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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT  
FOR FISCAL YEAR 2016

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED  
PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED FOURTEENTH CONGRESS  
FIRST SESSION

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SUBCOMMITTEE ON EMERGING THREATS AND  
CAPABILITIES HEARING

ON

**COUNTERING WEAPONS OF MASS DESTRUCTION  
STRATEGY AND THE FISCAL YEAR 2016  
NATIONAL DEFENSE AUTHORIZATION BUDGET  
REQUEST FOR THE DEFENSE THREAT  
REDUCTION AGENCY AND CHEMICAL  
BIOLOGICAL DEFENSE PROGRAM**

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**COUNTERING WEAPONS OF MASS DESTRUCTION  
STRATEGY AND THE FISCAL YEAR 2016 NATIONAL  
DEFENSE AUTHORIZATION BUDGET REQUEST FOR  
THE DEFENSE THREAT REDUCTION AGENCY AND  
CHEMICAL BIOLOGICAL DEFENSE PROGRAM**

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HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES,  
*Washington, DC, Wednesday, March 25, 2015.*

The subcommittee met, pursuant to call, at 3:34 p.m., in room 2118, Rayburn House Office Building, Hon. Joe Wilson (chairman of the subcommittee) presiding.

**OPENING STATEMENT OF HON. JOE WILSON, A REPRESENTATIVE FROM SOUTH CAROLINA, CHAIRMAN, SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES**

Mr. WILSON. Ladies and gentlemen, I call this hearing of the Emerging Threats and Capabilities Subcommittee of the House Armed Services Committee to order. I am pleased to welcome everyone here today for this very important and timely hearing on countering weapons of mass destruction and the fiscal year 2016 budget request for the Defense Threat Reduction Agency [DTRA] and the Chemical Biological Defense Program [CBDP].

The proliferation and potential use of weapons of mass destruction [WMD] remain a grave and enduring threat. Indeed, as the Director of National Intelligence James Clapper in his recent worldwide threat assessment before Congress said that “the time when only a few states had access to the most dangerous technologies is past. Biological and chemical materials and technologies, almost always dual use, move easily in the globalized economy, as do personnel with the scientific expertise to design them.”

And today as we sit at this hearing I am reminded that the unfortunate recent and continued use of chemical weapons in Syria shows us that state sponsors of weapons of mass destruction not only seek these capabilities, but use these capabilities.

The entire Department of Defense [DOD] countering weapons of mass destruction enterprise has played a central and critical role in our national defense over the past year; from the destruction of more than 650 tons of Syrian and Libyan chemical weapons and the precursors to the mitigation of the Ebola outbreak, which began in remote areas of Africa. And even the cleanup and destruction of our own chemical weapons stockpiles in accordance with our treaty obligations.

Despite these successes, we remain increasingly concerned about the interconnections between terrorism, non-state actors, and

weapons of mass destruction technologies and capabilities. Degrading, disrupting, and mitigating these weapons of mass destruction pathways and the capabilities at their point of origin further upstream, and far, far away from American shores and our fellow citizens, must be our central strategic aim.

And while I am pleased to see that the 2014 Department of Defense Strategy for Countering Weapons of Mass Destruction [CWMD] places emphasis on this upstream approach, I remain concerned that we have not properly resourced the Department, and indeed the entire interagency, amidst dwindling budgets, competing priorities, and the pressures of defense sequestration.

So today we look forward to discussing the priorities for the Department of Defense to counter weapons of mass destruction for fiscal year 2016. We have before us a panel of five very distinguished witnesses.

Mr. Eric Rosenbach, the Assistant Secretary of Defense for Homeland Defense and Global Security; Dr. Chris Hassell, the Deputy Assistant Secretary of Defense for Chemical and Biological Defense; Mr. John Burnham, the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control; Mr. Ken Myers, the Director of Defense Threat Reduction Agency, and also the Director of the Strategic Command Center for Combating Weapons of Mass Destruction; and Mr. Doug Bryce, the Deputy Director of the Joint Program Executive Office for Chemical and Biological Defense.

And as so appropriate, and it is just a miracle that he is appearing, but I now get to introduce and put on the spot immediately, and giving him time to get to his place, my friend and ranking member, Mr. Jim Langevin, from the beautiful State of Rhode Island, for any comments that he would like to make as he is now opening his book. But he has already read all this and so he is fully prepared.

[Laughter.]

**STATEMENT OF HON. JAMES R. LANGEVIN, A REPRESENTATIVE FROM RHODE ISLAND, RANKING MEMBER, SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES**

Mr. LANGEVIN. And ready to go, Mr. Chairman. Thank you very much. And I apologize for the delay. I had a constituent meeting in my office that ran over.

I apologize to our witnesses. But thank you all for being here. It is great to see everyone again, familiar faces. And I do want to thank you for appearing before the subcommittee today to discuss the Department of Defense's countering weapons of mass destruction strategy and the fiscal year 2016 budget request.

Now, in May of last year the Chairman of Joint Chiefs of Staff, General Dempsey, signed a letter of endorsement for the Department's updated Strategy for CWMD released in June 2014. And the letter began by stating, "the U.S. faces threats from state and non-state actors that seek to develop, proliferate, acquire or use WMD."

Like Chairman Dempsey, I am sure the other members—I am sure that the other members of the committee, I believe the proliferation use of weapons of mass destruction threatens our troops overseas, our regional partners, and innocent civilians.

As the Ebola outbreak demonstrated, understanding it was not employed by an actor, weapons of mass destruction threaten the homeland, too. Preventing acquisition, development, and the use of these weapons obviously is crucial. I am therefore pleased that the CWMD strategy places greater emphasis on a provocative upstream approach to countering weapons of mass destruction.

However, CWMD is not just the responsibility of the Department of Defense. The Department's upstream approach will require a whole-of-government approach, most specifically regarding the two priority objectives of reducing incentives to pursue, possess, and deploy WMD, and increasing barriers to the acquisition, proliferation, and the use of WMD.

I look forward to hearing from our witnesses how the CWMD strategy released in June 2014 will coordinate with other strategies, including the Department of State. Additionally I look forward to understanding the other components of the CWMD strategy and how the fiscal year 2016 budget request supports the priorities and objectives.

As a longtime advocate of STEM [science, technology, engineering, and mathematics] education and our science and technology workforce, I am especially interested in how the foundational activity of maintaining and sustaining technical expertise is being executed.

With that, finally I want to express my appreciation to the witnesses for their work in Syria, Ukraine, Jordan, Lebanon, and countless other places around the globe to protect our Nation, our partners, and our troops from the destruction caused by WMD. Thank you.

Mr. Chairman, I look forward to today's discussion. I yield back.

Mr. WILSON. Thank you, Mr. Langevin. And we will now proceed.

Assistant Secretary Rosenbach, we will begin with you. And then we will proceed. And we are under like a—when it is a 5-minute rule, if it is less than that is fine. And a challenge that we have is that there could be votes. But hey, we are here.

We are so appreciative of your being here. Thank you.

**STATEMENT OF ERIC ROSENBACH, ASSISTANT SECRETARY OF DEFENSE FOR HOMELAND DEFENSE AND GLOBAL SECURITY**

Mr. ROSENBACH. Thank you very much, Mr. Chairman. Thank you, Ranking Member Langevin, and all the other members of the subcommittee. We appreciate the opportunity to talk today about the strategy we have in place for mitigating the threat of weapons of mass destruction. And I am very honored to be with the team here from DOD to work on these things.

I would like also to thank your staff. They have done a good job in setting up a constructive hearing and we appreciate that a lot.

For reasons of time we will all be very short and submit our written testimony for the record. And I would just say a couple things very briefly so that we can get down to your questions.

You know the state of the world today makes it increasingly likely that either a state or a non-state actor could use a weapon of mass destruction. When you think about the way the world is interconnected, also the ability of these actors to get technology that could be very destructive. And so with that in mind, it literally

is the top priority of DOD and the U.S. Government to try to prevent an attack like this from happening.

With that in mind, we moved forward with a new strategy to try to mitigate the risk of that. And luckily we have already had some successes over the past couple years in things related to WMD. So as you know, in the strategy we are essentially working on three no's, right. It is a whole-of-government strategy and we want to ensure that there is no additional state that gets—or non-state actors that get WMD.

Those possessing WMD are not able to use them, and if they are used, that the effects are not very bad. So it is the three negatives that we are looking for to try to mitigate the risk.

As you mentioned, both of you all in your opening statement, the strategy is to try to think more preemptively about this, more upstream. So first we want to try to prevent actors from getting access to weapons of mass destruction.

Then if they do, we want to be able to contain and reduce the threats both to our military and of course to the Nation. And we have had some success in this. And finally that we have the ability to respond, and Ebola is a good case where something has already broken out and we mitigate the risk both to the country and to the military for the threat from that.

So I think at this point, Mr. Chairman, I will conclude my statement and pass it on to the other witnesses or be open to your questions.

[The prepared statement of Mr. Rosenbach can be found in the Appendix on page 17.]

Mr. WILSON. Thank you very much, Secretary Rosenbach.

And what we will do is proceed and then go to questions. And we are very fortunate that Pete Villano is going to keep the elected officials in line and within the 5 minutes.

Dr. Hassell.

**STATEMENT OF DR. CHRIS HASSELL, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR CHEMICAL AND BIOLOGICAL DEFENSE**

Dr. HASSELL. Thank you. Thank you, Chairman Wilson and Ranking Member Langevin and all the members of the committee. I also appreciate the opportunity to be here and share your passion for this issue.

Maybe just a word about the threats we are facing, if I can just say a few words about that. The chemical and biological threats in particular, which is what my office has responsibility for, they are very dynamic.

And one of the problems we are facing now is the rapid advancement and proliferation of technologies is making the problem even more difficult, and extending the spectrum of plausible actors, agents, concepts of use and targets.

And in addition, the range of the potential agents is very wide. And you know we have seen much in the news about some of the potential chemical threats, especially for something as simple as chlorine, which is ubiquitous, is a major concern. And it ranges all the way to very sophisticated nontraditional agents.



And on the biological side it ranges from common infectious diseases that could be used as a pathogen of concern, all the way to possibly engineered organisms. So that the range and the dynamics make it a very vexing problem.

So the research and development [R&D] and acquisition programs are planned for fiscal year 2016 for chemical threats includes detection, protection, decontamination and a sizable portion for medical countermeasures, which would include vaccines and therapeutics. Those also apply in those same areas for focus for the biological threats, same areas for detection and protection, decontamination and medical countermeasures.

So those are the two main areas of focus. But these remain threats to our troops, our allies, civilians around the world. So to your point about the interagency interaction, that is something that is vital for our success here.

So I appreciate the continued support of Congress, and especially among yourselves, for these important programs. And I look forward to answering any of your questions. Thank you.

[The prepared statement of Dr. Hassell can be found in the Appendix on page 29.]

Mr. WILSON. Thank you, Dr. Hassell.

And we now proceed to Mr. Burnham.

**STATEMENT OF JOHN BURNHAM, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR THREAT REDUCTION AND ARMS CONTROL**

Mr. BURNHAM. Chairman Wilson, Ranking Member Langevin, all the other members of the subcommittee, I too very much appreciate the opportunity to be here. I am the newest member of the team, having just joined after 28 years in the military.

And my time in Naval Special Warfare taught me that working whole-of-government interagency is one of the most important things that we can do. And this mission area is truly one of the most important. So I do look forward to bringing a lot of that experience in as we continue the whole-of-government efforts.

As you all know, our office, Threat Reduction [and] Arms Control, we have got four primary components. We manage the Department's nuclear, chemical, biological treaty implementation. We have oversight of the U.S. chemical weapons stockpile elimination. We have oversight of the Cooperative Threat Reduction Program, which is executed by Director Myers and the Defense Threat Reduction Agency. And we have oversight of the resource management efforts to develop and field a new awareness technology platform for CWMD.

So a few points on each and how they project out into our efforts for fiscal year 2016.

Our Treaty Management team obviously supports the work of the IAEA [International Atomic Energy Agency], ensures that all of our Department activities comply with the international arms control and nonproliferation agreements.

Fulfilling our commitments under the Chemical Weapons Convention, we are moving forward with the destruction of the remainder of the U.S. chemical stockpile in the two sites: Pueblo, Colorado, and Richmond, Kentucky. In fact, just recently we started de-

struction operations in Pueblo, a major milestone. And we are on track to complete construction of the main pilot facility in Kentucky by the end of this year.

Our Cooperative Threat Reduction [CTR] program is one of the most comprehensive efforts the Department has with partner countries to address WMD threats, anything that can manifest in, transit through, or emanate from their territory. And as we know, the nexus between terrorism and weapons of mass destruction and materials continues to blur and be of concern.

We have accomplishments from this past year. Notably, Mr. Chairman, as you mentioned, the *Cape Ray* and the destruction of the declared Syrian weapons stockpile, and the efforts to mitigate the Ebola outbreak, and the ongoing participation there by DTRA and the resource aspects of AT&L [Acquisition, Technology, and Logistics].

Finally, our countering WMD systems initiative, we are focusing on developing and finding a platform that will increase our situational awareness and information-sharing capability; there is a lot of information out in the U.S. Government. There is a lot of good work being done across the intell [intelligence] community to bring this information together. And our goal across our DOD, U.S. Government, and international partners is to increase that level of awareness in the CWMD arena.

So I have submitted my written testimony for the record. I highlight additional successes in the past year. And I look forward to testifying today to talk about our goals for fiscal year 2016. Thanks.

[The prepared statement of Mr. Burnham can be found in the Appendix on page 38.]

Mr. WILSON. Thank you very much, Mr. Burnham.

We now proceed to Mr. Myers.

**STATEMENT OF KENNETH A. MYERS III, DIRECTOR, DEFENSE THREAT REDUCTION AGENCY AND U.S. STRATEGIC COMMAND CENTER FOR COMBATING WEAPONS OF MASS DESTRUCTION**

Mr. MYERS. Chairman Wilson, Ranking Member Langevin, members of the subcommittee. It is an honor to be here today to share with you the work being done to counter the threats posed by proliferation and use of weapons of mass destruction.

There are three entities at our facilities at Fort Belvoir. Each has different mission areas, authorities, requirements, and funding. But they are all located together and intertwined in order to leverage expertise and coordinate efforts. Together, we represent the center of our Nation's countering weapons of mass destruction effort.

I want to share with the committee our standup of a new directorate that is focused on our support to the nuclear deterrent and our stockpile. Our goal is to elevate our nuclear mission so that we meet the expectations of the recently completed DOD Nuclear Enterprise Review. It is our top priority.

We also address important national security priorities like biological and chemical threats. Two of the best examples of the capa-

bilities we provide and the missions that we take on are related to our work with Ebola and Syria.

In both cases we had the expertise to evaluate a serious threat. We developed the needed technologies in close coordination with the organizations represented at this table. And we provided planning and execution support to all aspects of the operations.

Now, thankfully, the Ebola cases in West Africa continue to decline and 600 metric tons of Syrian chemical weapons material has been destroyed. In addition, we are also currently involved in counter-proliferation efforts to assist Ukraine, specifically the Ukrainian border guards.

Overall, we are scheduled to provide \$39 million worth of equipment, including bulldozers, armored trucks, graders, thermal imagers, patrol boats, and concertina wire.

I am proud of what our team has achieved and believe that we are good stewards of the taxpayer's dollar. As we look forward to fiscal year 2016, I am confident we are prepared to address future WMD threats around the world. I would be pleased to respond to your questions.

[The prepared statement of Mr. Myers can be found in the Appendix on page 45.]

Mr. WILSON. Thank you very much, Mr. Myers.

Mr. Bryce.

**STATEMENT OF DOUGLAS W. BRYCE, DEPUTY JOINT PROGRAM EXECUTIVE OFFICER FOR CHEMICAL AND BIOLOGICAL DEFENSE**

Mr. BRYCE. Congressman Langevin and distinguished members of the subcommittee, I am grateful for the opportunity to testify on behalf of the Joint Program Executive Office for Chemical and Biological Defense, known as the JPEO-CBD.

Joined with my partners in the countering WMD community, I will discuss my organization's activities under the June 2014 Department of Defense Strategy for Countering WMD. And I will highlight the fiscal year 2016 budget request.

The JPEO-CBD is the material developer and procurement arm of the DOD Chem[ical] Bio[logical] Defense Program. My organization also works closely with the Joint Science and Technology Office within the Department—the Defense Threat Reduction Agency for the technology efforts that will enhance our future capabilities.

The JPEO is requesting \$279 million for procurement and \$506 million in advanced development in fiscal year 2016.

Regarding collaboration within the strategy, we participate in the interagency forum known as the Public Health Emergency Medical Countermeasures Enterprise to ensure our medical programs are coordinated across the Federal Government.

As to understanding the threat within the strategy, the fiscal year 2016 budget request funds sensors and bio-surveillance situational awareness, efforts critical to the warfighter's ability to identify and respond to the threat.

With respect to defeating or controlling the threat within the strategy, the DOD support for the international response to Syria chemical weapons is a great example. The DOD team represented at this table produced the Field Deployable Hydrolysis System, and

deployed the capability aboard a U.S. maritime ship where it successfully destroyed the declared weapons of the Syrian regime.

On safeguarding the joint force and the homeland, as required by the strategy, the fiscal year 2016 budget request funds medical and protection programs critical to the warfighter's ability to survive and recover from the global threat.

We have also supported the DOD Ebola outbreak response by accelerating therapeutics and vaccines, and providing a transport isolation system to bring patients home safely. Our DOD Ebola diagnostics assay, and our latest platform to read the assay received emergency use authorization from the FDA [Food and Drug Administration], and have become a principal capability in West Africa and at home during the crisis.

The challenges we face countering weapons of mass destruction are numerous. But I am optimistic that with the support from Congress we can continue to execute the strategy.

Mr. Chairman, Congressman Langevin, and members of the subcommittee, thank you for your leadership.

[The prepared statement of Mr. Bryce can be found in the Appendix on page 62.]

Mr. WILSON. Thank you very much, Mr. Bryce. And we have a situation that the votes may start soon.

With that, a question that I have for each of you: Members of this committee are trying to convince our colleagues of the negative adverse consequence of defense sequestration. If each one of you could identify just briefly a specific example of an adverse circumstance which has developed because of defense sequestration, beginning with Mr. Rosenbach.

Mr. ROSENBAACH. Thank you very much, Mr. Chairman. You know the part that is most insidious about sequestration is that it doesn't allow us to develop the most modern force and invest in the most modern technologies.

So in my mind the thing I worry about is that we might not have the resources, for example, to develop a capability for a future threat like we did for the *Cape Ray*, that we can pivot a little bit and do some innovation and think about a way to solve a very serious problem because we have had to cut back in some of those areas.

I think it is also very important to note, Mr. Chairman, that the uncertainty that accompanies the planning process of not knowing whether it will be sequestration or not is very difficult for us to do planning. And you know in the Department of Defense we plan for everything so that we are prepared for the worst things in the world. That also has a great impact on our ability to protect the country.

Thank you, sir.

Dr. HASSELL. Yes, sir. Maybe if I could just give one example, especially on the science and technology, the research end early on. As I mentioned, we have a number of medical countermeasures programs, the vaccines and drugs that we would use for both chemical and biological threats.

We have a long list of these things that we are addressing. And we have to make some decisions about how we rank order those and how we prioritize that work. And we have to draw a line what

we can fund; just one practical aspect of sequestration is we are going to have to draw that line much higher.

And the specific example might be that we were fortunate that Ebola was still above that line. So we did have programs in place that were addressing that, along with our colleagues at HHS [Department of Health and Human Services]. Sequestration, I don't mean to overdramatize it but I mean it could have been that that line was drawn higher and we would have missed that opportunity.

So that is just one example of a program that pretty passionate about that could have been adversely affected.

Mr. WILSON. Thank you very much.

Mr. Burnham.

Mr. BURNHAM. I will segue on Dr. Hassell's point. One of the biggest advantages of the Cooperative Threat Reduction Program is the flexibility we have in the funding the Congress has given us. And we can react to opportunities to accelerate some of the undertakings we have with our international partners.

Sequestration takes a lot of that flexibility away, particularly in the Cooperative Biological Engagement Program, as an example, or to Dr. Hassell's point, responding to crises and threats, very important for us in that CTR budget line.

The other thing I would mention is the negative impact it would have on our ability to develop and field this operational prototype for the CWMD awareness system.

As the WMD threat globalizes in terms of how information gets used and the availability of a platform for us to be able to accelerate that, not being able to develop software and integrate delay our authorities to operate and push that timeline out because we won't have the R&D funds because that is the kind of things that would probably fall above that line. Thanks.

Mr. WILSON. Thank you.

Mr. Myers.

Mr. MYERS. Mr. Chairman, my colleagues have spent some time speaking about the impacts on research and development, having the Field Deployable Hydrolysis System, having the Ebola therapeutics ready and available and ready to go.

The impact—another impact that would have a significant degrading effect would be the Defense Threat Reduction Agency's support to the warfighter, support to the combatant commands. When they encounter a WMD situation, whether it be an incident, use, what have you, their first telephone call is to DTRA SCC [SCC-WMD, Strategic Command Center for Combating Weapons of Mass Destruction].

And the impact of sequestration will make it much more difficult, and potentially in some situations impossible for us to respond, to have the operational capability, to have the flexibility, to have the opportunity to respond and meet those challenges that they are facing on the field of battle, and taking care of our men and women in uniform.

Mr. WILSON. Well, I appreciate your concern very much.

Mr. Bryce.

Mr. BRYCE. Mr. Chairman, I would also add that it is a personnel issue and it is a morale issue within a workforce. We are already in a, as my colleagues have mentioned, a constrained fiscal envi-

ronment. So naturally the programs would be reduced or minimized in their process of procuring or developing. But it would also affect the morale and even pay of our workforce.

Mr. WILSON. And I thank each of you.

And we now proceed to Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

Again, thanks to our witnesses for being here and for your testimony. If I could with Mr. Myers, I would like to start. You mentioned the program Constellation in your written testimony.

