you export it.

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1 DR. CLINE: It has important implications  
2 for the recruit assessment program. If you're  
3 starting with a blip, it creates problems.

4 DR. ZAMORSKI: And also, I really think  
5 even those people who don't have deployment-related  
6 illnesses -- and this is a phenomenon that I think I'm  
7 seeing in our post-deployment data, and I've mentioned  
8 this to several people here already -- is it appears  
9 that not only do we have a tale of people who have  
10 some serious health problems, including mental health  
11 problems in the post-deployment context, but we also  
12 have a striking absence of people with very favorable  
13 health states. Those people who have high SF-36  
14 physical component summary and mental component  
15 summary scores. And they seem to be absent from our  
16 post-deployment sample.

17 Now maybe the biases that have to do with  
18 the collection of that data have skewed that, or maybe  
19 we've taken people with genuinely excellent health and  
20 have brought them back, and now they're just okay.  
21 And those people have the experience of feeling harmed  
22 even if they don't have a diagnosis.

23 DR. CLINE: It would be very interesting  
24 to see what the yellow line does when they get back.

25 DR. ZAMORSKI: Oh, I warned the Chief OS

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1 that if we go up on this, you're going to see a huge  
2 difference, because every time I briefed anyone in the  
3 chain of command about this, about five minutes into  
4 the presentation, they would get upset and say, you  
5 know, we don't know what these people were like pre-  
6 deployment, you know, show me the pre-deployment data.

7 And so what came out of that, although I  
8 think it was couched as we need to make sure we're not  
9 sending people away sick, I think that an ulterior  
10 motive was that we were going to get some pre-  
11 deployment data so we're going to prove to these  
12 people that they were really sick before they went.

13 I have warned as many people as I can that  
14 that's not the way it's going to turn out.

15 DR. CLINE: Will you be able to get to --

16 DR. ZAMORSKI: We'll have current data,  
17 yes.

18 DR. CLINE: Next year, stay tuned.

19 DR. ZAMORSKI: I don't think you really --  
20 I'll print up the slides tonight, and I can --

21 (Laughter.)

22 REPORTER: Excuse me, Colonel, your  
23 microphone is not working.

24 VOICE: These are higher scores, post 9/11  
25 and what we saw pre 9/11, and we were trying to

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1 explain that and it was really a sense of purpose and  
2 focus and a sense of mission that these individuals  
3 had that in essence prepared them to war, prepared  
4 them to go to war.

5 DR. ZAMORSKI: My sense is that these  
6 measures are accurately reflecting those people's  
7 impressions at the time that they're collected, and  
8 that these people genuinely do feel, you know, super  
9 fit, super ready, and super focused. I think it's  
10 real. I don't think it's that they really feel one  
11 way, and they're pretending to feel another way,  
12 that's not my impression.

13 DR. OSTROFF: One last comment from Col.  
14 Gardner.

15 COL GARDNER: I think that's the point.  
16 As you're preparing to deploy on someplace you're  
17 excited to go to and you're -- you know, you're trying  
18 to convince people that you're capable, you're going  
19 to feel super fit. When you're coming back, and  
20 you're saying wow, it's over, and now I've got to go  
21 back to regular life, and I've got to make sure I  
22 document every problem in case there's some  
23 compensation issue, then you're going to give just the  
24 opposite answers and --

25 DR. ZAMORSKI: Absolutely.

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1 COL GARDNER: And defining the reality of  
2 the real physical and mental status -- well, physical  
3 status more than mental, because the mental is going  
4 to change -- before and after is extremely difficult,  
5 because they are totally different settings.

6 DR. ZAMORSKI: You're absolutely right.

7 DR. OSTROFF: Thanks very much.

8 I think before we conclude, Col. Riddle  
9 wanted us to take a look at the video that was left by  
10 Dr. Brown and, I think, Dr. Drew Helmer. This is the  
11 video that he was mentioning.

12 VOICE: I'm here to answer questions.

13 (Whereupon, a video presentation was  
14 made.)

15 DR. OSTROFF: Thanks very much.

16 Any comments?

17 (No response.)

18 DR. OSTROFF: If not, I think that we'll  
19 call the meeting to a close. I'd like to express our  
20 appreciation to Dr. Hackett and to Dr. Scott for being  
21 here, and thank you very much for your attendance and  
22 listening. I hope you found the meeting to be of  
23 interest, and I hope you enjoyed the tour this  
24 morning.

25 We certainly look forward to working with

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1 you and hearing more, particularly when you finish  
2 with the marmosets.

3 I'd also like to acknowledge the folks at  
4 the Air Force Special Operations Command, Col.  
5 Woodruff -- the other Col. Woodruff -- for hosting us  
6 here. It was a terrific meeting.

7 I will turn it over to Col. Riddle to give  
8 us his last thoughts and comments as he moves on to  
9 his next assignment in Ohio. And speaking for all the  
10 Board, we wish you safe travels, and we hope you'll  
11 keep in touch with us.

12 COL RIDDLE: Yes, sir, I certainly  
13 appreciate it. Again, it has been my pleasure to work  
14 with everybody I've worked with for the last three  
15 years with the Board, and if there's anything that I  
16 can ever do, please let me know.

17 With any endeavor, it's a journey, and you  
18 never burn your bridges because you'll always be in  
19 contact and work with many of the folks that you  
20 interact with on a daily basis as we continue that  
21 journey. So I thank you very much for the opportunity  
22 that I've had.

23 As far as the meeting, certainly Tim and  
24 the Special Operations Command and all of the places  
25 that we've visited have been exceptional and have gone

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1 out of their way to help us. And I think that's a  
2 critical component to understanding the mission, to  
3 being in the platforms, to realizing the environments  
4 that these folks have to operate in help us do a  
5 better job in providing relevant recommendations that  
6 can be executable and can improve our health policy  
7 and effectiveness as a military capability.

8 And I want to thank all the members of the  
9 Board and the preventive medicine consultants and the  
10 speakers for giving of their time without  
11 compensation. Many, many hours that we work through  
12 our recommendations and attending our meetings. It's  
13 just a testament to the dedication that they have in  
14 their willingness to support our men and women who  
15 serve in uniform. And I thank you for that.

16 Don't forget to give us your travel  
17 vouchers. If you have any questions, let me know,  
18 mail them back.

19 Thanks to Jean and Severine and our audio  
20 support and transcriptionist and other support. We  
21 look forward to seeing most of you again in May.

22 DR. OSTROFF: Yes. And last comment,  
23 welcome aboard, Roger.

24 With that, I'm going to pound the gavel,  
25 meeting adjourned.

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(Whereupon, the meeting was concluded at  
4:26 p.m.)