And Mr. Burnham, you were just discussing with the chairman, were you referring to Constellation, just to clarify?

Mr. BURNHAM. That is correct. Yes.

Mr. LANGEVIN. Okay. Thank you for that.

So I understand that this tool provides situational awareness for the U.S. agencies and international partners to exchange real-time information on the Ebola outbreak. Mr. Myers, if you could, could you please describe this tool in more detail?

How is Constellation being leveraged for other missions across the Department? And what investments are being made in the fiscal year 2016 budget, particularly on how we and the committee can be helpful developing this tool.

Mr. MYERS. Yes, sir. Thank you. If it is okay, Mr. Burnham and I might tag team on this one.

Mr. LANGEVIN. Absolutely.

Mr. MYERS. I will spend a little bit of time talking about the role of the Ebola portal because the Constellation system is currently under development. We are the program manager. We are developing the system.

And the best way to describe it is we are bringing all the different lines of information and—in the world, if you will, from the intelligence community, from open sources and the like, and we are fusing it together to create a common operating picture.

So the entire counter WMD community, as well as the combatant commands and our leadership, are all operating off of the same information. And that we can be proactive rather than reactive to some of these WMD incidents that we are finding ourselves in on a relatively regular basis.

The Ebola portal that you raised was an effort by us to speed up Constellation to make it relevant, to get it involved in the Ebola crisis and our response to that. So think of it as an offshoot, if you will, of our main effort on counter WMD.

And the Ebola portal brought together the entire U.S. inter-agency. So we were able to share information. We were able to share the latest models, the latest forecasting, the latest updates on developments with therapeutics and with various vaccines.

The work of our laboratories in the various countries and the embassy, it kept us all together. It kept us communicating as one. We are on the same song sheet, if you will.

We were also able to make a portion of it available to some of the international organizations that were involved in the Ebola response, specifically the World Health Organization.

Mr. LANGEVIN. They participated as well.

Mr. MYERS. Well, they weren't part of it. The main portion of Constellation was for the United States Government to make sure

we were all on the same page. But it became very clear as we were responding to the Ebola threat that this was not something that the United States could do alone.

We needed to engage with our partners abroad. We needed to engage with the international community as well, as well as these—the local governments and leadership. So we made part of it, if you will, available to our partners so that we also could communicate with them on the latest breaking news and get ahead of some of these developments.

Mr. LANGEVIN. So let me ask, while I still have my time—to all the witnesses. How is the budget request for fiscal year—fiscal year 2016 support the June 2014 CWMD strategy's emphasis on upstream or left-of-the-boom approach? Specifically, the two priority objectives, reducing incentives to pursue, possess, and deploy WMD, and increasing barriers to the acquisition, proliferation, and the use of WMD?

Secretary, if we could start with you.

Mr. ROSENBAUGH. Thank you, Congressman Langevin. You know this is one of those things where when you look at it in its simplest form, you can point to the budget for CTR and the things directly related to DTRA that fall into the three components of the strategy. But you have to think even more broadly than that because deterrence is an important part of preventing the use of WMD.

And so when you think about the overall readiness of the force that may even extend, for example, to the readiness of the nuclear enterprise or other aspects of a force. We want to make sure that all of those are there to deter nation-states first and non-state actors from using WMD to begin with.

Mr. LANGEVIN. Thank you. Thank you.

Dr. HASSELL. Sir, I would just add my program specifically is more focused on the third leg, mitigating the effects if WMD is used. We are now going through our whole portfolio and seeing which could really be specifically utilized more for those upstream issues.

So in a number of cases they could be some of those specific technologies. And as was mentioned, the deterrence effect of those different technologies. So we are evaluating that as well.

Mr. BURNHAM. Sir, I think for us inside CTR the balance and engagement program that DTRA executes as another example where you are trying to develop some of these scientific collaborations that will enhance the bio surveillance and reduce the threat and really get to that upstream piece where you are actually deterring and influencing partner nations and other actors from going down that road in the first place.

Mr. MYERS. Congressman Langevin, if I could I will expand a little bit on the Nunn-Lugar CTR program. And first and foremost I think it is important to remember how much the program has evolved.

Twenty years ago we were focused on large infrastructure-type dismantlement programs in the former Soviet Union. We were taking down missile submarines. We were taking down strategic bombers, SS-18 and SS-19 intercontinental ballistic missiles.

The program has evolved to stay one step ahead of the terrorist organizations and the extremist groups that are seeking WMD.

Our projects that we are coordinating now are not one billion dollar projects, but they are much smaller security and bio-safety efforts and proliferation prevention, border security projects in smaller quantities in smaller countries and locations around the world.

So we have gone from this very large infrastructure-heavy projects to much smaller, much more focused efforts. And quite frankly there are more of them, but they are not as expensive, quite frankly, as the work we were doing in the former Soviet Union.

And I think some of the change that you have seen in our budget is the fact that we aren't carrying out those large projects in Russia like we were just a few years before.

Mr. LANGEVIN. Thank you.

Thank you, Mr. Chairman. I know my time is expired. I yield back.

Mr. WILSON. And thank you, Mr. Langevin.

And indeed votes have been called. And so—and due to the different series of votes, we want to thank each of you for being here.

It is somewhat ironic that the first question I asked about defense sequestration, we are actually going to vote. And good people can disagree, but there will be an effort to address defense sequestration.

And at this time we are adjourned.

[Whereupon, at 4:06 p.m., the subcommittee was adjourned.]



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**A P P E N D I X**

MARCH 25, 2015

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**PREPARED STATEMENTS SUBMITTED FOR THE RECORD**

MARCH 25, 2015

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STATEMENT OF

ERIC ROSENBACH  
ASSISTANT SECRETARY OF DEFENSE FOR HOMELAND DEFENSE &  
GLOBAL SECURITY  
BEFORE THE HOUSE ARMED SERVICES COMMITTEE  
EMERGING THREATS AND CAPABILITIES SUBCOMMITTEE  
MARCH 25, 2015

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## INTRODUCTION

Chairman Wilson, Ranking Member Langevin, and Members of the Subcommittee, I am pleased to testify today about our countering weapons of mass destruction (WMD) strategy, and its relationship to the Fiscal Year (FY) 2016 budget request. Our increasingly interconnected world makes WMD-related knowledge, materials, and technology more readily available to those seeking to harm the United States at home and our interests abroad. It is imperative that we remain vigilant to these threats, and that we constantly assess and update our posture and approach to mitigating them. The Department of Defense, along with partners in other U.S. departments and agencies and the international community, is continually evaluating our military and civilian solutions to countering WMD threats, as well as our preparedness for mitigating any consequences of WMD use or the spread of dangerous transmissible pathogens. Last year, the Secretary of Defense issued a new Strategy for Countering Weapons of Mass Destruction (CWMD) to reflect our evolving thinking, and to ensure that all of our components are focused on the same lines of effort, objectives, and supporting activities. I want to walk through the main elements of that strategy today; to highlight some of the key activities and efforts undertaken over the past year to reduce the threat to the United States from chemical, biological, radiological, or nuclear (CBRN) weapons or materials; and to relate our efforts to the FY 2016 budget request.

As the Assistant Secretary of Defense for Homeland Defense and Global Security, my responsibilities include issuing policy and strategic guidance on CWMD, cyber operations, homeland defense activities, antiterrorism, continuity of government and mission assurance, defense support of civil authorities, and space-related issues. WMD are among the threats that illustrate why the new organization that I oversee, Homeland Defense and Global Security, makes sense – threats abroad may well affect the homeland, and thus it is imperative that our domestic and international CWMD efforts are synchronized. The CWMD office that reports to me is responsible for establishing policies and guidance to protect our armed forces and other U.S. citizens from a CBRN attack from a State or non-state actor; and for representing DoD's interests on counterproliferation and non-proliferation policy issues, such as concerning the Biological Weapons Convention (BWC), the Chemical Weapons Convention (CWC), the Nuclear Non-Proliferation Treaty (NPT), and the Proliferation Security Initiative (PSI). My office for Homeland Defense Integration and Defense Support of Civil Authorities is responsible for establishing policies and guidance to support civilian agencies in response to WMD attacks.

The CWMD office also develops policy and guidance for the programs and activities of the DoD Cooperative Threat Reduction (CTR) Program, which is among the activities implemented by the Defense Threat Reduction Agency (DTRA). Under the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, Nuclear, Chemical, and Biological Defense Programs, the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control serves as the U.S. Government's treaty managers, and provide acquisition guidance and oversight for DTRA's work. The Deputy Assistant Secretary of Defense for Chemical and Biological Defense oversees, integrates, and coordinates the Department's efforts to develop

capabilities that enable the Warfighter to deter, prevent, protect against, mitigate, respond to, and recover from chemical and biological (CB) threats and their effects. The Joint Program Executive Officer for Chemical and Biological Defense is the advanced developer of a number of key technologies that support the CWMD strategy. I am pleased to be here today with colleagues representing each of these organizations, all of which are integral to countering the WMD threats that I will be addressing.

#### **STRATEGIC APPROACH FOR COUNTERING TODAY'S WMD CHALLENGES**

The 2015 National Security Strategy states: "No threat poses as grave a danger to our security and well-being as the potential use of nuclear weapons and materials by irresponsible states or terrorists." Preventing nuclear use by a State or non-state actor remains one of our greatest priorities. Yet the use of sarin-filled rockets by the Syrian Government in Syria in 2013 and the ongoing outbreak of the Ebola Virus Disease in West Africa have illustrated the imminent dangers of chemical and biological threats, whether man-made or naturally occurring. Although our office helped shape the successful DoD responses to both challenges, we know that chemical and biological threats will continue to evolve as related technology and expertise spread across the globe, enabling malicious actors to find new ways to use chemical and biological agents as weapons.

To ensure that we are postured to reduce and respond to today's threats and those of the future, the Secretary of Defense issued a new Strategy for Countering WMD in June 2014. Under this strategy, DoD will work to ensure that no additional State or non-state actors acquire WMD; those possessing WMD do not use them; and if WMD are used, the effects are minimized. We set supporting objectives of reducing incentives to pursue, possess, and employ WMD; increasing the barriers to WMD acquisition, proliferation, and use; managing WMD risks emanating from hostile, fragile, or failed States and safe havens; and denying the effects of current and emerging WMD threats through layered, integrated defenses.

The strategy approaches countering-WMD as a whole-of-DoD challenge, integrating military tools with defense-wide civilian infrastructure. A whole-of-DoD approach that can nest into any whole-of-government crisis response is necessary because lowered barriers to WMD acquisition makes dissuasion, detection, deterrence, and defense more difficult, and thus solutions cannot be pursued in stovepipes.

The strategy's emphasis is on taking early action to reduce threats, shaping the environment, and cooperating with partners. That last point is critically important because DoD cannot address these threats alone, particularly in these times of fiscal austerity. We know that we must use all available resources to meet our goals, including other U.S. departments and agencies, allies and partners, and international bodies. We seek to leverage and enhance, but not duplicate, capabilities resident elsewhere or best executed by others.

For the rest of my testimony I will lay out the three lines of effort set forth in the strategy – prevent acquisition, contain and reduce threats, and respond to crises – and present what we have

done and what we are doing to achieve them. These lines of effort are underpinned by what we call the key “strategic enabler” – prepare. *Prepare* is the continuous cycle of ensuring that DoD’s capabilities, expertise, and interagency and international relationships support these three CWMD lines of effort.

#### **PREVENT ACQUISITION**

Preventing acquisition focuses on ensuring that those who do not possess WMD do not obtain them. This goal is paramount to all of our work. State and non-state actors can develop, acquire, and proliferate WMD and related capabilities by using licit and illicit networks; exploiting political instability, violent extremism, and inadequate security of WMD-related materials; or taking advantage of a breakdown of infrastructure in States suffering from natural outbreaks of devastating diseases. Highly motivated non-state actors determined to obtain and employ WMD pose an exceptional risk because they are difficult to deter. This risk is heightened when non-state actors have effective control over territory, which we are witnessing in areas of the Middle East and Africa.

It is essential to deny terrorists and other non-state actors access to all sources of WMD materials. The Islamic State in Iraq and the Levant (ISIL)'s efforts and its interest in acquiring WMD, particularly chemical weapons, are of great concern. We were pleased that this threat was reduced when a former chemical weapons engineer from Saddam Hussein’s regime, who had since pledged loyalty to ISIL, was killed in a January coalition airstrike. That action degraded and disrupted ISIL’s WMD-related efforts. However, recent unconfirmed news reports of ISIL’s use of chemicals as weapons may indicate ISIL’s ongoing interest in acquiring CW to terrorize populations and gain strategic leverage over its enemies. Military operations against adversaries, and cooperative efforts to secure or eliminate vulnerable material and to build the physical and human-capacity infrastructure necessary to prevent WMD proliferation, are critical tools that must be applied to the risks that we face. Continuing to deter and mitigate the threat of ISIL and other non-state actors acquiring and using WMD is a top priority.

The DoD CTR Program remains one of the primary tools for preventing acquisition of WMD and WMD-related materials. The DoD CTR Program has a decades-long track record of working with foreign partners to destroy existing WMD; making nuclear, chemical, and biological weapons more difficult to acquire; and detecting and interdicting dangerous WMD components and materials on their own soil. Though we will close out our work this year in securing various sources of WMD material in Russia, the DoD CTR Program continues to work in other regions to eliminate dangerous materials at their source where possible, and to build the capacity of other partners to manage threats in their own territory.

The DoD CTR Program is active with longtime partners in Eurasia and Central Asia, as well as with newer partners in Southwest and Southeast Asia, Africa, and the Middle East. The DoD CTR Program also leads DoD’s efforts in support of the Nuclear Security Summits, which, along with more than 50 countries, contribute to the U.S. Government’s objective of preventing nuclear



terrorism around the world. We are grateful for the work Congress put into streamlining the DoD CTR Program's authorities in the National Defense Authorization Act (NDAA) for FY 2015 to enable the program to continue mitigating the evolving WMD threat most effectively. The FY 2016 budget request for the DoD CTR Program is \$358.1 million, which we assess to be sufficient to meet current requirements.

Much of the CTR Program's current work is through its Cooperative Biological Engagement Program (CBEP). Scientific, economic, and demographic trends are magnifying the risks of outbreaks of infectious diseases of security concern, whether they are the result of a laboratory accident, a bioterror attack, or natural transmission. We have seen that such events threaten not only the health of our citizens due to the ease and speed of global travel, but also, potentially, geopolitical stability. Dangerous regional and global security consequences result from States that are unable to provide basic services for their citizens, potentially creating environments that enable terrorists to act with impunity and take advantage of reduced barriers to WMD acquisition.

Furthermore, the effectiveness of security forces across all mission areas relies on their staying strong and healthy. Force health protection depends upon global efforts supporting biosurveillance, advanced diagnostics, and medical-countermeasure development, both domestically and abroad. For this reason, we believe that DoD, including the CBEP and the Chemical and Biological Defense Program, is contributing to the Administration's goals outlined in the Global Health Security Agenda, which is working to bring together the assets and expertise of civilian and military agencies across some 40-plus countries to accelerate progress toward a collective ability to mitigate infectious disease threats and to ensure awareness that global health security as an international security priority. Working alongside the Centers for Disease Control and Prevention, the U.S. Agency for International Development, and other U.S. and international partners, DoD is helping to develop a worldwide capacity to detect and report diseases of security concern as part of an early warning mechanism for outbreaks, regardless of whether such diseases are found in nature or caused by biological weapons. In an increasingly interconnected world, cooperation between the health and security sectors to tackle biological threats and ensure that dangerous pathogens are not available for terrorists to acquire is no longer optional – it is essential.

DoD also continues to work to raise the barriers to acquiring WMD material through the Proliferation Security Initiative (PSI), which is approaching its twelfth year. The PSI brings partners together to stop the trafficking of WMD, their delivery systems, and related materials to and from States and non-state actors. Through exercises and leadership in PSI's operational experts group, DoD works with partners to address all aspects of the proliferation threat from rapid, national-level decision-making to operational tactics and procedures. This past year, I had the opportunity to help kick off Fortune Guard, the first of what will be an annual Asia-Pacific exercise series. Fortune Guard's tabletop and live-fire exercise, which 31 nations attended, was held at the U.S. Pacific Command, and will next be held in New Zealand, Australia, Singapore, the Republic of Korea, and Japan. The PSI is a public endorsement of the principles of

interdiction by like-minded States that share the goal of defeating the threat posed by WMD proliferation. The PSI is an activity, not a program, and as such has no dedicated budget. In a time of increasing resource constraints, we are exploring ways to leverage other DoD programs to ensure that the exercises and training activities that are so essential to enabling the U.S. Government to meet our commitment to the Statement of Interdiction Principles can continue.

International regimes that bring together like-minded nations are also critical elements of the U.S. Government's efforts to prevent the development and proliferation of WMD materials. The Nuclear Nonproliferation Treaty, the Biological Weapons Convention, and the Chemical Weapons Convention remain essential foundations for the pursuit of common nonproliferation and disarmament goals. Protecting relevant authorities while strengthening all aspects of these regimes' implementation are critical U.S. Government goals, and should guide the approaches to the 2015 Nuclear Nonproliferation Treaty and 2016 Biological Weapons Convention Review Conferences (RevCons), which DoD will attend in support of the Department of State. Realizing successes at these RevCons is a priority for the United States, and we will work with all parties interested in advancing realistic, achievable objectives.

We engage in other collaborative efforts with partners focused on keeping dangerous materials out of the hands of bad actors. These efforts against actors and their networks seek to delay, disrupt, destroy, or otherwise complicate the development, possession, and proliferation of WMD and related capabilities. Such activities are designed to create reinforcing layers of complex barriers to impose recurring, collectively reinforcing, and enduring costs and setbacks to those seeking to acquire or proliferate WMD or related capabilities.

#### **CONTAIN AND REDUCE THREATS**

We know that despite our best efforts to prevent bad actors from acquiring WMD, we must be prepared to confront and reduce threats posed by vulnerable WMD-related material. Our military must remain prepared to lead or support operations to locate, characterize, secure, exploit, and destroy WMD in a range of contingency environments and under varying security and political conditions. We must also continue to work to ensure that we have partners around the world capable of mitigating such threats at and within their borders.

Last year the DoD CTR Program advanced efforts with two key partners designed to enhance their ability to detect and interdict WMD material – Ukraine and Jordan. Russia's destabilizing actions in eastern Ukraine left Ukraine's State Border Guard Services (SBGS), a longtime DoD CTR partner, with new administrative boundaries to control and to protect against WMD proliferation. DoD CTR Program experts traveled last spring to assess the SBGS's primary proliferation prevention vulnerabilities, providing initial tangible support by April 2014 and delivering a substantial amount of equipment and associated training in the fall of 2014. Thus far we have provided basic engineering (earth moving equipment), communications, land transport, surveillance equipment, and detectors to enhance the ability of the SBGS to continue to carry out its WMD proliferation-prevention mission.

Jordan, meanwhile, continues to face dangerous non-state actors operating in a destabilized Syria on its northern border, and an increasingly unsecure Iraq to its east. The DoD CTR Program has worked to provide a comprehensive train, equip, and support partnership since 2013 to enable Jordanian military and civilian first responders to mitigate proliferation threats and, if necessary, operate in a contaminated environment. Phases 2 and 3 of the Jordan Border Security Program (JBSP), an integrated surveillance, WMD detection, and interdiction system that runs along a 274-mile stretch of Jordan's borders with Syria and Iraq, is the centerpiece of this support (Phase 1, which covered 68 miles of Jordan's border with Syria, was completed by the U.S. Army under a Foreign Military Sales case in March 2014). Phases 2 and 3 should be fully operational by August 2015, but the JBSP is already providing the Jordanians better visibility of their border, which has resulted in increased interdictions of drugs, weapons, and personnel smuggling. Jordan is not the only regional partner facing threats emanating from Syria and Iraq. The CTR Program is exploring an approach to enhance the WMD surveillance, detection, and interdiction capabilities of the Lebanese Armed Forces on their border, and is assessing ways to enhance the Iraqi Security Forces' proliferation prevention capabilities.

A key counterpart to the DoD CTR Program is DTRA's CBRN Preparedness Program (CP2), which works with partner nations to respond to and mitigate the consequences of a CBRN event. Section 1204 of the NDAA for FY 2014 authorized DoD, with the concurrence of the Secretary of State, to provide WMD consequence management and response-preparedness training and equipment to the military and civilian organizations of key international partners. This means that DTRA's CP2 may now work with both military and civilian personnel in partner nations using DTRA Operation and Maintenance funds to implement a whole-of-government approach to building WMD response capacity across a partner nation's first-responder community.

After securing the Department of State's concurrence under Section 1204(a) of the NDAA for FY 2014 to operate in the Levant, the CP2 moved out quickly in Jordan to provide support. The CP2 is also working with the Lebanese Armed Forces' WMD unit to enhance its capacity to detect, assess, and mitigate WMD threats, and is working to provide detection and response equipment to the Iraqi Armed Forces as well. DoD's efforts are now focused on enabling the CP2 to partner with countries outside of the Levant under Section 1204(b) of the NDAA for FY 2014. We look forward to notifying you when we have the approval of the Secretary of Defense, with concurrence of the Secretary of State, to do so.

As I mentioned earlier, we remain concerned about the WMD threat in the Middle East, both because ISIL recognizes no limits when it comes to terrorizing populations, and because of our continued concern about the Syrian regime's willingness to use chemicals as weapons against its population, thereby eroding all norms against the use of these weapons. The U.S. Government remains extremely troubled by the three reports from the Fact Finding Mission established by the Organization for the Prohibition of Chemical Weapons (OPCW) to investigate several incidents of reported use following Syria's accession to the CWC. The evidence and conclusions of these reports provide "compelling confirmation that a toxic chemical was used as a weapon, systematically and repeatedly" in Syria between April and August 2014. This raises serious

questions about the willingness of the Syrian Government to fulfill its obligations under the CWC and United Nations Security Council Resolution 2118 to prevent the use of chemical weapons. Our great fear is that this use of chemical weapons could create a normative environment for further use that we could see spread within Syria and around the region. For that reason, the DoD CTR Program and CP2 experts will continue to look for ways to work with partners around the region to prevent proliferation, and to ensure that all WMD threats can be contained and reduced.

### **RESPOND TO CRISES**

The “respond to crises” element of the strategy focuses on activities and operations to manage and resolve complex WMD crises. This goal involves either taking kinetic action against hostile non-state actors who acquire WMD or material of concern – and who we must assume would be prepared to use them – or ensuring that we and our partners are prepared to mitigate the effects of any WMD use or spread of an infectious disease of security concern to ensure that the homeland remains safe and our operations abroad can continue.

The crisis this past year that raised the specter of a major biological threat that could have worldwide implications was the Ebola Virus Disease outbreak in West Africa. Although the outbreak affected Liberia, Sierra Leone, and Guinea most acutely, the pathogen spread to other West African region nations, Europe, and the United States. By September 2014, Ebola had killed nearly 3,000 people, and the World Health Organization and U.S. Centers for Disease Control and Prevention (CDC) warned that some 550,000 people could be infected by January 2015.

This was not just a public health crisis. We had growing concerns about the breakdown of civil society and governance in West Africa due to the immense infrastructure strain caused by the outbreak. The intense focus on reducing Ebola’s spread distracted the region’s governments from countering violent extremism from such groups as Boko Haram and al-Qa’ida in the Islamic Maghreb. The large collection of Ebola samples from the outbreak and potential vulnerable stores of other pathogens presented a significant biological-security threat. In cooperation with other DoD offices and interagency partners, particularly the U.S. Agency for International Development, which managed the overall U.S. Government response to the Ebola crisis, the DoD CTR Program was able to respond quickly and effectively, thanks in part to \$60 million reprogrammed into the DoD CTR account in Fiscal Year 2014 for this purpose. The DoD CTR program procured and staffed temporary diagnostic laboratories and supported staffing of existing laboratories to diagnose Ebola in Liberia and Sierra Leone quickly and accurately; supplied personal protective equipment, associated consumables, and laboratory equipment to the affected countries to prevent transmission to workers, including those returning to the United States; and gave the World Health Organization (WHO) a grant to train workers to detect Ebola, protect themselves from infection, and prevent its spread, including back to the United States. These efforts supported DoD’s *Operation UNITED ASSISTANCE*. Along with the Department of State, our team also coordinated closely with international partners, including

France and the United Kingdom, to ensure that the assistance each country was providing was complementary and that we all accepted a share of the burden of rolling back Ebola's spread and preventing it from reaching new countries.

DoD began to transfer our lines of operation to civilian authorities in February 2015, because our efforts have been paying off. Rather than 550,000 infections by January 2015, as of March 5, 2015, there have been fewer than 24,000 infections. There have been too many deaths, but far fewer than our worst fears and CDC's initial estimates.

As the Ebola epidemic comes under control and international support efforts begin to diminish, we will work to ensure that the laboratories and repositories that are left in these countries are sustained in a safe and secure manner so that the laboratory capabilities and Ebola samples are not vulnerable to theft or diversion. The DoD CTR Program will also stay behind in the region to build a lasting capacity to help prevent another outbreak. The DoD CTR Program will transition sustainable biosurveillance and diagnostic capabilities to the governments of Ebola-affected countries; bolster preparedness levels of countries in West Africa at risk for Ebola transmission; and develop regional biosurveillance networks by leveraging the capacities of internationally accepted regional leaders. The goal will be to ensure that these partners can detect, report, and manage outbreaks on their own using the sustainable capacity we are working to provide. The DoD chemical and biological defense program will also continue to play a key role in supporting development of medical countermeasures, diagnostics, biosurveillance tools and protection systems, though I will defer to Dr. Hassell for further details.

It is important to note that this Ebola crisis was not just an international issue, but a homeland issue as well, both when individuals unknowingly infected with the virus flew to the United States, and when U.S. citizens working in affected areas became infected and the U.S. Government flew them home for treatment. Lack of full integration of our international and domestic experts across the U.S. Government resulted in international support decisions that created second-order impacts at home. Although the three main research hospitals that received the U.S. citizens flown home for treatment were prepared and capable of treating people, few other hospitals and hospital providers were prepared to provide adequate Personal Protective Equipment or manage hazardous-waste disposal. Federal, State, and local public health officials and emergency managers coordinated to develop protocols and assess hospital preparedness for both treatment and transport of infected or exposed patients. The fact that my responsibilities extend across both the international and domestic CBRN-response areas reinforced to me the need to ensure that both international and domestic experts are communicating in such a crisis, and that expertise is shared by domestic and international responders in a timely manner. We must develop biosurveillance protocols and information-sharing processes that will help us to be quicker to link the right experts when, not if, there is another crisis such as this. Infectious diseases, whether intentional or natural, do not respect borders; any international outbreak of an infectious disease is automatically a homeland concern.

This work on Ebola came on the heels of the successful international mission to eliminate Syria's declared chemical materials. The DoD CTR Program's funding and flexible authorities enabled the U.S. contribution to that effort, destroying the most dangerous chemicals from the Syrian program on board the M/V Cape Ray. The expertise and successful mission truly represented a "whole-of-DoD" effort, though. From the U.S. European Command's operational mission lead, to the expertise that the Edgewood Chemical and Biological Center brought to bear in designing the Field Deployable Hydrolysis System and actually destroying the materials, to DTRA's and U.S. Strategic Command's role in synchronizing multiple streams of information and keeping all key parties informed of both challenges and progress, the Syrian CW elimination mission represented the best of what DoD had to offer in confronting a WMD crisis. The fact that the actual elimination concluded in just 42 days and the entire mission cost nearly \$30 million less than the amount that the DoD CTR Program allocated were finishing touches on a successful mission.

Now our team – said and meant in the broadest sense, as far as disparate elements of DoD and our partners in the U.S. Government and international community – will work to record the lessons learned from both Syria and another recent DoD CTR Program success in eliminating Libya's chemical weapons. We want to ensure that the next such crisis we confront, whether on the Korean peninsula or elsewhere, benefits from understanding the successes and challenges that stemmed from these recent events. For example, both crises reaffirmed the need to have technology that works in unforeseen circumstances and austere conditions as may be necessary in carrying out elimination missions. It is no longer sufficient to assume that there will be a large, secure environment and the luxury of time to eliminate dangerous materials. Additionally, both crises reaffirmed the critical importance of working with foreign partners to share the burden. The DoD CTR Program benefited from the use of its external contributions authority by accepting contributions from Germany for the Libyan CW-destruction operation and from Canada for the Syria CW-elimination mission.

More broadly, the Syria mission as a whole represented what can occur when the international community joins together with shared goals. Russia, China, and the United Kingdom provided security escorts to the Danish and Norwegian ships that removed the CW material from Syria. Italy provided a port to transload the most dangerous materials to the M/V Cape Ray for destruction. Less dangerous chemicals from the Syrian arsenal were destroyed in commercial facilities in Finland, the United Kingdom, and the United States, while Germany and Finland helped dispose of the chemical waste from destruction aboard the M/V Cape Ray. I am hopeful that this sort of cooperation will become the norm for confronting WMD crises. Early outreach and sustained discussion with various partners about our shared WMD concerns enabled this success and reinforced the need to prepare for WMD crises year round – not just when they are on the immediate horizon.

## **CONCLUSION**

Despite the excellent work that our teams have done over the past two decades to reduce WMD threats, we must continue to adapt to the evolving threat, remain prepared and agile, and never let our guard down due to the potentially catastrophic consequences of doing so. Actors of concern will continue to pursue WMD because they believe possessing WMD will result in enhanced strategic leverage; greater means for coercion; and the capability to deter, disrupt, or defeat military operations or cause mass casualty attacks. Your continued support for and funding in the areas laid out today are imperative to our success in mitigating these threats. We also will continue to work with our interagency and international partners to confront these challenges, both at home and abroad, because we cannot be successful on our own. Thank you for your time today. I look forward to answering your questions.

**Eric Rosenbach**  
**Assistant Secretary of Defense, Homeland Defense and Global Security**

Eric Rosenbach was confirmed by the U.S. Senate as the Assistant Secretary of Defense for Homeland Defense and Global Security on September 18, 2014. In this capacity, he supports the Secretary of Defense and Under Secretary of Defense for Policy by leading a team with a diverse portfolio of national and global security issues. His purview includes policy, strategy and implementation guidance on countering weapons of mass destruction, cyber operations, homeland defense activities, antiterrorism, continuity of government and mission assurance, defense support to civil authorities and space-related issues. Mr. Rosenbach also serves as the Principal Cyber Advisor to the Secretary of Defense.

Mr. Rosenbach previously served as the Deputy Assistant Secretary of Defense for Cyber Policy. In that capacity, he supported the Secretary of Defense and other senior Department leaders by formulating and implementing policies and strategies to improve the Department's ability to operate in cyberspace.

Prior to joining the Obama Administration, Mr. Rosenbach was a Principal at a global management consulting firm, where he advised the executives of Fortune 500 companies on strategic risk mitigation strategies.

Mr. Rosenbach earlier worked at the Harvard Kennedy School as the Executive Director of the Belfer Center for International Affairs. He managed the Center's operations, taught graduate-level classes on national security issues and directed research projects focusing on cyber, counterterrorism and the Pakistani military.

Prior to his work at Harvard, Mr. Rosenbach served as national security advisor for then-Senator Chuck Hagel and as a professional staff member on the Senate Select Committee on Intelligence (SSCI). During his time on the SSCI, he provided oversight of counterterrorism programs and led investigations of prewar intelligence on Iraqi WMD.

Mr. Rosenbach worked as the Chief Information Security Officer for the largest pan-European internet service provider. He managed an international team that ensured the cybersecurity of the firm's service delivery network and implemented the firm's first-ever risk management strategy.

Mr. Rosenbach served as an Army intelligence officer. As the Commander of a communications intelligence unit, he led a team that provided strategic intelligence in direct support of commanders in Bosnia and Kosovo. As a captain, he was awarded the Meritorious Service Medal and the Knowlton Award. The Director of Central Intelligence named his unit as the top intelligence organization in the U.S. military for two consecutive years.

Mr. Rosenbach has co-authored and co-edited several books on national security issues, including *Find, Fix, Finish: The Counterterrorism Campaign that Killed Bin Laden*. He was a Fulbright Scholar. He holds a Juris Doctor from Georgetown, Masters of Public Policy from the Harvard Kennedy School and Bachelor of Arts from Davidson College.



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STATEMENT OF

DR. DAVID C. HASSELL  
DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR CHEMICAL AND  
BIOLOGICAL DEFENSE  
BEFORE THE HOUSE ARMED SERVICES COMMITTEE  
EMERGING THREATS AND CAPABILITIES SUBCOMMITTEE  
MARCH 25, 2015

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THE HOUSE ARMED SERVICES COMMITTEE

**Introduction**

Chairman Wilson, Ranking Member Langevin, and members of the Subcommittee, thank you for giving me the opportunity to testify on Departmental efforts to Counter Weapons of Mass Destruction (CWMD).

I have the privilege of serving as the Deputy Assistant Secretary of Defense for Chemical and Biological Defense (CBD) as a principal advisor on Chemical and Biological defense matters to the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)). In this capacity, I oversee, integrate, and coordinate the Department's Chemical and Biological Defense Program (CBDP). This program develops capabilities to enable the Warfighter to deter, prevent, protect against, mitigate, respond to, and recover from chemical and biological (CB) threats and their effects. I execute this responsibility in coordination with the Secretary of the Army as Executive Agent to ensure we maintain focus on the operational users and their requirements.

The primary components of the CBDP are the Joint Staff J-8 Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense, which collects, integrates, and validates requirements for the Services and Combatant Commanders; the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense, which executes programs that provide the technical basis for future capabilities; the Joint Program Executive Office for Chemical and Biological Defense for the advanced development, procurement, fielding, and life-cycle management of CBD systems; and the Chemical and Biological Defense Test and Evaluation Executive, which establishes test policy and standards.

The Department of Defense (DoD) CBDP also works closely with the interagency and international partners to coordinate and leverage efforts and accomplishments, ensuring that the DoD, the Nation, and the global community are unified and successful in providing affordable and effective CWMD capabilities.

My testimony focuses on initiatives that address capabilities to prepare, protect, and respond to current and emerging CB threats across the operational spectrum. The wide spectrum of threats requires application of an integrated, layered approach for the development of countermeasures. It is critical that we develop capabilities that reduce operational risk and mission impact to the Joint Force and its partners from CB threats.

**CBD Strategic Overview**

The strategy of the CBDP aligns with the June 2014 DoD Strategy for Countering Weapons of Mass Destruction (CWMD), which outlines the elements and enablers of the Department's approach for countering CWMD. CBDP efforts support the continuous cycle of preparing, principally through investments that: "ensure staff expertise; and sustain the Department's science and technology, research and development, and acquisition competencies." CBDP executes its responsibility in support of the Department's strategic approach and provides capabilities supporting the three CWMD strategic lines of effort. These lines of effort are:

*1) Prevent Acquisition* focuses on ensuring that those not possessing WMD do not obtain them. One of the primary methods of increasing barriers to acquisition and proliferation of WMD will be through pathway defeat—activities focusing on the specific nodes and linkages in an adversary's WMD pathway.

*2) Contain and Reduce Threats* focuses on reducing risks posed by extant WMD. DoD will remain prepared to lead or support operations to locate, characterize, secure, exploit, and destroy WMD in a range of contingency environments and under varying security and political conditions.

*3) Respond to Crises* focuses on activities and operations to manage and resolve complex WMD crises. DoD will assume that hostile non-state actors who acquire WMD or material of concern will plan to use them, and the Department will react accordingly. DoD will be prepared to avoid or defeat WMD attacks and mitigate their immediate effects so as to allow effective operations to continue.

The CBDP supports these lines of effort through materiel and non-materiel capabilities that are interoperable within the Joint Forces and other DoD and United States Government partners countering WMD. The President's Fiscal Year (FY) 2016 budget reflects efforts to balance the dynamic tensions of budget, threat, and scientific development to provide a program that is agile and flexible so as to rapidly adapt to the evolving strategic landscape.

#### **Global and Emerging Threats**

CB threats are dynamic. The rapid advancement and global proliferation of biological and chemical technologies and knowledge greatly extends the spectrum of plausible actors, agents, concepts of use, and targets. These advances enable states to develop unique CB threats with the intent of circumventing our current defenses, while simultaneously permitting non-state actors to pursue less sophisticated CB threats.

The proliferation of WMD is among the greatest challenges facing the United States, and countering WMD is a top priority in the U.S. National Security Strategy. Accordingly, the CBDP continues to focus on developing enhanced levels of flexibility and adaptability to anticipate, identify, and quickly respond to the challenge. Supporting the rebalance toward the Asia-Pacific region while maintaining a regional focus on countering WMD in the Middle East demands a robust set of CB defense capabilities for countering state and non-state aggressors.

While reasonable threat assessments may be made regarding state-sponsored threat developments, the ideologies of transnational organizations and violent extremists, and their lower observability, have created a more volatile threat environment. Rapid advances in biotechnology are making it easier to develop biological attack capabilities. Chemical technologies are likewise evolving at a progressive rate, and when used alone or with other technologies can create traditional or emerging non-traditional agents (NTAs).

Some threats are naturally occurring, and as such infectious diseases must be a focus of the CBDP. The DoD often deploys forces into areas where unusual diseases are endemic, hence a requirement for countermeasures to protect the force. Second, many naturally occurring pathogens are suited for use by adversaries. An unexplained outbreak of anthrax may be

traceable to natural or manmade causes; however, both require the same suite of medical countermeasures. Finally, the Department must be ready to play an important role in responding to pandemics.

Understanding that the history of warfare is marked by the element of surprise, the CBDP must operate across three timeframes: near, mid, and far. In the near term, any terrorist attack will most likely use a classic biological agent, such as anthrax, or a readily available industrial chemical, such as chlorine. While an attack using a modified agent is more likely to emerge over the mid to far term, we must evolve our defensive capabilities over time to meet this potential evolution. Incorporating solution sets that allow the entire Joint Force to operate effectively in a CB contaminated environment is paramount.

#### **Key CBDP Accomplishments**

##### *Ebola Response and Preparedness: Medical Countermeasures, Diagnostics, Transport Isolation System, and Biosurveillance*

CBDP efforts have been instrumental in providing capacity and capabilities supporting the Department's response to the Ebola outbreak in West Africa. Through the Public Health Emergency Medical Countermeasures Enterprise, the CBDP expedited several advanced products, including an Ebola vaccine and several Ebola therapeutics, into clinical trials in the U.S. and West Africa in less than six months. DoD also developed and fielded a Food and Drug Administration (FDA)-approved capability for Ebola diagnosis. This diagnostic kit was the first to be granted Emergency Use Authorization during the recent Ebola outbreak, and it remains the primary diagnostic used across the U.S. Government. In tandem with these diagnostics efforts, the CBDP, in coordination with interagency and international partners, developed a rapid biosurveillance portal capability to gather and synchronize information. This portal improved situational awareness for Ebola in West Africa. Further protective measures were supported through the development and fielding of a Transport Isolation System, which increases caregiver and aircrew safety while transporting Ebola-exposed patients on military aircraft. By taking action to address this exponentially growing epidemic, we have saved lives and enhanced stability and security in the region, while reducing the threat that this fatal disease could arrive on U.S. shores and spread among our population.

##### *Research, Development and Acquisition (RDA)*

CBDP RDA efforts continuously support the strategic approach to preparing for CWMD events and providing critical capabilities enabling response to WMD crises. It is imperative that the Department continue to reduce risks by advancing the technical readiness of countermeasures and ensuring rapid response capabilities to deliver mature technologies. The Ebola emergency response reminds us that a technological warm-base enables rapid capability development and deployment.

The CBDP continues to conduct research and develop technologies for a range of chemical defense capabilities, including detection, medical countermeasures, decontamination, and protection, and advances fundamental scientific knowledge in the physical sciences and threat agents to support defense capabilities. Recent accomplishments include: advancing characterization and toxicity estimates, advancing fundamental information supporting improved detection, transition of decontamination efforts to advanced development, and transition of

enhanced medical countermeasures. Additionally, the DoD continues to support interagency efforts to develop NTA defense capabilities and has created mechanisms, networks, and processes where data and information is shared across the DoD and the Interagency. The DoD recently created an NTA Defense Research, Development, Test, and Evaluation Strategy to synchronize objectives for NTA defense solutions, acquisition planning, and programming actions.

To counter biological threats, vaccinations are available to prevent disease caused by two of the leading biological warfare threats (anthrax and smallpox). DoD continues to make progress on additional vaccine candidates for plague, botulinum toxins, Ebola and Marburg viruses, ricin, and equine encephalitis viruses; and nerve agent pretreatments. Our efforts have furthered the development of novel therapeutics for bacterial and viral threats, including Ebola.

The National Strategy for Biosurveillance, published in July of 2012, defines biosurveillance as, “the process of gathering, integrating, interpreting, and communicating essential information related to all-hazards threats or disease activity affecting human, animal, or plant health to achieve early detection and warning, contribute to overall situational awareness of the health aspects of an incident, and to enable better decision-making at all levels.” The CBDP is developing enhanced and integrated biosurveillance systems; these systems are comprised of RDA efforts supporting improved environmental detection systems, rapid medical diagnosis, and integrated information systems. Through FY 2015, the Joint United States Forces Korea Portal and Integrated Threat Recognition advanced technology demonstration, also known by the acronym JUPITR, continues to provide specific detection and analysis capabilities to address the need for biosurveillance on the Korean Peninsula. It will enhance the ability of U.S. Forces Korea and the Republic of Korea to respond to biological threats.

#### *Improved Risk Assessment Process*

We are now using a more rigorous, risk-informed approach to develop and assess our portfolio. Current and emerging threats are compared to capabilities within the context of planned and future operations. We continually evaluate our portfolio to assess ways to mitigate risks through a layering of capabilities, such as integrated protection for threats that present a challenge to our detection systems. We consider Force Management Risk through the lens of modernization, and Institutional Risk through our ability to develop capabilities now and in the future. Through this process, we identify areas within CBD that present the most risk to the Warfighter, both now and in the future, and then shape our portfolio to best reduce that risk, from science and technology (S&T) through advanced development, testing, and fielding.

Through this risk-based process, we have determined that the threat of undetected attacks upon the force remains one of CBDP’s most intractable problems. Detection, identification, and attribution of attacks remain significant technological challenges. Detection capability to proactively prevent contamination remains elusive, particularly for biological threats. While an improved “detect-to-treat” capability is showing promise, the window for early detection and warning to prevent casualties requires continued dedicated efforts. As a result, we are pursuing vaccines and therapeutics for the most dangerous threats that we currently cannot detect in adequate time to warn the Warfighter to take other protective measures.

While the risk of a newly emerging threat may be difficult to foresee, we mitigate the potential risks from surprise in three ways. First, we look at the evolving threat and emerging technologies that could be used as enablers of our defenses. Second, we maintain a robust capability within DoD laboratories to anticipate and counter surprise. Finally, we exercise our response to unanticipated threats.

**Looking Forward: FY2016 Efforts**

The President's FY 2016 CBDP Budget request of \$1.285 billion includes a total of \$395 million for S&T, \$510 million for advanced development, and \$279 million for procurement and fielding of capabilities. Addressing the various CB risks requires S&T to understand the threat and the development of an end-to-end portfolio of capabilities across the spectrum of protection (e.g. physical and medical prophylaxis capabilities), detection (e.g. detection and diagnostic equipment), and response (e.g. decontamination and medical therapeutic capabilities). Tying these capabilities together requires the communication of early warning, indications, and situational awareness (e.g. biosurveillance tools).

Fielded technologies must meet the needs of the end-users. As such, incorporating input from Warfighters and other end-users is an integral component of the CBDP activities. Starting with S&T input, concepts development, and requirements generation, end-users participate and shape the technology that is transitioned to advanced development, tested, and fielded. Direct, end-user feedback informs our mission and allows us to fulfill our commitment to serve the Warfighter.

*Chemical Research, Development and Acquisition (RDA) Capabilities*

The DoD has active programs that provide the capabilities required to respond to chemical threats in a layered approach. We invest in detection equipment to identify chemical agents and provide situational awareness for response. We also provide protective equipment to shield against exposure, and we develop responsive medical countermeasures.

The DoD's development of chemical defense capabilities is a key part of an integrated national effort to address traditional and non-traditional threats. In this budget request, we continue to conduct research and develop technology for a range of chemical defense capabilities, including detection, medical countermeasures, decontamination, and protection and advance fundamental scientific knowledge in the physical sciences and threat agents needed to support these defense capabilities. The proliferation of NTA information, implications of operational use, and asymmetric impacts of employment on the force have compelled the DoD to accelerate efforts to counter NTAs.

*Biological RDA Capabilities*

The DoD also continues to prepare for the intentional use of biological agents against the Joint Force, our allies, and partners. Rapid advancements in biotechnology are making it easier for an adversary, whether state or non-state, to develop biological weapons. Biological threats from an attack, accidental release, or natural occurrence have the potential to cause enormous damage in terms of lives lost, economic impact, and ability to recover. As stated in the National Strategy for Countering Biological Threats, "fanatics have expressed interest in developing and using

biological weapons against us and our allies.” We are working proactively to prepare for both existing and emerging biological threats and to respond rapidly when necessary.

Biological agents have the capacity to spread without regard to borders, conflicts, or intentions. As such, countering biological threats lies at the nexus of security and health, and must be addressed by all stakeholders involved, to include health, defense, law enforcement, private, international, and non-governmental counterparts. One of our primary initiatives in FY 2016 to address this challenge is the Global Health Security Agenda (GHSA), which is an international effort to enhance the World’s ability to prevent, detect, and respond to infectious disease threats, whether naturally occurring, accidental, or intentionally caused. The recent Ebola outbreak in Western Africa highlighted the need for this work. In his State of the Union address, the President recognized the efforts of U.S. military personnel, scientists, and health care professionals in rolling back the Ebola virus disease in West Africa, saving countless lives. He also stated that “the job is not yet done, and the world needs to use this lesson to build a more effective global effort to prevent the spread of future pandemics.” The DoD is committed to serve this mission.

CBDP ongoing activities to develop biosurveillance and diagnostic tools, as well as prophylactic and therapeutic medical countermeasures support the GHSA. Diagnostic systems used by military clinics and field laboratories are critical to the early identification and confirmation of a broad range of chemical, biological, and radiological hazards, including emerging infectious diseases. In addition to the DoD-developed and fielded FDA-cleared capability for diagnosis of Ebola, we are now moving forward with a next generation diagnostic capability for biological warfare agents and infectious diseases outside of established medical centers. The FY 2016 budget request includes expanding that capability to include the ability to diagnose multiple biological warfare agents within a single test. Additionally, CBDP is developing comprehensive, easy-to-use diagnostic platforms; advancing new diagnostic devices through the FDA approval process; and addressing the looming concerns associated with antimicrobial and multi-drug resistance pathogens.

The FY 2016 budget requests continuation of CBDP prevention and treatment efforts. We continue efforts on vaccine candidates for plague, botulinum toxins, Ebola and Marburg viruses, ricin, and equine encephalitis viruses; and nerve agent pretreatments. Efforts continue supporting research and development of novel therapeutics for bacterial and viral threats, and we continue to advance a fundamental understanding of the physiological response to biological threats to enable continual progress on countermeasures.

#### *Institutional Capabilities*

We must continue to invest in the intellectual and physical capabilities critical to addressing CB defense. Part of our Institutional Risk Assessment involved reviewing the DoD assets critical to our continued development of CBD capabilities and intellectual capacity to be able to respond to surprise. The main assets are the U.S. Army Medical Research Institute for Infectious Disease (Fort Detrick, Maryland), U.S. Army Medical Research Institute for Chemical Defense (Aberdeen Proving Ground, Maryland), Edgewood Chemical and Biological Center (Aberdeen Proving Ground, Maryland), and West Desert Test Facility (Dugway Proving Ground, Utah).

The FY 2016 budget request funds research and sustainment to ensure the continued operation of these critical institutional capabilities.

DoD must be flexible and agile to meet a broad range of medical countermeasure needs for agents encountered by the Joint Force. To meet this need, the Department has continued its investment in a manufacturing capability through the Advanced Development and Manufacturing (ADM) facility being developed in Alachua, Florida. The DoD ADM and the Health and Human Services (HHS) Centers for Innovation and Advanced Development and Manufacturing (CIADM) capabilities are complementary. Supported by a joint governance board, DoD and HHS have managed the design of their respective capabilities to ensure maximal use of the national capability and to ensure that the DoD is technically matched to the scale required for the Joint Force. In partnership with HHS, we are revolutionizing national capabilities to respond to emergencies and address threats to DoD personnel and U.S. citizens across the globe.

**Conclusion**

Chemical and biological threats to our troops, homeland, allies, and civilians around the world are very real and constantly evolving. Consequently, DoD must develop agile programs to respond. The Chemical and Biological Defense Program is working to strengthen our capabilities to effectively prepare, protect, and respond to these threats. I ask you to support the President's FY 2016 budget request so we can continue to advance and deliver these capabilities.

I appreciate the opportunity to testify today and will be pleased to answer your questions.



**D. Christian Hassell, PhD**

Deputy Assistant Secretary of Defense for  
Chemical and Biological Defense

Dr. David Christian "Chris" Hassell serves as the Deputy Assistant Secretary of Defense for Chemical and Biological Defense. A member of the Senior Executive Service, he is responsible for Chemical and Biological Defense Program oversight throughout the Department of Defense and integration with our interagency and international partners. His primary goal is steering the enterprise in countering current and emerging biological and chemical threats to protect U.S. Service members and civilians at home and abroad.

Prior to joining the Department of Defense, Dr. Hassell was an Assistant Director of the Federal Bureau of Investigation (FBI), where he served as Director of the FBI Laboratory. During his tenure, he led major efforts to expand the Laboratory's role in National Security and Intelligence, including the Terrorist Explosive Device Analytical Center (TEDAC) and other technical areas related to Weapons of Mass Destruction. In addition, he strengthened and streamlined FBI programs in traditional forensics, particularly in such rapidly evolving areas as DNA, chemistry and the use of instrumentation to augment pattern-based forensic techniques (e.g., fingerprints, firearms, and documents). He also led many engagements with international counterparts, with focus on enhancing counterterrorism interactions with "Five-Eyes" partners, as well as new technical collaborations in Asia, Latin America and with such key multilateral groups as the International Atomic Energy Agency (IAEA) and INTERPOL.

Dr. Hassell joined the Bureau from the Oklahoma State University Multispectral Laboratories, where he led Research, Development, Testing and Evaluation. He previously served as Assistant Vice President for Science and Technology at Applied Marine Technologies Incorporated.

Prior to that position, Dr. Hassell led programs in analytical chemistry, instrumentation development, and nuclear weapons forensics at Los Alamos National Laboratory. This also included serving as an intelligence analyst with the Department of Energy Field Intelligence Element for a variety of issues related to Chemical, Biological, Nuclear, Radiological and Explosives (CBRNE) threats. During this time, he also served as a subject matter expert for chemical and biological weapons with the Iraq survey Group in Baghdad.

Earlier in his career, Dr. Hassell was a Senior Research Chemist at DuPont, developing online analytical instrumentation for chemical and bioprocess facilities for both research and manufacturing. This included extensive R&D on fermentation-based processes for manufacturing small molecule commodity chemicals.

Dr. Hassell received his PhD in analytical chemistry from the University of Texas at Austin. He is a Fellow of the Society for Applied Spectroscopy and a member of the American Chemical Society.

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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

JOHN BURNHAM

DEPUTY ASSISTANT SECRETARY OF DEFENSE  
FOR THREAT REDUCTION AND ARMS CONTROL

BEFORE THE HOUSE ARMED SERVICES COMMITTEE  
EMERGING THREATS AND CAPABILITIES SUBCOMMITTEE  
MARCH 25, 2015

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THE HOUSE ARMED SERVICES COMMITTEE

**Introduction**

Chairman Wilson, Ranking Member Langevin, and members of the Subcommittee, thank you for the opportunity to testify about U.S. countering weapons of mass destruction (CWMD) programs.

I have the privilege of serving as the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control (TRAC). In this capacity, I am the principal advisor to the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)) for all TRAC matters.

I oversee the implementation of the DoD CTR Program, executed by the Defense Threat Reduction Agency (DTRA), which is the U.S. Government's most comprehensive tool to prevent WMD risks from becoming concrete threats to the security of the United States and our allies. I also manage the Department's treaty implementation activities to ensure all DoD activities fully comply with arms control agreements, including the Chemical Weapons Convention (CWC), the Biological and Toxin Weapons Convention (BWC), the Safeguards agreement with the International Atomic Energy Agency (IAEA), and preparations for the implementation of the Comprehensive Nuclear Test Ban Treaty (CTBT). I oversee the elimination of the United States' chemical weapons stockpile, ensuring maximum protection to the workforce, the public, and the environment, while also meeting CWC obligations. I am also responsible for efforts to develop and field a CWMD Situational Awareness capability for the DoD and its interagency and international partners.

My testimony focuses on our more recent successes and specific initiatives for the coming fiscal year to prepare for emerging threats across the chemical, biological, radiological, and nuclear (CBRN) spectrum and strengthen our ability to counter the WMD threats we face today. The President's FY16 budget requests a total \$358.1M for the Defense Threat Reduction Agency-executed CTR Program; \$720.7M for the U.S. Chemical Demilitarization Program and \$48.1 M for CWMD Systems.

**Countering Nuclear, Chemical, and Biological Threats**

Our increasingly interconnected world makes WMD-related knowledge, materials, and technology more readily available to those who seek to harm the United States at home and our interests abroad.

The DoD Strategy for Countering WMD, published in June of 2014, delineates three end states: (1) no new actors obtain WMD; (2) those possessing WMD do not use them; and (3) if actors use WMD, their effects are minimized. The Department's strategic approach to achieve these end states is organized into the following lines of effort: Prevent Acquisition; Contain and Reduce Threats; and Respond to Crises. My office's combined nonproliferation, counter-proliferation and combatting weapons of mass destruction (CWMD) activities directly contribute to these efforts.

The following includes recent successes working with foreign partners to reduce the threat of WMD, as well as FY16 plans to eliminate existing WMD; make nuclear, chemical, and biological weapons more difficult to acquire; and enable foreign partners to detect and interdict

dangerous WMD components and materials on their own soil and waters before they can reach the United States.

#### *Eliminating Chemical Threats*

On August 18, 2014, the United States completed the destruction of the deadliest chemicals in Syria's declared stockpile. The DoD CTR Program worked across the Department and the U.S. Government, and with our international partners, to provide the capabilities necessary to eliminate the threat posed by Syria's chemical weapons program. Thanks to our dedicated civilian and military professionals, the destruction effort was completed under budget and weeks ahead of schedule.

The DoD CTR Program contributed significant resources, including equipment, destruction technology, and expertise, to this international elimination effort. To enable removal of the chemical stockpile from Syria, the CTR Program provided transport and material handling equipment, medical countermeasures, and packaging materials to the Organization for the Prohibition of Chemical Weapons-United Nations Joint Mission. CTR also outfitted the Motor Vessel CAPE RAY, a U.S. National Defense Reserve Fleet Vessel, with two specially-designed neutralization systems, along with all of the equipment, personnel, and expertise necessary to neutralize 600 tons of Sarin precursor chemicals and 20 tons of mustard blister agent in a safe and environmentally sound manner.

In FY16 and beyond, the DoD CTR Program will remain ready to rapidly eliminate other international chemical weapons stockpiles as opportunities emerge.

We continue to meet our commitments under the Chemical Weapons Convention to eliminate the U.S. chemical weapons stockpile. Last week, we began destruction of the stockpile stored in Pueblo, Colorado using the U.S. Army's Explosive Destruction System. This system will be used to process problematic munitions that cannot be easily processed in the primary plant, which is expected to begin operations late this calendar year.

#### *Countering the Biological Threats*

Over the past year, the CTR Program has been instrumental in providing capacity to contain the Ebola outbreak in West Africa. Its spread reminded us that deadly infectious diseases can pose biological threats to our nation's security, either by spreading through populations or through hostile activities of a non-state actor. The CTR Program has aspects that work to prevent both scenarios, through regular engagement with U.S. government and international partners.

To counter the Ebola threat in West Africa, the DoD CTR Program provided a range of capabilities in Liberia, Sierra Leone, and Guinea—working collaboratively with the World Health Organization and U.S. interagency partners. The Program provided diagnostic laboratory capabilities to Liberia and Sierra Leone—in the form of equipment, personnel, logistical support, personal protective equipment (PPE), and supplies—which were essential for detecting and reporting new Ebola cases. The CTR Program also provided thousands of PPE sets to the affected countries, which enabled personnel on the front lines to perform crucial outbreak containment work, and assessed and built capacities related to a sample transport network in Liberia, which played an essential role in enabling the timely diagnosis of new cases throughout the country.

CTR's ability to respond effectively to this rapidly emerging security crisis—working in close coordination with DoD and interagency partners—has helped contain the biological threat posed by the Ebola epidemic. By taking action to rein in this epidemic with the potential for exponential growth, we have helped save thousands of lives and restore stability and security to the region.

The fight against Ebola is part of a broader, international effort to counter biological threats. The Global Health Security Agenda (GHSA) was officially launched in February 2014 to ensure countries have the capacity to prevent, detect, and respond to infectious disease outbreaks before they evolve into the health, security, and economic threat we recently witnessed in West Africa. The CTR Program has contributed to the security elements of the GHSA and will leverage international commitments to GHSA to help propagate our biological threat reduction objectives with new partners to create new opportunities for collaborative threat reduction activities.

Looking forward to FY16, to prevent non-state actors from gaining access to dangerous pathogens that could be used in an attack and to prevent accidental release of dangerous pathogens, CTR will continue to work with partner countries to enhance laboratory security and safety. To strengthen preparedness for mitigating biological threats, CTR will support partner countries as they build linkages among the defense and security sectors, law enforcement, and health sectors and their use of early warning systems. CTR will also build biosurveillance capabilities, so biological threats—whether naturally emerging, deliberately spread, or accidentally released—are rapidly detected and contained before they reach U.S. shores.

#### *Proliferation Prevention*

Regional crises can also destabilize borders, leaving them vulnerable to WMD trafficking and the free movement of malicious non-state actors. It is critical to mitigate these threats by increasing partner countries' proliferation prevention capabilities and ability to maintain integrity and control of their borders.

The DoD CTR Program responded rapidly to Ukraine's border security and WMD proliferation vulnerabilities created as a result of the Russian Federation's occupation and attempted annexation of Crimea and aggressive actions to destabilize eastern Ukraine. The ongoing crisis spurred an influx of new border security personnel and changed Ukraine's border composition. The current insecure borders, coupled with the border guards' strained resources, create an environment that is ripe for increased WMD materials smuggling, even in areas far from Russian paramilitary activity, which enabled the team to identify gaps in Ukraine's ability to deter, detect, and interdict illicit trafficking of CBRN materials and provided equipment to meet those capability needs.

Russia's destabilization of its neighbors' sovereign borders has highlighted the threat that nuclear or other WMD-usable materials could make their way into the hands of malicious actors. The CTR Program is continuing to engage with Ukraine to enhance its proliferation prevention capabilities and its ability to maintain integrity and control of their borders.

To address this threat of WMD proliferation in the region more comprehensively, DoD will continue to build partners' CWMD capacity across Russia's periphery through FY16 and

beyond. The CTR Program had already been working through its long-standing partnerships with Georgia, Armenia, and Moldova to help to mitigate the risk of cross-border WMD movement. Continued support of DoD CTR helps ensure that the United States remains the partner of choice to combat WMD threats wherever they may exist.

The Middle East is also undergoing an emerging crisis precipitated by the Islamic State of Iraq and the Levant (ISIL); destabilized borders have exacerbated the threat that terrorists will exploit vulnerabilities to acquire, proliferate, and use WMD—making DoD threat reduction work even more crucial.

We will continue to work with several partners in the region to enhance their ability to secure their most dangerous materials, detect and interdict WMD materials and components, and mitigate the risks of possible chemical weapons use. For example, the DoD CTR Program will continue to work with regional partners to provide security enhancements along borders with Syria and Iraq. In Jordan, border surveillance systems provided by CTR are already contributing to enhanced CWMD operations and have helped Jordanians stop incursions into their country by terrorists and traffickers from regions with known WMD threats.

#### *Reducing Nuclear Threats*

I am here also to highlight DoD's efforts to raise barriers that ensure terrorists and state proliferators are denied access nuclear materials and expertise abroad. The combination of vulnerable nuclear materials, the global distribution of nuclear weapons, and non-state actors' seeking to acquire WMD capabilities present grave threats to U.S. security and the security of our allies.

Our office will continue to counter these threats by working with partner countries to help deter, detect, and identify potential proliferators. For example, the DoD is working within the U.S. Support Program to bolster the ability of the IAEA to implement Safeguards Agreements and provide technical support in the form of sample analysis for the IAEA as part of its Network of Analytical Laboratories. These efforts ensure that governments are held accountable for their nuclear materials and also work to deter and detect any potential diversion of nuclear material to offensive uses.

We also will support all U.S. verification activities under the Comprehensive Nuclear Test Ban Treaty, including installation, operation, and maintenance of U.S. International Monitoring System (IMS) stations. The IMS is the centerpiece of a unique, comprehensive verification regime to dissuade proliferators—monitoring the globe for the tell-tale signs of nuclear test explosions to ensure that no test goes undetected.

DoD is coordinating its efforts abroad with the Departments of Energy and State to reduce the availability and accessibility of weapons-usable nuclear materials worldwide, to promote a culture of security, and to sustain robust interdiction efforts while ensuring the dangerous nuclear ambitions of state and non-state actors will remain difficult to realize. Our collaborative nuclear security efforts with interagency partners will help drive progress on nuclear security, and this will serve as a significant piece of the U.S. contribution to the 2016 Nuclear Security Summit.

*Increasing CWMD Situational Awareness*

Our CWMD Systems portfolio is sponsoring development of a CWMD Situational Awareness capability for the Department and its interagency and international partners. Its mission is to provide a system that integrates, analyzes, and disseminates CWMD information. Its primary focus is on the development of a CWMD Situational Awareness prototype called Constellation, which is a common information environment that enables situational understanding and supports decision making. It will be a platform for sharing information across security domains, supporting various communities of interest, and leveraging emergent DoD and Intelligence Community technologies. It will provide information about the CWMD community's capabilities and authorities, adversary WMD networks and programs, proliferation activities, and dual-use technologies. Once operational, Constellation will present a dynamic, holistic view of the global CWMD operating environment that will allow us to anticipate and counter weapons of mass destruction more effectively.

**Conclusion**

A more interconnected world and technological advances have lowered barriers to both state and non-state adversaries seeking WMD-related expertise, materials, and technologies. This means DoD must develop agile programs to respond.

In the coming fiscal year TRAC will continue to oversee DTRA's implementation of the CTR Program, with a focus on rapid, agile response to current international security threats—such as those posed by ISIL, Ebola, and Russia's destabilizing activities in regions near its periphery—as well as proactively building capacity to prevent the emergence of new WMD threats. In FY16 we will help anticipate WMD threats by expanding capabilities to support information sharing, collaboration, planning, and decision-making. To meet U.S. treaty commitments, we will continue supporting the International Monitoring System, the International Atomic Energy Agency, fulfilling our obligations under the CWC and BWC, and continue destruction of the U.S. chemical weapons stockpile.

The Department is working to strengthen the capabilities of the United States to prevent, deter, defeat, and respond to these threats effectively. We ask that you approve the President's FY16 budget request so we can achieve these goals.

I appreciate the opportunity you have given me to testify today and would be pleased to answer your questions.

Mr. John Burnham currently serves as the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control (DASD(NCB/TRAC)). In this capacity, he is the principal advisor to the Assistant Secretary for acquisition oversight, implementation, and compliance with nuclear, biological, and chemical treaties; cooperative threat reduction; chemical demilitarization programs; and building global partner capacity to counter weapons of mass destruction.

He recently retired from the U.S. Navy as a Captain with 28 years of experience in special operations and national security issues, having served in tactical, operational, and command assignments across the spectrum of peacetime and conflict.

Starting as a Surface Warfare Officer onboard the fast frigate USS MARVIN SHIELDS (FF-1066) in San Diego in 1987, he completed two deployments to the Pacific and Middle East – the second being a seven-month deployment during Operation DESERT STORM where his ship was underway in the Persian Gulf for four months straight.

After DESERT STORM he transitioned to Naval Special Warfare. Assigned to SEAL Team TWO in 1992, he deployed three times as a platoon and task unit commander, spending almost three years across Europe during Operations SHARP GUARD and JOINT ENDEAVOR (Bosnia operations) through the early 90's.

From 1996-1999 he was a Squadron Commander at Naval Special Warfare Development Group (NSWDG), deploying worldwide on exercises and operations, then served ashore as the officer-in-charge of the Advanced Training Command from 1999-2001,

He reported back to NSWDG as the Operations Officer just prior to 9/11/01, and from 2001-2004 he deployed as an Advance Force Operations element commander and a Task Force Commander for Joint Task Forces in Afghanistan and Iraq. A staff tour at Joint Special Operations Command followed, and in 2005 he assumed command at SEAL Team FOUR - deploying in 2006/2007 with his NSW Squadron to Iraq where they operated in Baghdad, Fallujah, Ramadi and Basra.

He was Deputy Commander of NSWDG from 2008-2011, spending over a year deployed to Afghanistan as Task Force Commander for a Joint Special Operations Task Force and other extended deployments to the Horn of Africa and Arabian Peninsula.

Before assuming his current position he was the Commander of the Joint Interagency Task Force – National Capital Region (JIATF-NCR), a component of the Joint Special Operations Command, from 2011-2014. He has extensive experience working with joint special operations forces, U.S. Government interagency organizations, and allied / partner nation elements.

Mr. Burnham is a graduate of the University of Pennsylvania, holds a Master of Business Administration degree from the College of William and Mary, and is a Distinguished Graduate of the National War College.



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House Armed Services Committee

Statement of Mr. Kenneth A. Myers III  
Director, Defense Threat Reduction Agency  
And  
Director, U.S. Strategic Command Center for  
Combating Weapons of Mass Destruction  
On

Countering Weapons of Mass Destruction (CWMD) Strategy  
and the Fiscal Year 2016 National Defense Authorization  
Budget Request for the Defense Threat Reduction Agency and  
Chemical Biological Defense Program:

Before the

Emerging Threats and Capabilities  
Subcommittee  
Committee on Armed Services  
United States House of Representatives

25 March 2015

Not for Public Release until Approved by the  
House Armed Services Committee

Director Ken Myers  
Defense Threat Reduction Agency  
Testimony to Emerging Threats and Capabilities Subcommittee  
House Armed Services Committee  
March 25, 2015

Chairman Wilson, Ranking Member Langevin, and Members of the Subcommittee, it is an honor to be here today to share with you the work we do every day to counter the threats posed by the proliferation and use of weapons of mass destruction (WMD).

There are three entities co-located at our facilities at Fort Belvoir: the Defense Threat Reduction Agency (DTRA), the United States Strategic Command Center for Combating Weapons of Mass Destruction (SCC-WMD) and the United States Strategic Command Standing Joint Force Headquarters for Elimination (SJFHQ-E). Each one of these entities has different mission areas, authorities, requirements, and funding, but they are all located together and intertwined in order to leverage expertise from each other, combine their capabilities, and coordinate efforts. These three entities, as one Team, are engaged in nonproliferation, counterproliferation and consequence management missions throughout the world -- addressing the full spectrum of WMD threats.

Our job is to counter and combat weapons of mass destruction. Our success is determined by what did *not* happen -- what we prevented, what we helped to interdict, what we eliminated, what we mitigated, and how prepared we are to respond.

Our focus is to keep WMD out of the hands of terrorists and other enemies by locking down, monitoring, and destroying weapons and weapons related materials. We also assist Combatant Commanders with their plans and responses to WMD events and develop and deliver cutting-edge technologies to assist with all of these endeavors.

The legacy of our organization stretches back to the Manhattan Project where we provided expertise in weapons effects. Since that time, we have consolidated several agencies into one, economized our force, expanded our mission areas and demonstrated a track record of success with a direct impact on improving our national security. For example, we have deactivated more than 7,600 Soviet nuclear warheads, 2,500 missiles, 33 ballistic missile submarines, 155 nuclear bombers, and 4,127 metric tons of Russian chemical weapons. We have disassembled legacy Soviet Biopreparat facilities that had the capability to produce tons of anthrax and other deadly biological agents. We have also destroyed chemical weapons arsenals in Albania and Libya, and secured vulnerable nuclear weapons material left at the former Soviet nuclear testing site in Kazakhstan. We helped respond to the accident at the Fukushima Daiichi Nuclear Power Plant, we built laboratories and disease reporting networks in the Caucasus and Africa to safeguard dangerous pathogens and disease samples and keep them out of the wrong hands, and recently we were part of the team that planned for and eliminated the deadliest chemicals in Syria's declared chemical weapons program on-board the US flagged MV (motor vessel) *Cape Ray*.

Our successes are many but much of our work is done quietly behind the scenes. We don't carry out military operations but we provide the tools so that our colleagues can. We developed the Massive Ordnance Penetrator, known as the MOP, designed to hit hard and deeply buried targets. We provide USSOCOM with their counter WMD tools and equipment. We are playing a leadership role in developing vaccines and therapeutics to battle Ebola and other infectious diseases. We are developing advanced situational awareness tools to help us stay ahead of emerging threats, and enhancing the capabilities of our partners and Allies who work alongside the U.S. to counter WMD.

Everyone likes to say they are unique but we truly are. We are a defense agency, a combat support agency, a premier research and development agency, a STRATCOM center and a Standing Joint Force Headquarters Command all rolled into one. We are one team with the same mission, "making the world a safer place."

As the Director, I report to the Undersecretary of Defense for Acquisition, Technology and Logistics Frank Kendall, through the Assistant Secretary of Defense for Nuclear, Chemical, and

Biological Defense Programs and to the Commander of the US Strategic Command, Admiral Cecil Haney. As a combat support agency, I also report directly to the Chairman of the Joint Chiefs. That description might sound confusing but it makes sense when you consider that we are at the center of the Defense Department's efforts to counter the WMD threats that we face. We are the go-to organization 24 hours a day to support the functional and geographic commands anywhere in the world.

We manage a \$1.8 billion research and development portfolio and an operations budget which is just under \$800 million. We have offices in countries around the world and have a presence at every Geographic and Functional Combatant Command and in five locations here in the US.

When you walk down our halls you will see nuclear physicists, microbiologists, chemists, former Special Forces operators, logisticians, contract specialists, and accountants working side by side to eliminate WMD threats. In fact, some days we look and sound like an advertisement for Rosetta Stone. But it is my responsibility to make sure that we are speaking in the same language and ensure we have an organization where each of those experts is able to leverage their expertise and bring solutions to complex problems.

The reason why is simple. Subject Matter Experts in the WMD field are highly specialized and hard to find. There simply are not enough experts to adequately staff the Services and Commands. And even if you did, you would not have the right type of coordination and synchronization, which is critical for WMD planning. The most effective way to utilize this expertise is to locate it in one place and provide efficient communication channels for collaboration.

Our mission is complicated because of the complex nature of countering weapons of mass destruction. During the Cold War, most of our focus was on nation states. We were worried about huge stockpiles of nuclear, chemical, and biological materials. And while there is no question that these stockpiles are still a threat today, the more difficult area for us to track and address is terrorist or other non-state actor acquisition of WMD materials that can be modified, grown, or enhanced for use as a weapon. The footprint is smaller in these cases, harder to track

and thus harder to find and disrupt. We are not talking about huge factories or facilities in most of these cases; sometimes it is a small laboratory that could fit inside a bathroom. Given this reality, no region of the world is impervious to potential chemical, biological, radiological or nuclear threats.

The only way for us to rapidly surge to meet these challenges is through an organizational structure which provides flexibility and emphasizes access to expertise, communication, agile contracting, rapid innovation, and quick turn decision-making to achieve success.

While I am pleased to walk through individual programs with the Committee members and their staffs, I would like to use my testimony today to highlight four real-world examples of our activities and the roles that different parts of our Team played in these challenges.

#### Support for the Nuclear Deterrent

I want to share with the Committee our stand-up of a new directorate that is specifically focused on our nuclear mission. The intent of this new directorate is to elevate and increase our focus on our nuclear mission so that we meet the expectations of the recently completed DoD Nuclear Enterprise Review.

Two reviews of the Defense Department nuclear enterprise identified over 100 recommendations to improve the nuclear deterrent forces. Both found a “loose federation of nuclear activities often imbedded and indistinguishable from support for and execution of a wide range of non-nuclear activities.” In turn, one of the most critical proposals made by both an internal and independent, external panel of experts was the need to clarify the enterprise leadership structure.

The U.S. Navy consolidated oversight of the nuclear mission under the Director of Strategic Systems Programs, and the U.S. Air Force has elevated the rank of the Commander of Global Strike Command to a 4-star billet. The Director of USAF Strategic Deterrence and Nuclear Integration (A-10) is now a 3-star to ensure that the rank of these leadership positions is commensurate with the importance of the mission.

The Department is using this opportunity to refocus attention and resources to continue to ensure the safety, security and effectiveness of our nuclear enterprise. We are doing the same. Our new J10 directorate will reach Full Operational Capacity later this Spring.

#### Ebola

Our Team has been involved with a number of efforts related to the Ebola response, including direct support to USAFRICOM's Operation UNITED ASSISTANCE.

Through the Nunn-Lugar Cooperative Threat Reduction (CTR) Cooperative Biological Engagement Program (CBEP), we have provided support to eight Ebola virus diagnostics laboratories in Liberia and Sierra Leone. CBEP funded the deployment and continued operations of two Naval Medical Research Center mobile laboratories in Liberia, and purchased initial supplies for the Army's 1st Area Medical Laboratory's four mobile laboratories in Liberia. CBEP also funded U.S. Army Medical Research Institute of Infectious Diseases and National Institutes of Health staff to augment operations at Liberia's National Reference Laboratory at the Liberian Institute of Biomedical Research (LIBR). In support of Ebola detection and reporting efforts in Sierra Leone, CBEP sent a contractor-staffed laboratory to Moyamba, which became operational on January 13, 2015. CBEP-supported labs are in the process of transitioning from Ebola outbreak response activities to developing organic laboratory capabilities in partner countries consistent with program implementation guidance and in support of the Global Health Security Agenda. In fact, CBEP performers have already begun training Liberian laboratory personnel at two sites in country.

We have been actively involved in the research and development side of tackling the Ebola epidemic. In fact, since 2003, our Team has invested over \$300 million to develop Medical Counter Measures for Hemorrhagic Fever Viruses, which include Ebola. Our contracts funded the development of ZMapp, a therapeutic, which was identified in January 2014 and administered under compassionate use to several infected Ebola patients. In addition, DTRA has

been working to find an effective vaccine and has funded development of rVSV-ZEBOV, a vaccine which has been accelerated through the preclinical stage of development. Phase I clinical human safety trials for the VSV vaccine began on October 13, 2014 and results have been positive, with no serious adverse effects noted in volunteers to date. Phase 2/3 clinical efficacy trials of the Ebola vaccine began in January 2015, with the first Liberian volunteers vaccinated on February 2, 2015. The VSV vaccine has also recently been selected as the sole vaccine candidate for use in upcoming efficacy trials in West Africa.

In August 2014, the U.S. Food and Drug Administration (FDA) announced the Emergency Use Authorization (EUA) of the DTRA-funded “EZ1” diagnostic assay, a molecular-based diagnostic assay for the Ebola Zaire Virus. It was the first case of a diagnostic assay being implemented for emergency use, and it quickly became the gold-standard for the presumptive and qualitative diagnosis of the Ebola Zaire virus strain during the West African outbreak. The EZ-1 diagnostic assay was developed as part of a 2011 bio-preparedness initiative to pre-position the Department of Defense (DoD) in the case of an Ebola outbreak, and signifies the first time any biothreat agent assay was pre-positioned (pre-EUA) with the FDA prior to an outbreak. Without question, the availability of the EZ1 assay played an important role in controlling the Ebola outbreak.

We have also been involved with the development of the Transport Isolation System, known as the TIS. This mobile isolation unit was developed in response to a Joint Urgent Operational Needs Statement (JUONS) from USTRANSCOM. While a commercial company could transport a single Ebola patient, its capacity to do so was limited. The new TIS is able to transport up to eight Ebola-infected personnel on military aircraft. It is the only capability of its kind. Development and testing of the TIS is complete and three units were delivered to the user in January 2015, with 22 additional systems scheduled for delivery starting in April. The TIS can be used in response to any dangerous pathogen that our troops may face.

In addition, our Team and the Joint Program Executive Office (JPEO) have leveraged the capabilities of Constellation (a CWMD situational awareness tool) to establish the Ebola Portal, which provides a virtual environment for U.S. government agencies and international partners to exchange current Ebola outbreak information. As of March 2015, the Ebola Portal has about

1,000 users from across the U.S. Federal Executive Departments and several international entities. Additionally, DTRA/SCC-WMD is performing modeling and analysis of the Ebola spread in Africa in coordination with industry and academic partners to enable policy and operational decision making.

Through DTRA's Building Partnership Capacity Division, we have provided Incident Management and Emergency Operations Center training in support of USAFRICOM, Centers for Disease Control and Prevention, US Agency for International Development (USAID), and US State Department in West Africa specifically, Ghana, Cameroon, Mali, and Senegal. The effort was critical in the organizational management of Ebola response efforts across military and civilian response sectors.

#### Syria

Beginning in 2011, DoD began looking at ways to address the CW challenges in Syria. The U.S. Government (USG) and international community were alarmed by the continuing civil war in Syria and particularly concerned about the threats of chemical weapon use and proliferation. DTRA's planners and intelligence officers worked closely with USCENTCOM to evaluate the WMD threats and options for the destruction of these weapons and materials. This analysis was coordinated with the research and development directorate who began the process of evaluating technologies to destroy these materials.

Throughout this time, DTRA's Technical Reachback personnel provided modeling and analysis of the potential threats we faced. DTRA was also able to utilize expertise and knowledge of treaty implications to help shape and steer the Department's actions to respond.

The conclusion that we came to was that we simply did not have a good way to get rid of bulk chemical agents in a foreign land. After reviewing a number of options, we were the first organization to invest in a prototype Field Deployable Hydrolysis System (FDHS), a rapidly deployable capability that is suitable for the destruction of industrial quantities of bulk chemical agent. The FDHS was developed in fewer than six months and was designed to be transportable



for rapid deployment in a variety of environments.

The Syrian sarin attacks on August 21, 2013, were a turning point for the international community. DTRA planners provided technical expertise to Department of State and White House-led diplomatic efforts at every step, including the seminal meetings between Secretary Kerry and Russian Foreign Minister Lavrov in Geneva that led to the Framework for Elimination of Syrian Chemical Weapons. Once the United Nations Security Council passed Resolution 2118, and the Organization for the Prohibition of Chemical Weapons (OPCW) Executive Council passed its associated decisions, Syria acceded to the Chemical Weapons Convention, the Nunn-Lugar Cooperative Threat Reduction Program was prepared to support the extremely rapid effort to destroy Syria's declared chemical materials. The Nunn-Lugar program provided the Joint UN-OPCW Mission with the majority of the logistics equipment to move bulk chemicals out of Syria.

When the international community failed to identify a nation willing to host destruction operations for the most dangerous chemicals, a full court press was employed to develop a ship-based destruction option. And with full cooperation across the U.S Government, we were able to deliver a sea-based destruction capability.

Often foreign policy and national security challenges are difficult to quantify. Diplomatic efforts don't fit neatly in a spread sheet, and international cooperation is often based on relationships and individual people. Sometimes the end states are years or decades in the future. But some foreign policy efforts demonstrate clear and precise steps to progress, even in regions clouded uncertainty. There is a great deal of chaos in the Middle East right now but our international effort to remove and destroy the deadliest elements of Syria's declared chemical weapons stockpile was a clear positive for our national security and that of our allies. And in this case, the numbers are quantifiable and paint a vivid picture of efficiency and effectiveness. Nearly 1,300 metric tons of Syria's chemical weapons material has now been destroyed worldwide and can never be used.

That achievement is remarkable by itself. But there are other notable numbers that I would highlight. It only took 5 months to create a first-ever field deployable hydrolysis system. Incredibly, it only took 66 days for our interagency team to outfit the *Cape Ray* into the first-ever sea-based chemical weapons destruction facility. And finally, it only took 42 days to neutralize all of the materials in a safe and environmentally friendly way.

#### Building Partnership Capacity- Jordan and Ukraine

It was clear in 2012 that the countries neighboring Syria both wanted and needed improvements to their military and civilian response sectors to detect, identify, and respond to possible illicit WMD-related trafficking coming from Syria. Beginning in 2012, DTRA, started working with USCENTCOM and the whole of the US Government to build the CWMD capacity of the Governments of Jordan, Turkey, Iraq, and Lebanon. In these countries, to varying degrees we train, equip, and exercise with the military and civilian sectors so they can address non-proliferation, counter-proliferation and consequence management issues.

Jordan is the most robust effort that we have in the Levant due to the large influx of Syrian refugees and vulnerable borders. Working with USCENTCOM and our inter-agency partners, DTRA O&M and Nunn-Lugar program funding authorizations partnered together to lead the way in forming what has become known as the “Jordan Border Security Project,” (JBSP). This is an excellent example of how leveraging different authorities and funding can build a stronger and more complete support package. The JBSP, using the Nunn-Lugar authorities is building a 274 mile long security system that runs along the northern border with Syria and the eastern border with Iraq. To put this in perspective, two hundred seventy-four (274) miles is the distance from Washington, DC to Raleigh, NC. The system is designed to detect a person from at least 5 miles away and a vehicle from at least 8 miles and provides the Jordanians with capabilities to safely deter, detect, interdict, and inspect illicit WMD smuggling. We are building the system in 30 months and are forecasted to be at full operational capability by August 2015.

As installed sections of the system are integrated, DTRA has provided the Jordanians with an initial operational capability ahead of schedule, which has yielded many successes. For instance,

on Sunday, February 8, 2015, just after sunset there were several incursions into Jordan's border from Syria. At first, two vehicles came across a berm. The Jordanian operator observed the vehicles on the radar and tracked them for several kilometers to the berm, crossing the berm and continuing into Jordan. While this operator focused on the camera scene, multiple other incursions occurred at three nearby sections and were detected at other operator workstations. The border security system allowed the Jordanians to track multiple incursions. The Border Guards Forces' Quick Reaction Team and an airborne asset were dispatched to effectively interdict.

DTRA's efforts in Jordan have been executed using Title 10 and 2014 National Defense Authorization Act (NDAA) Section 1204 (b) Authorities. The newly acquired 1204 (b) authority allowed DTRA to fill a large gap in our Agency's ability to develop international partners' necessary whole-of-government capability to respond to WMD incidents. This authority allows DoD to use O&M funding to train, equip, and exercise both military and civilian first responders in the states surrounding Syria. This provided us the agility we needed, and we immediately leveraged this new capacity and authority to complement the efforts of the JBSP, and also to train first responders in Turkey, Lebanon, and Iraq. With the Congress' continued support, we plan to continue the use of this authority and work within the Department and with the Department of State, to expand the authority to provide such assistance to other countries.

#### Ukraine

Another excellent example of our building partnership capacity efforts involves Ukraine. DTRA has successfully worked with the Ukrainians for many years, in particular on border security efforts. Our longstanding work with the Ukrainian State Border Guards Service has focused on how to look for weapons of mass destruction (WMD), toxic chemicals, or associated WMD materials. We trained them on how to detect smuggled devices and related techniques.

Prior to the Russian occupation and attempted annexation of Crimea, most of our efforts have involved the southwest border and their waterways. Now, obviously, our help is needed more than ever. The Ukrainians are understandably worried about controlling border crossing points

where known smugglers traverse. They want to make sure that no WMD or smuggled devices make it into their country and they have the desire to be better prepared to respond.

Some of the equipment that we are providing includes: up-armored trucks; bulldozers, entrenchers, and graders; binoculars and thermal imagers; patrol boats; and concertina wire. Overall, we are scheduled to provide Ukraine with \$39 million worth of assistance in this effort that began in April of 2014.

DTRA's CBRN Preparedness Program is also working in Ukraine to provide critical skillsets needed for responding and handling CBRN material safely. This effort complements the border security work.

This is the type of work that DTRA does in many places around the world, such as Moldova, Georgia, Albania, Kosovo, and Armenia. And we have a long track record of success. But the problems in Ukraine make this work challenging, as the Ukrainians are clearly operating in a hostile environment.

#### FY16 DTRA Budget Request Overview

Our budget request for Fiscal Year 2016 (FY16) is \$1.27 billion and comprises Defense-wide Research, Development, Test and Evaluation; Operations and Maintenance; Procurement; and Nunn-Lugar Cooperative Threat Reduction (CTR) appropriation accounts. In addition, DTRA executes the \$394.5 million Science and Technology (S&T) portion of the DoD Chemical and Biological Defense Program (CBDP) and serves as the funds manager for the remainder of that program's funding, \$890.9 million. Therefore, the total DTRA resource portfolio is approximately \$2.6 billion. Details and highlights for these requests follow.

#### *Operations and Maintenance Funding*

O&M funding directly supports the warfighters and national missions as it pays for planning, training, exercises, and other means for collaboration across DoD and the USG, and with international partners. O&M funding is the fuel that enables us to reach out to our components and personnel, the warfighters, and international partners across the globe.

The requested \$415.7 million in O&M funding would be applied as follows:

\*\* Nonproliferation Activities (\$66.7 million) for arms control activities including the conduct of USG inspections of foreign facilities, territories, or events; coordination and conduct of the escort of inspection teams for inspections or continuous monitoring activities in the U.S. and at U.S. facilities overseas; and the acquisition and fielding of technology capabilities required to implement, comply with, and allow full exercise of U.S. rights and prerogatives under existing and projected arms control treaties and agreements.

\*\* WMD Combat Support and Operations (\$169.7 million) for a wide range of combat and warfighter support to the Joint Chiefs of Staff, the Combatant Commanders, and military forces as they engage the WMD threat and challenges posed to the U.S., its forces and allies. DTRA supports the essential WMD response capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces within their area of responsibility at all levels of war.

\*\* U.S. Strategic Command Center for Combating WMD (\$11.2 million) for DTRA direct support to the SCC-WMD including providing strategic and contingency planning, policy, and analytical support; developing interagency relationships; and working closely with USSTRATCOM partners to establish the means for assessing and exercising capabilities to combat WMD.

\*\* Core Mission Sustainment (\$168.1 million) for a wide range of enabling capabilities which include information management; resource management; security and asset protection; acquisition and logistics management; strategic planning; leadership and professional development; and provide the safety, security, and efficiency necessary for mission success.

*Nunn-Lugar Cooperative Threat Reduction Program*

The request of \$358.5 million for this important program would be used as follows:

\*\* Strategic Offensive Arms Elimination (\$1.3 million) for elimination activities of SS-24 ICBM solid rocket motors in Ukraine in 2016. Ukrainian President Poroshenko has requested that

President Obama provide additional assistance with this project, and we are working with OSD to address this new requirement. None of these funds will be spent in the Russian Federation. Elimination of Russian ballistic missile submarine Delta III Hull 393 under the Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR) is on track to be completed in early 2016 using remaining prior-year funds. Due to diminishing elimination activities needed for the Russian Federation to meet the New START Treaty requirements, the DoD will complete its transition for all remaining elimination activities to the Russian Federation in 2016.

\*\* Chemical Weapons Destruction (\$0.9 million) for working with partner countries to reduce the threat from chemical weapons by securing and destroying CW stockpiles and eliminating chemical agent research capabilities and production facilities.

\*\* Global Nuclear Security (\$20.6 million) for improving nuclear material security, including security for nuclear warheads and weapons-usable nuclear material. This program also assists in the secure transport of nuclear warheads and other qualifying nuclear material to dismantlement facilities, secure storage areas, or processing facilities for disposition.

\*\* Cooperative Biological Engagement (\$264.6 million) for combating the threat of state and non-state actors acquiring biological materials and expertise that could be used to develop or deploy biological materials and weapons. This program destroys or secures certain biological agents at their source, and activities that facilitate detection and reporting of highly pathogenic diseases. This program works closely with other US Government departments and agencies, international partners and the private sector.

\*\* Proliferation Prevention (\$39.0 million) to enhance the capability of partner countries to deter, detect, report, and interdict illicit WMD trafficking across international borders. Beginning in fiscal year 2013, the Proliferation Prevention Program began expansion outside of the FSU to Southeast Asia and the Middle East.

\*\* Threat Reduction Engagement (\$2.8 million) to develop active and positive relationships between the defense, military, and security establishments of the United States and the states of Eurasia and Central Asia. This program engages military and defense officials in activities that promote regional stability, counter-proliferation, and defense reform; builds security cooperation with the partner states; and promotes exchanges that enhance interoperability with U.S. and North Atlantic Treaty Organization (NATO) forces for multinational operations.

\*\* Other Assessments/Administrative Support (\$29.3 million) to ensure that DoD-provided equipment, services, and related training are fully accounted for and used effectively and efficiently for their intended purposes. This account also funds Nunn-Lugar program travel, logistics, translator/interpreter support, and other agency support.

*Research, Development, Test, and Evaluation*

DTRA RDT&E programs respond to the most pressing CWMD challenges including stand-off detection, tracking, and interdiction of WMD; modeling and simulation to support weapons effects and hazard predictions; classified support to Special Operations Forces; defeat of WMD agents and underground facilities; and protection of people, systems, and infrastructure against WMD effects.

DTRA RDT&E is unique in being focused solely on CBRNE; tied closely with the agency's Combat Support responsibilities; has a top-notch in-house field test capability; relies upon competitive bids, the national labs, industry, and academia rather than an in-house laboratory infrastructure, allowing for a "best of breed" approach to performer selection; and is nimble and responsive to urgent needs.

The agency has a comprehensive, balanced CBRNE S&T portfolio that supports DoD goals and is well connected with DoD customers, as well as interagency and international partners. Our RDT&E approach balances the need for near-term pay-off with the need for long-term technology and capability development, knowledge and expertise, and is centered upon the following programs: Basic Research (6.1), Applied Research (6.2), Advanced Research (6.3), and System Development and Demonstration (6.5). The requested RDT&E funding totals

\$491.7 million. We are requesting \$38.4 million in Basic Research to provide for the discovery and development of fundamental knowledge and understanding by researchers primarily in academia and world-class research institutes in government and industry. The DTRA Fiscal Year 2016 request also includes \$155.4 million for WMD Defeat Technologies Applied Research, which is used to translate fundamental knowledge into useful materials, technologies, and concepts that address recognized CWMD needs. Our \$290.7 million budget request for Proliferation Prevention and Defeat Advanced Research funds development of systems, subsystems, and component integration to build, field and test prototypes to assess utility and feasibility of technology solutions to well-defined CWMD requirements. Finally, \$7.2 for WMD Defeat Capabilities System Development and Demonstration funds development, operational testing, and initial deployment of mature technologies and systems.

*Chemical and Biological Defense Program S&T*

The Department's CBDP S&T programs support DoD-wide efforts to research, develop, and acquire capabilities for a layered, integrated defense against CBRNE agents; better understand potential threats; secure and reduce dangerous materials whenever possible; and prevent potential attacks. Although funding for the CBDP is not part of the DTRA budget request, the agency executes the S&T portion of this program, for which the Department has requested approximately \$394.5 million in FY16. The agency also manages funding execution in support of CBDP advanced development and procurement.

Conclusion

I would like to thank the Committee for this opportunity to share some of our recent efforts and accomplishments. Through all of the Agency/Center's successes is the ability to work with DoD and interagency partners as well as the international community. This demonstrates not just our subject matter expertise, but also our agility, our relationships and our ability to collaborate and work with the larger community in resolving the world's problems related to WMD. I hope that we will continue to earn the Committee's trust and support in meeting WMD threats and ensuring our security. Thank you, again, for the opportunity to be here today. I would be pleased to respond to your questions.



**Kenneth A. Myers III**

Director, SCC-WMD

Myers III, is the director for the Defense Threat Reduction Agency (DTRA), Fort Belvoir, Va. DTRA safeguards America and its allies from weapons of mass destruction (chemical, biological, radiological, nuclear and high yield explosives) by providing capabilities to reduce, eliminate, and counter the threat and mitigate its effects.

Myers is also dual-hatted as director of the U.S. Strategic Command Center for Combating Weapons of Mass Destruction (SCC-WMD). The Center integrates and synchronizes Department of Defense-wide efforts in support of the combating WMD mission.

Myers joined the United States Senate's Committee on Foreign Relations as a Senior Professional Staff Member in 2003. Before coming to DTRA, he served as the senior advisor to Sen. Richard G. Lugar, the Committee's ranking member, on European, former Soviet and Central Asian Affairs, and the Caucasus as well as nonproliferation, counter-proliferation, arms control, and arms sales. In that capacity, he assisted Sen. Lugar on the Nunn-Lugar Cooperative Threat Reduction Program; issues involving promotion of U.S. trade and exports; terrorism, crime and the flow of illegal drugs; oversight of U.S. foreign assistance programs; the North Atlantic Treaty Organization; the European Union; the Organization for Security and Cooperation in Europe; and former Soviet military, economic, and energy affairs. He has also served as the primary Republican staff liaison with the Committee's Democratic Majority, the Department of State, the Department of Defense, the National Security Council, and the White House.

Myers played a leading role in numerous critical foreign policy debates as Sen. Lugar's point person on NATO enlargement; the Moscow and Strategic Arms Reduction treaties; U.S. nonproliferation and counter-proliferation policies; export controls; the U.S. -India Peaceful Atomic Energy Cooperation Act; and the Lugar-Obama Cooperative Proliferation Detection, Interdiction Assistance, and Conventional Threat Reduction Act. In addition he was a regular advisor on U.S. policy towards the Middle East, South Asia, and North Korea and is responsible for reviewing and vetting nominees for ambassadorial posts in Europe and the former Soviet Union.

From 1995 until 2002, Myers served as a legislative assistant for National Security and Foreign Affairs for Sen. Lugar. He assisted the senator in his role as a member of the Committee on Foreign Relations, the Select Committee on Intelligence, the Senate's National Security Working Group and Russia Working Group. His responsibilities included international politico-military matters, national security issues, international treaties, non-proliferation, arms control, missile defense, and European and former Soviet security issues.

Prior to joining Sen. Lugar's staff, he was a senior associate at the firm of Robinson Lake Sawyer Miller in Washington, D.C. He specialized in U.S. public and private sector investments to states of the former Soviet Union and was responsible for establishing the firm's office in Kiev, Ukraine.

Myers holds a master's degree from the Catholic University of America and a bachelor's degree from Virginia Polytechnic Institute and State University.

*Current as of May 2013*

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**RECORD VERSION**

**STATEMENT BY**

**MR. DOUGLAS W. BRYCE  
DEPUTY JOINT PROGRAM EXECUTIVE OFFICER FOR  
CHEMICAL AND BIOLOGICAL DEFENSE**

**BEFORE THE**

**HOUSE ARMED SERVICES COMMITTEE  
SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES**

**FIRST SESSION, 114<sup>TH</sup> CONGRESS**

**THE FISCAL YEAR 2016 BUDGET REQUEST FOR THE  
DEPARTMENT OF DEFENSE AND COMBATING WEAPONS OF  
MASS DESTRUCTION IN A PERILOUS GLOBAL ENVIRONMENT**

**MARCH 25, 2015**

**NOT FOR PUBLICATION UNTIL RELEASED BY THE  
COMMITTEE ON ARMED SERVICES**

## INTRODUCTION

Mr. Chairman, Congressman Langevin, and distinguished members of the subcommittee, I am grateful for the opportunity to testify on behalf of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) as that organization's Deputy Joint Program Executive Officer. I am pleased to be joined by my leaders and partners in the countering weapons of mass destruction (WMD) community and I will provide an update regarding my organization's programs and activities consistent with the *Department of Defense Strategy for Countering Weapons of Mass Destruction*, published in June of 2014. The role of the JPEO-CBD in the latter plan's "countering WMD activities and tasks" required for success against the threat continues to increase as we remain focused on protecting the warfighter and the Nation. I will also note JPEO-CBD activity in support of the overall Department of Defense (DoD) response to the Ebola outbreak in West Africa, which illustrates the kinds of capacity called for in the *Strategy*.

JOINT PROGRAM EXECUTIVE OFFICE FOR  
CHEMICAL AND BIOLOGICAL DEFENSE

The JPEO-CBD is the materiel developer within the DoD Chemical and Biological Defense Program. We also develop capabilities with funding from other sources such as the Chemical Agents and Munitions Destruction - Defense program as well as the Nuclear and Conventional Physical Security - Countering Nuclear Threats program, both of which are led by the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. We consist of seven joint project managers, each with responsibility for defense acquisition in a specific commodity area. Fundamentally, we advance technologies and prototypes through research and development to procurement programs providing validated chemical, biological, radiological, and nuclear (CBRN) defense products to the military services. Our seven joint project managers are: Joint Project Manager – Nuclear, Biological, and Chemical Contamination Avoidance focusing on detection and reconnaissance; Joint Project Manager – Protection concentrating on individual and collective protection systems as well as decontamination; Joint Project Manager – Medical Countermeasure Systems developing medical solutions including prophylaxes, diagnostics, and therapeutics for CBRN threats; Joint Project Manager – Information Systems providing the information architecture and applications for increased battlefield awareness of CBRN hazards; Joint Project Manager – Guardian offering installation protection systems and mobile CBRN analytical, communications, and response capabilities in support of deployable forces and homeland defense; Joint Project Manager – Elimination developing and operating equipment for WMD eradication; and Joint Project Manager – Radiological and Nuclear Defense acquiring technologies for our service members to detect and monitor radiation levels as well as search for nuclear material. Joint Project Manager – Elimination is funded by the Chemical Agents and Munitions Destruction - Defense program while Joint Project Manager – Radiological and Nuclear Defense is funded by the Nuclear and Conventional Physical Security - Countering Nuclear Threats program.

#### TRANSLATIONAL TEAMING

To fulfill our materiel development mission, the JPEO-CBD works closely with the other components of the DoD Chemical and Biological Defense Program such as the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense which executes science and technology programs that provide the technical basis for future systems. To accelerate and improve acquisition outcomes for the warfighter, both organizations are implementing translational teaming within the Defense Acquisition Management System. This means both offices aspire to integrate technology base and advanced development program personnel across our portfolios. Ideally, science and technology efforts will include advanced developers while advanced development initiatives will include science and technology representation. The intent is to enable a more rapid and reliable transition of mature technologies into advanced development with reduced risk. By using this translational teaming approach, we intend to increase capabilities within shorter timelines and with less cost.

#### FUNDING AND STRATEGY

Within the Fiscal Year 2016 Budget Request for the DoD Chemical and Biological Defense Program of \$1.28 billion, the JPEO-CBD is requesting \$278.7 million for procurement and \$505.8 million for advanced development. This investment supports the JPEO-CBD's continued participation in specific "countering WMD activities and tasks" under the *Department of Defense Strategy for Countering Weapons of Mass Destruction*, in particular those which "incorporate countering WMD efforts," "cooperate with and support partners," "understand the environment, threats, and vulnerabilities," "control, defeat, disable, and/or dispose of WMD threats," and "safeguard the force and manage consequences."

#### INCORPORATE COUNTERING WMD EFFORTS/COOPERATE WITH AND SUPPORT PARTNERS

Consistent with the call of the *Strategy* "to harmonize DoD activities with the efforts of other departments and agencies" and "promote common threat awareness," the JPEO-CBD participates along with its leaders and partners in regular formal interagency collaboration concerning a large component of our mission, medical countermeasure development. A primary mechanism for that collaboration is the Public Health Emergency Medical Countermeasures Enterprise. It is led by the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response and includes the Centers for Disease Control and Prevention, the Food and Drug Administration, the National Institutes of Health, the DoD, the Department of Veterans Affairs, the Department of Homeland Security, and the Department of Agriculture. This group coordinates Federal efforts to increase national preparedness with respect to medical countermeasures. The Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs represents DoD at the most senior level of this interagency forum.

Exemplifying coordination within the Public Health Emergency Medical Countermeasures Enterprise is the Portfolio Advisory Committee which works to align DoD and Department of Health and Human Services resources for medical countermeasure development and infrastructure. This group is working to advance the concept of an "integrated portfolio" of CBRN medical countermeasures between the Department of Health and Human Services and DoD. Toward that end, both departments have combined resources to develop the Portfolio Tracking Tool which follows CBRN defense medical countermeasure development efforts within both organizations, providing information concerning contract execution and technical maturity of each product based on mutually agreed upon standards. The primary objectives of this web-based tool are to foster cooperation, reduce duplication, and, where possible, harmonize requirements. The JPEO-CBD uses the tool to synchronize medical countermeasure development efforts with the Department of Health and Human Services and was instrumental in developing the standards for determining technical maturity.

#### UNDERSTAND THE ENVIRONMENT, THREATS, AND VULNERABILITIES

The *Strategy* requires capabilities in "detection; modeling; detailed operational planning; and analysis of materials, precursors, and agents that may be related to a proliferation activity, an adversary's developmental or fielded capability, or the actual use of WMD." In response, the JPEO-CBD continues to provide the joint force the products and systems necessary to identify the threat. Concerning the detection and tracking of CBRN threats, systems fielded include the CBRN equipment suite in the Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle for determining the presence and extent of contamination on the battlefield and the Dismounted Reconnaissance Sets, Kits, and Outfits package which allows warfighters to perform dismounted assessment of WMD suspect areas not accessible by military vehicles. Additionally, we have fielded the Joint Biological Point Detection System which provides an automated capability to detect and identify biological agents in near real-time, as well as the miniaturized, hand-held Joint Chemical Agent Detector to sense, identify, and alert in the presence of chemical warfare agents.

Looking ahead, the Fiscal Year 2016 Budget Request funds our continued development of the Joint Biological Tactical Detection System, the goal of which is to deliver improved point detection and identification capabilities, providing forward deployed units the means to determine if they have been attacked with biological agents. The Fiscal Year 2016 Budget Request also supports the continued advancement of the Next Generation Chemical Detector, a point detection capability which will consist of several detection systems to address sampling of multiple states of matter and provide improved selectivity and sensitivity for chemical warfare agents and toxic industrial chemicals. The Next Generation Chemical Detector will be capable of detecting certain non-traditional agents, which are substances reportedly researched or developed with potential application or intent as chemical warfare agents, but which do not fall in the category of traditional chemical warfare agents, toxic industrial chemicals,

or toxic industrial materials. On the subject of emerging threats, the Fiscal Year 2016 Budget Request funds continued efforts within the broader Non-Traditional Agent Defense program which is responsible for incorporating capability against non-traditional agents across our portfolio of products and systems. To address the need for a near term capability, the JPEO-CBD has already supplied Domestic Response Capability kits to all 57 National Guard WMD Civil Support Teams. The kits provide emerging threat mitigation capability that includes detection, protection, and decontamination.

To meet radiological and nuclear defense challenges facing the joint force, the JPEO-CBD is developing two systems with funding from the Nuclear and Conventional Physical Security - Countering Nuclear Threats program. The Radiological Detection System is a joint materiel solution to replace the aging legacy radiation survey meters in the DoD inventory while the Joint Personal Dosimeter will provide the capability to record and retrieve a service member's exposure to radiation for their medical records. Both systems will enhance military service interoperability and effectiveness across the full spectrum of operations, from support operations such as Operation Tomodachi in Japan in 2011, to potential battlefield scenarios.

For CBRN battle management, the JPEO-CBD has fielded and continues to improve the Joint Warning and Reporting Network, for rapid warning and dissemination of CBRN information in both computer-based and web-based applications, and the Joint Effects Model, a web-based software application to effectively model and simulate the effects of CBRN weapon strikes and incidents. The Fiscal Year 2016 Budget Request funds both of these efforts as well as a new program in the more expansive JPEO-CBD push to improve DoD's ability to conduct biosurveillance, which the *National Strategy for Biosurveillance*, published in July of 2012, defines as "the process of gathering, integrating, interpreting, and communicating essential information related to all-hazards threats or disease activity affecting human, animal, or plant health to achieve early detection and warning, contribute to overall situational awareness of the health aspects of an incident, and to enable better decision-making at all levels." The new program is the Biosurveillance Portal which intends to provide an integrated suite of web-based components designed to support situational awareness of biological threats within the comprehensive public health and national defense communities.

Meanwhile, the Joint United States Forces Korea Portal and Integrated Threat Recognition advanced technology demonstration, also known by the acronym JUPITR, continues to provide specific detection and analysis capabilities to address the need for biosurveillance on the Korean Peninsula, enhancing the ability of U.S. Forces Korea and the Republic of Korea to respond to biological threats. As this JPEO-CBD led advanced technology demonstration winds down, technical lessons learned from JUPITR are being applied to specific JPEO-CBD programs to enable faster development of a more thorough biosurveillance capability for DoD.

## CONTROL, DEFEAT, DISABLE, AND/OR DISPOSE OF WMD THREATS

The *Department of Defense Strategy for Countering Weapons of Mass Destruction* states, "DoD must possess the capabilities to conduct activities to control, defeat, disable, and/or dispose of specific WMD threats." Arguably, there is no better example in recent history of disabling and disposing of a particular WMD threat than DoD support in 2013 and 2014 to the Organization for the Prohibition of Chemical Weapons, the implementing body of the Chemical Weapons Convention, regarding the fate of Syria's declared chemical weapons. Although not funded by the DoD Chemical and Biological Defense Program, the overall DoD action in this case utilized JPEO-CBD personnel and expertise. In response to the international community's request for assistance, a DoD team comprised of personnel from the JPEO-CBD, the Defense Threat Reduction Agency, U.S. Army Edgewood Chemical Biological Center, U.S. Army Chemical Materials Activity, and U.S. Army Contracting Command created the Field Deployable Hydrolysis System, a transportable, high throughput neutralization system designed to transform chemical warfare material into compounds unusable as weapons.

An acquisition effort was launched in February of 2013 and the first system was provided within six months. The Field Deployable Hydrolysis System was deployed aboard the M/V CAPE RAY, one of the Ready Reserve Force vessels maintained by the U.S. Department of Transportation Maritime Administration, and went on to successfully destroy at sea the most lethal declared chemical weapons possessed by the Syrian regime, ahead of schedule. The U.S. Government contribution in this case is an excellent example of interagency collaboration and agility resulting in undisputable threat reduction. Looking forward, should our personnel, equipment, or expertise be required again, the JPEO-CBD stands ready to collaborate with our customers and partners who conduct chemical weapons nonproliferation and elimination activities.

## SAFEGUARD THE FORCE AND MANAGE CONSEQUENCES

The *Strategy* also requires capabilities which "allow military personnel and other mission-critical personnel to sustain effective operations" despite the presence of CBRN contamination and "enable support for U.S. civil authorities and foreign civil authorities as authorized." Critical to sustaining operations are the medical products and individual protective equipment the JPEO-CBD has fielded or is currently developing. With respect to medical capabilities, the JPEO-CBD has fielded vaccines against anthrax and smallpox, therapeutics to treat exposure to nerve agents, and agile diagnostics for determining the presence of a wide range of pathogens of operational concern. Products currently in the medical countermeasure development pipeline and funded in the Fiscal Year 2016 Budget Request include prophylaxes against botulism, plague, and nerve agents, as well as therapeutics to address hemorrhagic fever viruses and emerging infectious diseases. The Fiscal Year 2016 Budget Request also funds continuation of the Countermeasures for Multi-Drug Resistant Bacteria program which focuses specifically on the threat of biological warfare agents and organisms genetically modified to be multi-drug resistant. Finally, to accelerate the fulfillment of DoD's unique requirements concerning medical countermeasures, the JPEO-CBD continues to

establish in Alachua, Florida, the DoD Medical Countermeasure Advanced Development and Manufacturing Capability, a dedicated state-of-the-art center of excellence intended to provide development and manufacturing services to separately funded medical countermeasure products. The JPEO-CBD estimates that the advanced development and manufacturing capabilities being established under the contract with the Florida performer will be operational by the end of 2016.

Regarding individual protective equipment, the JPEO-CBD provided and currently sustains the Joint Service Lightweight Integrated Suit Technology protective garment which remains the global standard for the general military battlefield requirement. We are continuing to field the improved protective footwear and gloves which accompany the suit, both with greater operational suitability than their predecessors. The Fiscal Year 2016 Budget Request continues to buy the Joint Service General Purpose Mask, the improved standard protective mask designed to be used by ground force components across the military services, reducing the need to sustain multiple mask products within the DoD inventory. The Fiscal Year 2016 Budget Request also funds procurement of our Uniform Integrated Protection Ensemble Increment 1 protective garment for the special operations community. Increment 1 offers the warfighter the ability to tailor the configuration based on the expected threat level, resulting in the correct amount of protection while minimizing burdens associated with wearing protective clothing. Finally, the Fiscal Year 2016 Budget Request funds continued development of the Uniform Integrated Protection Ensemble Increment 2, currently a possible basis for replacement of the Joint Service Lightweight Integrated Suit Technology garment. Defense Acquisition Management System Technology Maturation and Risk Reduction activities in support of Increment 2 planned for fiscal year 2016 include developmental testing on select materials to determine physical properties, thermal burden, and flame resistance, as well as capability against certain aerosols and chemicals. Ultimately, the JPEO-CBD intends to provide a system with the capability to protect against non-traditional agents.

As to consequence management, the JPEO-CBD continues to provide CBRN defense rapid response equipment to the DoD units responsible for homeland defense and defense support of civil authorities. Our activities include conducting life cycle assessments of fielded commercial-off-the-shelf (COTS) products, identification and evaluation of emerging capabilities, prioritization and fielding of improved systems to meet existing requirements, and formalizing training. Typical equipment packages provided include detection, protection, decontamination, and situational awareness capabilities. Units receiving equipment and support include the National Guard WMD Civil Support Teams, the National Guard Chemical, Biological, Radiological, Nuclear, and High Yield Explosives Enhanced Response Force Packages, the U.S. Marine Corps Chemical Biological Incident Response Force, and the U.S. Army's 20th CBRNE Command.



## CRISIS RESPONSE

The JPEO-CBD's importance to the "countering WMD activities and tasks" under the *Department of Defense Strategy for Countering Weapons of Mass Destruction* continues to be evident in the DoD response to the Ebola outbreak in West Africa. Notably, JPEO-CBD efforts support DoD capacity in one of the three fundamental "lines of effort" identified in the *Strategy* as necessary to counter WMD, responding to crises.

The JPEO-CBD has been engaged in the Ebola outbreak response since April of 2014 when the first laboratory confirmed diagnosis was made using a DoD Ebola Zaire diagnostic test fielded by our Critical Reagents Program, DoD's primary repository of reference materials, reagents, and detection tests in support of the Federal biological defense community. Both the DoD Ebola Zaire diagnostic test and a JPEO-CBD diagnostics platform funded in the Fiscal Year 2016 Budget Request, the Next Generation Diagnostics System Increment 1, received Emergency Use Authorization from the U.S. Food and Drug Administration and have become a principal DoD diagnostics capability in West Africa during this crisis. DoD Ebola Zaire diagnostic tests are currently deployed to specific DoD laboratories across the globe as well as to public health laboratories within the Centers for Disease Control and Prevention Laboratory Response Network. With respect to prophylaxes and therapeutics against Ebola, the JPEO-CBD, in collaboration with the Department of Health and Human Services and industry, is accelerating development of specific contenders such as a Merck/NewLink vaccine candidate, a Tekmira therapeutic candidate, and a Medivector therapeutic candidate.

With the deployment of service members to West Africa under Operation United Assistance, multiple unique DoD capabilities were required. The Joint Science and Technology Office for Chemical and Biological Defense and the JPEO-CBD collaborated to make available under emergency conditions post-exposure vaccines and therapeutics to treat DoD personnel should they be exposed to Ebola. Also, DoD needed a way to safely transport by aircraft multiple contagious patients simultaneously while preventing exposure to the aircrew or aircraft. To fulfill this requirement, the JPEO-CBD and the Joint Science and Technology Office for Chemical and Biological Defense partnered to develop the Transport Isolation System, based on current military patient support pallets and engineered to fit on Air Force mobility aircraft. Additionally, in the unlikely event that our forces would have to recover human remains during the mission, the JPEO-CBD developed a recovery and containment capability for the protection of service members against hazards associated with handling potentially infected human remains.

In support of the mobile laboratory component of Operation United Assistance, the JPEO-CBD procured equipment items for the mobile diagnostic labs of the expeditionary 1st Area Medical Laboratory, a U.S. Army Forces Command unit. This action ensured the unit was fully capable of fulfilling its mission to field four mobile labs in West Africa to increase capacity and reduce timelines for providing test results for Ebola Zaire infection within the populace. Finally, in the area of biosurveillance, the

JPEO-CBD, the Defense Threat Reduction Agency, and the interagency Combating Terrorism Technical Support Office joined efforts to develop the Ebola Portal, an online resource consisting of collaborative tools, event watch-boards, disease monitoring, and geographic information. A version cleared for public release is available at [www.ebolaportal.org](http://www.ebolaportal.org), allowing government and non-government stakeholder access to the site to support their activities.

#### CONCLUSION

The challenges we face countering WMD are not decreasing in volume or complexity. Nonetheless, I am optimistic that with continued support from Congress, the JPEO-CBD can continue with its partners, both internal and external to DoD, to contribute to the “countering WMD activities and tasks” called for in the *Department of Defense Strategy for Countering Weapons of Mass Destruction*. I am grateful for this subcommittee’s ongoing focus on addressing the WMD threat and I look forward to additional engagements on the best ways to meet DoD’s unique requirements. Mr. Chairman, Congressman Langevin and members of the subcommittee, on behalf of the men and women of the JPEO-CBD, thank you for the opportunity to appear before you and for your continued leadership.

**Douglas W. Bryce**

Deputy Joint Program Executive Officer for Chemical and Biological Defense

Mr. Douglas W. Bryce was selected for the Senior Executive Service in February 2010. He serves as the Deputy Joint Program Executive Officer for Chemical and Biological Defense and provides acquisition management and professional leadership on complex management issues related to joint service chemical and biological defense acquisition programs. He participates in all aspects of planning, directing, managing, coordinating, reporting, and evaluation the Joint Program Executive Office's mission and he shares responsibility for the development, acquisition, distribution and deployment of highly specialized and dynamic joint chemical and biological defense devices, as well as medical diagnostic systems, drugs, and vaccines.

**CAREER CHRONOLOGY:**

- Feb 2005 to Feb 2010: Deputy, Joint Program Executive Officer for Chemical and Biological Defense, Falls Church, VA.
- Apr 2003 to Feb 2005: Joint Project Manager, Individual Protective Equipment, Joint Program Executive Office, Quantico, VA.
- Apr 2003 to Feb 2005: Project Manager, Marine Corps Chemical, Biological, Radiological, Nuclear Defense Equipment (Concurrent Assignment), Marine Corps Systems Command, Quantico, VA.
- Sep 1997 to Apr 2003: Project Manager, Individual Marine Combat Equipment and Nuclear, Biological, Chemical Defense Equipment, Marine Corps Systems Command, Quantico, VA.
- Sep 1992 to Sep 1997: Product Manager, Nuclear, Biological, Chemical Defense Equipment, Marine Corps Systems Command, Quantico, VA.
- Aug 1988 to Sep 1992: Project Officer (Active Duty Marine), Nuclear, Biological, Chemical Defense Equipment, Marine Corps Research and Development Command, Washington, DC. (Retired from Active Duty: CWO3 following 20 years)
- Feb 1982 to Aug 1992: Active Duty, United States Marine Corps – Chief Warrant Officer. Aug 1972 to Feb 1982: Active Duty, United States Marine Corps – Enlisted.

**SIGNIFICANT TRAINING:**

- Los Angeles Community College, Los Angeles, CA
- Defense Acquisition University, Program Manager Course 1994

**CERTIFICATIONS:**

- Level III Certified in Program Management – 1994
- Navy Acquisition Corps - 1994

**AWARDS AND HONORS:**

- Navy Unit Commendation, Marine Corps Systems Command – Oct 2004
- David Packard, Excellence in Acquisition Award – 2003
- Commander's Roundtable Team Excellence Award – 2002
- Navy Certificate of Excellence – 1996
- Meritorious Service Medal (Gold Star in lieu of second award) – 1991
- Navy Commendation Med (Gold Star in lieu of second award) – 1988

**PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS:**

- Carnegie Mellon Software Engineering Institute (SEI)
- Chemical Corps Regimental Association

**MAJOR PUBLICATIONS:**

- On the Brink of War: Are Our Service Personnel Protected (2003), Military Medical Technology. Mr. Douglas W. Bryce and Ms. Luella LeVee.
- Joint Service Light NBC Reconnaissance System: The Future of Mobile Reconnaissance (2003), Marine Corps Gazette. Mr. Douglas W. Bryce, Mr. Robert T. Leitner and Mr. Rudolf S. Olszyk.



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**QUESTIONS SUBMITTED BY MEMBERS POST HEARING**

MARCH 25, 2015

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## QUESTIONS SUBMITTED BY MR. WILSON

Mr. WILSON. The Fiscal Year 2016 Department of Defense Budget Overview notes that the Joint Force requires rebalancing to deal with a broad spectrum of conflict, including WMD environments. What specific rebalancing does our Joint Force need to effectively deal with WMD, and what are our current shortfalls?

Mr. ROSENBAACH. The Department of Defense is continuously evaluating its ability to counter weapons of mass destruction (WMD) threats while ensuring that the Joint Force is properly manned, trained and equipped in the event of a WMD crisis. As the 2015 Joint Strategic Capabilities Plan (JSCP) is finalized, Combatant Commands and Services will conduct internal analysis of their mission and force posture to determine if there is a need for any rebalancing.

In addition, DOD works closely with its partners in the U.S. Government and international community in order to adapt to the evolving WMD threat, remain prepared and agile, and maintain readiness to counter the potentially catastrophic consequences. While sequestration challenges will significantly affect our ability to structure our forces, build partner capacity, and capitalize in research, science and technology, DOD will remain prepared to respond to future conflicts.

Mr. WILSON. There has been a lot of discussion about the fact that biotechnology is widely proliferated now, which could make biothreats much more readily available to terrorist groups or even lone actors, domestically as well as abroad. How does this change our strategy to protect against biothreats?

Mr. ROSENBAACH. We are concerned that the diffusion of technology and materials worldwide lowers barriers to acquire weapons of mass destruction (WMD), including dangerous biological materials. It is this increasing accessibility of technology in general—not just biotechnology—that influenced the emphasis on prevention and containment in our DOD Strategy for Countering WMD. Should prevention and containment fail, we must prudently hedge and continue development of capabilities that can be used to detect and identify novel threat agents, as well as protect our forces.

Mr. WILSON. Since U.S. Forces have focused so heavily on counterinsurgency in Iraq and Afghanistan, are you concerned that some of the specialized and highly technical countering weapons of mass destruction (CWMD) skills and capabilities have eroded?

Mr. ROSENBAACH. After more than 10 years of conflict—and amid budget reductions—the Joint Force's full spectrum readiness remains a concern. However, conventional and specialized technical forces continue to train and maintain the required capabilities and skills to respond to WMD threats in the homeland and overseas.

Mr. WILSON. How concerned are we with the proliferation of dual-use technologies that could potentially be used for WMD development activities? Do we have good tracking mechanisms in place, and what are some of your programmatic and policy challenges in this area?

Mr. ROSENBAACH. We agree with Director Clapper's assessment that access to the most dangerous weapons of mass destruction (WMD) technologies is not as difficult to obtain as it was in the past. Biological and chemical materials and technologies, almost always dual-use, move more freely in today's globalized economy, as do the actors with the scientific expertise to design and use them. Two key challenges for DOD are instituting measures that provide appropriate controls while facilitating open commerce and research, and controlling the potentially unwitting proliferation of these technologies and materials during the course of normal daily commerce activities.

To address these challenges, DOD supports the overall U.S. Government effort to raise barriers to access for those with illicit intent; strengthen oversight mechanisms and norms of responsibility regarding use and export of dual-use technologies and materials; and identify, track, and disrupt proliferation networks. For example, we strongly support the Proliferation Security Initiative's goals to strengthen international norms against the proliferation of WMD, invest in capacity-building programs with partner nations, and increase WMD-related information sharing with international partners.

DOD is a key participant in the four Multilateral Nonproliferation Export Control Regimes (Australia Group, Wassenaar Arrangement, Missile Technology Control Regime, and Nuclear Suppliers Group), and has been actively involved in interagency efforts to update U.S. export controls in support of the President's Export Control Reform Initiative. We are in the process of supporting revisions of U.S. export controls to more effectively control the most sensitive military items and technologies. I defer to the Departments of Homeland Security, Commerce, and State for information on export enforcement programs. Additionally, DOD is a long-time partner in the development and implementation of U.S. policies and regulations regarding dual-use research of concern in the life sciences and Biological Select Agents and Toxins (BSAT), respectively. The Select Agent Program, which regulates BSAT, requires tracking and inventory controls to ensure proper safeguarding of the agents.

Mr. WILSON. How would you describe the level of information sharing and cooperation with the Intelligence Community to deal with the proliferation threat? As best you can outline in this open forum, what are our gaps?

Mr. ROSENBACH. The Intelligence Community (IC) continues to provide high quality intelligence regarding weapons of mass destruction (WMD) threats. This intelligence plays a critical role in early warning, risk assessment, and forecasting—regarding not only the direct effect of an actual event, but also its second and third order effects, no matter the source.

We maintain a close partnership with the IC to ensure success in the CWMD mission area, due to the nature of the extremely sensitive information. Additionally, we work with other Federal departments and agencies to enhance cooperation with partners on national security and counter-proliferation, ensure accountability for information sharing, and provide wider access to necessary databases when possible. I can elaborate on potential gaps in a closed forum.

Mr. WILSON. Given that the Food and Drug Administration (FDA) approval process for medical countermeasures can be lengthy and unpredictable, what is the risk to the Department of Defense in having to wait for FDA approval on a countermeasure? What steps can the DOD take to mitigate that risk?

Mr. ROSENBACH. The risk in waiting for approval is that our military forces may not have a layer of protection in place when needed. We continue to work very closely with the FDA to expedite our access to medical countermeasure by using mechanisms such as the FDA's amended Emergency Use Authorization (EUA) authorities provided under the Pandemic and All Hazards Preparedness Reauthorization Act. Based on these FDA authorities, DOD can seek an EUA for an anticipated threat, or an EUA to support a chemical, biological, radiological, or nuclear (CBRN) response. This lowers the risk to DOD, and the overall U.S. Government, since that short-notice emergency authorization is possible. These authorities have also enabled us to optimize our acquisition strategies for CBRN-related medical countermeasures.

Mr. WILSON. What is DOD doing to address Biothreats globally?

Mr. ROSENBACH. In support of the three lines of effort outlined in the DOD Strategy for Countering Weapons of Mass Destruction—prevent acquisition, contain and reduce threats, and respond to crises—DOD addresses biothreats globally in a variety of ways. For example, our DOD Cooperative Biological Engagement Program engages partners in Africa, South and Southeast Asia, the Middle East, and Eastern Europe to establish safe and secure biosurveillance infrastructure to prevent and detect acquisition and use. As another example, DOD supports its interagency partners from the Departments of Commerce and State in advancing treaties and regimes, such as the Biological Weapons Convention and the Australia Group. Many DOD activities for addressing biothreats and building partner capacity support international efforts, such as the Global Health Security Agenda.

Mr. WILSON. There appears to be significant overlap in the manufacturing capabilities of medical countermeasures between the DOD and the Department of Health and Human Services (DHHS). Is it really necessary that the DOD have independent manufacturing capabilities? What steps are you taking to coordinate your efforts with these agencies and to avoid duplication of efforts? How much will the DOD be able to leverage the DHHS manufacturing capabilities? What else should we be doing that we aren't already doing?

Mr. ROSENBACH. DHHS and DOD serve different populations and fulfill different missions, and therefore have areas of differing health protection needs. Acquisition programs that rely on one source can expose our forces to unnecessary risk, especially if that source is compromised. Maintaining these capabilities reduces the risk to both Departments, our service members, and the general public; additionally it enables both Departments to pursue respective objectives at the pace each requires.

Mr. WILSON. Once the DOD's medical countermeasures advanced manufacturing facility is completed, will the Department be able to place orders for doses of coun-



termeasures directly from the facility? Or will we still have to issue solicitations and competitively bid the work? If we still have to competitively bid the work, what is the advantage of the DOD having its own manufacturing facility?

Mr. ROSENBAUGH. DOD's Advanced Development and Manufacturing (ADM) facility will provide DOD an advantage due to its flexible and modular design, allowing us to obtain a large array of DOD-specific products at lower than commercial quantities. The Joint Program Executive Office (JPEO) will continue to work on establishing contracting mechanisms and effective strategies for medical countermeasure programs to leverage the ADM's unique capabilities, and is the best source for more specific information.

Mr. WILSON. What is currently being done in the way of consequence management planning and preparedness against Chemical, Biological, Radiological and Nuclear (CBRNE) attacks both abroad and within the U.S.?

Dr. HASSELL. USNORTHCOM and USPACOM are responsible for planning, organizing, and executing homeland defense and civil support missions, including response to CBRN events, in their respective areas of responsibility. The CBRN Response Enterprise is available to the commands, whenever necessary, to execute missions as ordered by the President or Secretary of Defense. The CBRN Response Enterprise includes 57 National Guard Weapons of Mass Destruction-Civil Support Teams (approximately 1,254 military personnel), 17 National Guard CBRN Response Force Packages (approximately 1,379 military personnel), 10 National Guard Homeland Response Forces (approximately 5,770 military personnel), the Defense CBRN Response Force (approximately 5,350 military personnel), and two CBRN Command and Control Response Elements (approximately 3,000 military personnel). Additionally, all installations coordinate response to CBRNE events in their local areas.

Outside of the U.S., responsibility for planning and executing CBRN responses resides with the appropriate Combatant Commands, using both assigned and attached forces. These responses are coordinated with the host nation through the Department of State.

The Chemical and Biological Defense Program supports these missions by developing and fielding enhanced capabilities to the CBRN Response Enterprise units, such as protection, detection, diagnostics, and field analytical equipment.

The Defense Threat Reduction Agency provides both planning and technical support to the Combatant Commands for any CBRN response missions, whether in the U.S. or abroad.

Two examples of CBRN response planning and preparedness efforts are; the Transatlantic Collaborative Biological Resiliency Demonstration, executed closely with DOD, DOS, DHS, and Poland; and the bilateral U.S.-Republic of Korea, Able Response exercise series, both of which allow us to apply lessons learned to international and homeland response efforts.

Mr. WILSON. What is currently the Department of Defense's highest priority program in Chem/Bio?

Dr. HASSELL. The CBDP utilizes risk and threat assessments to ensure resources are allocated to efforts directed at efficiently reducing operational risk to the warfighter. No one investment is the highest priority; CBDP resources are applied to provide an integrated, layered defense against both current and emerging CB threats. Within the FY16 budget request, we have focused our efforts in the areas of Non-Traditional Agent defense, Biosurveillance, Medical Countermeasures, and Advanced Diagnostics.

Mr. WILSON. In your view, are Department of Defense resources appropriately allocated according to the relative risks of chemical, biological, and nuclear threats? If not, what would you change?

Dr. HASSELL. Yes. Within the Chemical and Biological Defense Program (CBDP) portfolio we are using a rigorous, risk and threat informed approach to develop and re-examine our investment strategy. To inform this process, we work closely with the Intelligence community, including the Defense Intelligence Agency, Central Intelligence Agency, National Geospatial-Intelligence Agency, etc to evaluate current and emerging threats. This analysis informs capability development within the context of planned and future operations. We consider Force Management Risk through the lens of modernization, and Institutional Risk through our ability to develop capabilities now and in the future. Through this process, we identify areas within CBD that present the most risk to the Warfighter, both now and in the future, and then allocate resources to best mitigate those risks through science and technology (S&T), systems acquisition, testing, and fielding. We also continually evaluate our portfolio to assess ways to mitigate operational risks through a layering of capabilities, such as integrated protection against threats that are difficult to detect using currently available technologies.

Mr. WILSON. Given the emphasis placed on non-traditional agents by the Chem Bio Defense Program, how prepared are we to deal with new threats? Are our existing capabilities agile enough to rapidly adapt to deal with agents that have been previously unseen?

Dr. HASSELL. We are more prepared than ever to deal with new threats. DOD provided equipment and training to special purpose forces who are most likely to encounter NTAs during overseas contingency missions and for defense support of civil authorities in the homeland. Several programs are currently funded to enhance NTA defense capability over the next 5-7 years for special purpose units and general purpose forces. DOD remains committed to developing NTA defense capabilities in the priority areas of detection, medical countermeasures, decontamination, and protection. DOD's focus has been on accelerating efforts to counter the potential use of NTAs by concentrating first on the set of priority agents deemed most dangerous. DOD places great emphasis on assuring that systems developed and fielded are flexible enough to address emerging threats. Research and development through 2021 will focus efforts on fundamental characterization of new agent categories to further assess the impact and limitations of currently available defense countermeasures.

Mr. WILSON. Given that the Food and Drug Administration (FDA) approval process for medical countermeasures can be lengthy and unpredictable, what is the risk to the Department of Defense in having to wait for FDA approval on a countermeasure? What steps can the DOD take to mitigate that risk?

Dr. HASSELL. While the FDA approval process can be lengthy and unpredictable, it remains the best way to ensure that our troops are only given the safest and most effective medical countermeasures (MCM) available. The recent Ebola epidemic in West Africa has illustrated the need for rapid deployment of MCMs in emergency situations, even in the absence of full, formal FDA approval. Fortunately, the FDA has alternative mechanisms to enable fielding and use of investigational MCMs in emergency and other special situations, such as Emergency Use Authorization (EUA), emergency Investigational New Drug (IND) use, and the DOD's special immunizations program. We have directed our MCM developers to consider these and any other available interim fielding mechanisms throughout their developmental processes. The DOD will continue to press for strategic pre-preparation of all the necessary testing and manufacturing documentation ahead of a biological event to allow for rapid acquisition and fielding of MCMs.

Mr. WILSON. What is DOD doing to address Biothreats globally?

Dr. HASSELL. The DOD coordinates with the U.S. interagency and international partners to achieve the goals and objectives of the DOD Strategy for Countering Weapons of Mass Destruction (CWMD). Specifically, the Chemical and Biological Defense Program (CBDP) supports the CWMD Strategy by developing capabilities in the areas of protection, detection, biosurveillance, diagnostics, medical countermeasures, and decontamination. The DOD CBDP, Cooperative Threat Reduction, and Force Health Protection programs work together to address chemical and biological threats to the Warfighter and U.S. citizens; these activities support international efforts, such as the Global Health Security Agenda. As seen in the recent Ebola epidemic in West Africa, capabilities developed to meet DOD-specific requirements can also benefit U.S. civilians and international partners, and as such are an important DOD contribution to global health security.

Mr. WILSON. What are some of your unfunded requirements? Where are your largest gaps in funding?

Dr. HASSELL. The President's Budget request provides the Department the necessary funding required to address the chemical and biological threats. If sequestration were to be implemented, the corresponding unfunded efforts would negatively impact the CBDP's ability to research and develop capabilities that are focused on current and future threats. We must be prepared to address all threats and ensure capabilities are developed that enable the Joint Force to sustainably operate in any environment. The most recent example of this critical capability is our ability to accelerate development of Ebola vaccines and therapeutics in response to the West African epidemic.

Mr. WILSON. How effective are we at providing our troops with the most modern protective equipment for Chemical, Biological, Radiological and Nuclear (CBRN) threats? How much feedback do we get from the services on their capability gaps, and how easy is it for us to respond quickly to fill those gaps?

Dr. HASSELL. Working with the Services through the Joint Staff's Joint Requirements Office for CBRN Defense, we have been very effective at providing our Warfighters the specific equipment they need to survive, fight, and win in chemically or biologically contaminated environments. For example, we recently developed, tested, and fielded a holistic protection, detection, and decontamination capa-

bility against Non Traditional Agents in less than two years. This effort was made possible by the flexibility of the Joint Capabilities Integration and Development System process and our ability to identify and realign resources for such emerging threats. Direct engagement with the troops who utilize and rely on our equipment provides unfiltered feedback and gains stakeholder buy-in for Research, Development and Acquisition activities. I have made such direct engagement a priority for myself, personally, as well as for the CDBP Enterprise.

Mr. WILSON. There appears to be significant overlap in the manufacturing capabilities of medical countermeasures between the DOD and the Department of Health and Human Services (DHHS). Is it really necessary that the DOD have independent manufacturing capabilities? What steps are you taking to coordinate your efforts with these agencies and to avoid duplication of efforts? How much will the DOD be able to leverage the DHHS manufacturing capabilities? What else should we be doing that we aren't already doing?

Dr. HASSELL. The DHHS and DOD Advanced Development and Manufacturing (ADM) facilities were designed to meet the specific needs of each Department. For example, the DOD only needs enough of any single MCM for the military population, while DHHS must be ready to provide enough MCMs for the entire U.S. population; therefore, the DHHS and DOD facilities are designed to function at different production scales. In addition, having a DOD facility ensures that there is sufficient production capacity for the MCMs we prioritize.

The DOD designed its ADM with DHHS input. DHHS and DOD have established a governance board to ensure coordination and use of the 4 facilities to support a "whole of government approach." We have a DOD representative on the Executive Steering Group of DHHS's ADM Governance Board. Once the DOD ADM is established, the joint DOD/DHHS Governance Board will be in place through which DOD and DHHS can further collaborate.

The Governmental Accountability Office 2014 review (<http://www.gao.gov/products/GAO-14-442>) of the DOD and DHHS coordination on Medical Countermeasures demonstrated the effective implementation of Federal best practices for interagency collaboration.

Mr. WILSON. Once the DOD's medical countermeasures advanced manufacturing facility is completed, will the Department be able to place orders for doses of countermeasures directly from the facility? Or will we still have to issue solicitations and competitively bid the work? If we still have to competitively bid the work, what is the advantage of the DOD having its own manufacturing facility?

Dr. HASSELL. There is no specific funding for the Medical Countermeasure (MCM) Advanced Development and Manufacturing (ADM) facility in the FY16 budget request; it will be sustained through use by the individual MCM development efforts. The Joint Program Executive Office for Chemical and Biological Defense continues to look for innovative and streamlined contracting mechanisms and strategies for medical countermeasure programs to leverage the ADM's capabilities.

The advantages gained from utilizing the ADM's capabilities go beyond contracting considerations. The ADM facility will provide a dedicated state-of-the-art center of excellence focused on flexible, modular, and single-use manufacturing techniques to meet DOD needs. The flexible nature of the ADM will be able to support the large array of DOD-specific products at lower than commercial quantities. The facility will continually upgrade based on emerging technologies, and cover a full array of development and product services. Utilizing the ADM will also allow the implementation of lessons learned across the DOD product portfolio, which has the opportunity to shorten the development cycle and eliminate redundancies.

Mr. WILSON. There has been a lot of discussion about the fact that biotechnology is widely proliferated now, which could make biothreats much more readily available to terrorist groups or even lone actors, domestically as well as abroad. How does this change our strategy to protect against biothreats?

Mr. MYERS. Congressman Wilson, you have raised an important issue. As you have described, our mission is complicated given the current nature of countering weapons of mass destruction. During the Cold War, most of our focus was on nation states. We were worried about huge stockpiles of nuclear, chemical, and biological materials. While there is no question that some of these stockpiles are still a threat today, the more difficult area for us to track and address is terrorist acquisition of WMD materials that can be modified, grown, or enhanced for use as a weapon. The footprint is smaller in these cases, harder to track and thus harder to find and disrupt. We are not talking about huge factories or facilities in most of these cases; sometimes it is a small laboratory that could fit inside a bathroom. Given this reality, no region of the world is impervious to potential threats. The Nunn-Lugar Cooperative Threat Reduction Program contributes to the President's Global Health Security Agenda which is working globally to prevent, detect, and respond to infec-

tious disease threats, no matter their source. This includes those biotreatments that could be spread intentionally through malicious use of biotechnology.

DTRA/SCC–WMD continues to partner with the U.S. Intelligence Community (IC), and the United States Government (USG) as a whole, in order to accurately identify and characterize all current and future biotreatments. For example, DTRA/SCC–WMD worked closely with Joint Program Executive Office for Chemical and Biological Defense (JPEO/CBD) to create the Ebola Portal, a secure virtual environment designed to provide situational awareness and facilitate interagency and international collaboration related Ebola Outbreak operations and support in West Africa.

Mr. WILSON. What is currently being done in the way of consequence management planning and preparedness against Chemical, Biological, Radiological and Nuclear (CBRNE) attacks both abroad and within the U.S.?

Mr. MYERS. DTRA is helping the U.S. Government consequence management planning and preparedness against CBRNE attacks by researching and developing accurate and reliable models, tools and information needed to effectively manage post-event responses.

DTRA's Technical Reachback is heavily integrated into CBRNE consequence management planning and preparedness. Some of DTRA Reachback's specific initiatives include:

- Implementation of a Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, Facilities, and Planning (DOTmLPP–P) Change Recommendation (DCR) to “provide DOD with a singularly focused National Countering Weapons of Mass Destruction Technical Reachback Support Enterprise to link DOD, Interagency and other national and international technology based subject matter experts into a collaborative, net-centric information environment.
- Involvement in Jack Rabbit II—a Department of Homeland Security large-scale outdoor chlorine release experiment used to validate modeling and analytical tools
- Training on modeling and analytical tools for our Department of Defense, U.S. Government interagency, state, and local first responder partners.
- Designation as the Technical Operations Hub for the Federal Emergency Management Agency's Interagency Modeling and Atmospheric Assessment Center which provides first responders with predictions of hazards associated with atmospheric releases to aid the decision making process, and to protect the public and the environment
- Deployment of Technical Support Teams to provide onsite decision support for a wide range of targeting options.
- Integration with the United Kingdom's Defense Science and Technology Laboratory (Dstl—UK's Reachback) and the NATO's Joint Chemical, Biological, Radiological, and Nuclear Center of Excellence (JCBRN COE—NATO's Reachback).

With regard to domestic preparedness for CBRN attacks, DTRA/SCC–WMD provides education and training for DOD entities via the Defense Nuclear Weapons School, at Kirtland AFB, NM. Additionally, DTRA/SCC–WMD provides counter-WMD contingency planning support, as well as technical advice and crisis planning assistance through deployable planning and advisory teams, and maintains 24-hour subject matter expert support available through the DTRA/SCC–WMD Joint Operations Center. Additionally, DTRA/SCC–WMD's Nuclear Accident and Incident Exercise program prepares geographic combatant commands (GCCs) to respond to nuclear incidents involving U.S. stockpile weapons should they occur in CONUS or worldwide. Overseas, DTRA/SCC–WMD's CBRN Preparedness Program (CP2) supports all the GCCs to provide partner nations with skillsets to effectively respond to WMD incidents through increased tactical and operational capabilities. The goal of this program is to enhance regional and national CBRN response planning and capabilities to minimize the impact of WMD events and to decrease reliance on U.S. response assets. CP2 executes newly acquired National Defense Authorization Act (NDAA) 2014, Section 1204 to train and equip both civil and military first responders within authorized countries to enhance overall their preparedness for CBRN events. Lastly, the Foreign CBRNE Exercise Program supports GCCs in exercising their capabilities and refining plans to conduct International CBRN response, both internally and with foreign partners.

Mr. WILSON. How concerned are we with the proliferation of dual-use technologies that could potentially be used for WMD development activities? Do we have good tracking mechanisms in place, and what are some of your programmatic and policy challenges in this area?

Mr. MYERS. The proliferation of WMD-related dual-use technologies, materials, components, and equipment to/from state and non-state actors of concern continues to pose a significant threat to national, regional, and global security. As the Director

of National Intelligence notes, “The time when only a few states had access to the most dangerous technologies is past. Biological and chemical materials and technologies, almost always dual-use, move easily in the globalized economy, as do personnel with the scientific expertise to design and use them.” Accordingly, DTRA/SCC-WMD participates in a multitude of working groups, analytic exchanges, and training evolutions designed to accurately identify and characterize dual-use technologies of concern. In addition, international legal frameworks in the form of treaties, embargoes and sanctions—including those designated by the United Nations Security Council, multilateral arrangements such as the Nuclear Suppliers Group, the Australia Group, the Missile Technology Control Regime, and the Wassenaar Arrangement, as well as national export control mechanisms, provide a legal basis for regulating transfers of dual-use goods.

DTRA/SCC-WMD is actively engaged with other elements of the DOD, the U.S. interagency, and partner nations to counter WMD-related proliferation through a variety of programs designed to build partner capacity through projects and activities designed to enhance border and port security, WMD detection and investigation, and counterproliferation interdiction capability.

In the nuclear arena, we have studies ongoing in our Nuclear Technologies Department to examine the entire threat pathway for the development of nuclear weapons in order to determine how the United States Government can most effectively detect and disrupt such activities. From these studies, we expect to find key areas where DTRA can develop and transition technologies to help address the proliferation of dual-use technologies. One particular dual-use technology of concern is additive manufacturing (commonly known as 3-D printing). Additive manufacturing can bypass the large manufacturing base and highly specialized skills previously required and allow an adversary with very limited resources and/or know-how to manufacture many key components of WMD weapon.

Mr. WILSON. How would you describe the level of information sharing and cooperation with the Intelligence Community to deal with the proliferation threat? As best you can outline in this open forum, what are our gaps?

Mr. MYERS. DTRA/SCC-WMD maintains an important relationship with the Intelligence Community. DTRA/SCC-WMD would be pleased to brief the Committee on these matters in a closed forum.

For information sharing, DTRA/SCC-WMD manages a program called Constellation, which is a DOD program focused on providing and sharing Countering WMD Situational Awareness across DOD, the Interagency, and our international partners. Constellation is comprised of knowledge-based Information Systems, driven by support cells. DTRA/SCC’s Countering WMD Information Integration Cell (CIIC) provides CWMD situational awareness to the combatant commands and CWMD community by integrating, fusing, and disseminating operations, planning and other pertinent information to provide a dynamic picture of the global CWMD steady-state operating environment, alerts users to changes requiring action, and provides information to support contingency operations. The Constellation program is sponsored by U.S. Strategic Command, and resourced by the Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs [OASD(NCB)]. Constellation demonstrated a promising level of information sharing and cooperation through the Ebola Portfolio while supporting efforts during the recent Ebola outbreak in Western Africa.

Mr. WILSON. What lessons has DOD learned from the Libya chemical weapons destruction mission?

Mr. MYERS. From the planning perspective, we’ve learned from the events in Syria and Libya and are applying the lessons to our ongoing planning efforts. Specifically, we learned that we need to be prepared for non-traditional Nunn-Lugar Cooperative Threat Reduction missions. These cases required rapid, flexible responses aimed at securing and destroying weapons to prevent proliferation. In order to accommodate these new and emerging situations, we have begun the development of a series of Regional Plans aimed at shaping the pre-event or pre-crisis strategic environments. These regional plans directly link to our crisis response plans to allow us to rapidly transition from shaping, to responding and/or providing support to the respective Geographic Combatant Commander or USSOCOM. This new approach allows us to be more efficient in the ways we shape the regional environments, while increasing our preparedness and reducing the time it takes to transition to crisis or event response.

Mr. WILSON. What did you learn about the benefits of programmatic flexibility and anticipating of emerging threats from the Syria chemical weapon destruction mission?

Mr. MYERS. Congressman Wilson, we found that for this mission the need for a process and the equipment to destroy Syrian chemical weapons required rapid de-

velopment and acquisition of a capability tailored to the unique conditions on the ground in Syria. The Field Deployable Hydrolysis System (FDHS) is a fast-track acquisition project initiated in February 2013. Amazingly, the first unit was delivered on July 1, 2013. Design, procurement, fabrication, testing and training were produced by a government team consisting of DTRA, the Edgewood Chemical Biological Center (ECBC), Joint Project Manager for Elimination, the Joint Program Executive Office for Chemical and Biological Defense and the U.S. Army Contracting Command.

An additional significant benefit of programmatic flexibility was the ability to use Nunn-Lugar Cooperative Threat Reduction Program (CTR) funding for many operational requirements. CTR funds allowed us to increase our responsiveness and availability to support the destruction mission.

The removal and destruction of the Syrian chemical weapons stockpile was a fluid and evolving operation that required the development of alternative courses of action as USG and international decisions were being made. The benefits of programmatic funding flexibility enabled the Syria Chemical Weapons Elimination Project to reallocate funding when needed to meet new and emerging requirements. Early on, the project faced an unstable set of requirements coupled with a very tight destruction timeline. The benefits of notwithstanding authority and the re-notification process enabled the project to move funding from other projects to the Syrian Chemical Weapons Elimination project efficiently. This flexibility and the use of Economy Act transactions allowed the project team to put money where it was needed, acquire the goods and services required to meet project requirements, and accomplish the mission ahead of schedule.

Mr. WILSON. What is DOD doing to address Biothreats globally?

Mr. MYERS. The DOD is committed to the Global Health Security Agenda (GHSA) to accelerate progress toward a world safe and secure from infectious disease threats and to promote global health security as an international security priority. In support of the GHSA, the DOD works together with partners around the world to prioritize coordinated action and specific, measurable steps focused on: preventing epidemics, detecting biological threats early, and rapidly responding to disease outbreaks, whether naturally occurring, intentionally produced, or accidentally caused. The DOD actively coordinates these Bio-threat efforts with other departments and agencies that also play a role in the GHSA, including the Departments of Health and Human Services, Agriculture, and the U.S. Agency for International Development.

DTRA develops and transitions technologies to anticipate, detect, analyze, defeat and assess biothreats globally. The USSOCOM Combating Weapons of Mass Destruction-Terrorism Support Program develops processes to forecast plausible terrorist WMD threats to aid planning and operations, and to prevent terrorists from acquiring WMD. The DTRA Bio-ISR program is developing advanced sensors and technologies to enable forces to search for, detect and characterize biological threats and processes before release. The DTRA Weapons and Capabilities program continues to develop concepts and technologies to deny access or functionally defeat biothreats. Technology development focuses on the physical or functional defeat of biological threat materials, an adversary's ability to deliver the same, and the physical and non-physical support networks enabling both.

DTRA has two additional programs aimed at addressing Bio-threats globally: The Biosurveillance Ecosystem (BSVE) program and the Field Forward Diagnostics (FFDx) program. BSVE is a rapidly emerging capability being developed to bring together data, tools and the users in a cloud-based, social, self-sustaining web environment to enable real-time biosurveillance for disease prediction and forecasting, similar to the functionality of weather forecasting. FFDx is developing, testing, and demonstrating the linkage of ubiquitous, rugged, field-forward diagnostic devices capable of linking wirelessly to the BSVE at various international sites.

DTRA/SCC-WMD's Nunn-Lugar Cooperative Threat Reduction (CTR) and Building Partner Capacity programs are addressing biothreats globally. Both the Threat Reduction Engagement Program (CTR) and the International Counterproliferation Program (ICP) have held meetings, symposia, and training events around the world to bring together experts in counterproliferation and biology to increase the level and substance of dialogue concerning the control of biological threats. Furthermore, ICP continues to develop and offer new courses related to countering the proliferation of biological threats. The CTR Cooperative Biological Engagement Program (CBEP) prevents the proliferation of biological weapons, weapons components, and weapons-related military technology and expertise. Included are activities that facilitate detection and reporting of highly pathogenic diseases or diseases that can be associated with or utilized as an early warning mechanism for disease outbreaks

that could impact the armed forces of the United States or allies and partners of the United States.

Mr. WILSON. Can you discuss how current events in the Middle East and Northern Africa are impacting DTRA's operations and planning? In particular with regards to Syria and Libya. Have you received additional requests for support from CENTCOM and AFRICOM? What are some of your largest concerns?

Mr. MYERS. DTRA is conducting operations and planning future activities in conjunction with USCENTCOM to build partner capabilities and capacity in several countries in the Middle East. These activities are being conducted through the Nunn-Lugar Cooperative Threat Reduction (CTR) program and Section 1204 of the National Defense Authorization Act for 2014 authorities. The current events in the Middle East with regard to threats from ISIL have limited some of our activities. Namely, some planned activities in Iraq were suspended. USCENTCOM has requested that DTRA be prepared to provide support to their campaign against DAESH in Syria and Iraq. Our largest concern is the potential for the proliferation of WMD materials and/or expertise from and through the areas under the influence of DAESH that presents a risk to Allies, U.S. interests and the homeland.

The events surrounding and related to the security and destruction of Libya's declared CW directly and indirectly impacted and influenced DTRA's operations and planning. From a contingency/crisis response perspective, we rapidly transitioned to crisis response mode and were able to effectively coordinate and synchronize internal as well as external assets. In addition, we were able to redirect funds to support this evolving priority requirement.

From the planning perspective, we've learned from the events in Syria and Libya and are applying the lessons to our ongoing planning efforts. Specifically, we learned that we need to be prepared for non-traditional cooperative threat reduction (CTR) missions. These cases required rapid, flexible responses aimed at securing and destroying weapons to prevent proliferation. In order to accommodate these new and emerging situations, we have begun the development of a series of Regional Plans aimed at shaping the pre-event or pre-crisis strategic environments. These regional plans directly link to our crisis response plans to allow us to rapidly transition from shaping, to responding and/or providing support to the respective Geographic Combatant Commander or USSOCOM. This new approach allows us to be more efficient in the ways we shape the regional environments, while increasing our preparedness and reducing the time it takes to transition to crisis or event response.

Mr. WILSON. What are some of your unfunded requirements? Where are your largest gaps in funding?

Mr. MYERS. DTRA's FY2016 Budget request fully funds DTRA's mission and makes strategic choices to balance mission priorities.

DTRA's Budget to Strategy process provides an Agency level prioritization of CWMD efforts. Inevitably, there are always trade-offs in scope and schedule to meet the Nation's CWMD requirements. Within the Research and Development portfolio, DTRA constantly re-evaluates the portfolio to balance risk with game changing technology and to seek innovation that will meet future WMD threats. While the President's budget is sufficient to achieve our R&D portfolio, DTRA routinely seeks opportunities to accelerate, modernize, and further innovate. Some of these efforts include:

**Agent Defeat Warfighter Capability:** Combatant Commands have expressed the need for the capability to destroy facilities containing chemical and biological threats without releasing the threat agents into the environment and causing catastrophic collateral damage. Operational planning against such targets is difficult because of the great uncertainty associated with use of current weapons against these sorts of targets.

**Missile Defeat Enterprise:** Adversaries have made it increasingly difficult to locate missiles and missile launch capabilities, for example by developing mobile launch platforms. The U.S. requires the capability to locate this class of target, and the means to test and validate technologies developed for this purpose.

Mr. WILSON. What is currently the Department of Defense's highest priority program in Chem/Bio?

Mr. BRYCE. The Chemical and Biological Defense Program (CBDP) utilizes a capabilities-based planning process to align resources based on holistic threat-informed, risk-based assessments. No single investment is the highest priority as CBDP resources are applied to ensure an integrated, layered defense able to address both current and emerging chemical and biological threats. Nonetheless, high-priority efforts include those directly supporting ongoing contingencies as well as those strengthening the capacity of allies and partners to counter chemical, biological, radiological, and nuclear (CBRN) threats. For example, the CBDP support to the DOD response to the Ebola outbreak in West Africa has involved accelerating medical

countermeasure development, providing diagnostics with increased accuracy and shorter response times, applying biosurveillance tools, and producing new protection capabilities. Meanwhile, to enhance the ability of U.S. Forces Korea and the Republic of Korea to respond to biological threats, the CBDP's Joint U.S. Forces Korea Portal and Integrated Threat Recognition (JUPITR) advanced technology demonstration continues to provide specific detection and analysis capabilities to address the need for biosurveillance on the Korean Peninsula. These kinds of priority efforts do not distract us from the CBDP's core priorities, particularly with respect to equipping the force and preventing technological surprise. Rather, I am confident that ongoing and recent contingency response activities can inform and improve our programs of record and foster innovative approaches within the Defense Acquisition Management System to achieving results for the warfighter.

Mr. WILSON. In your view, are Department of Defense resources appropriately allocated according to the relative risks of chemical, biological, and nuclear threats? If not, what would you change?

Mr. BRYCE. In a time of budget constraint, I believe DOD's limited resources are appropriately allocated according to the relative risks of chemical, biological, and nuclear threats. The CBDP is accommodating the highest priorities of the Military Departments.

Mr. WILSON. Given the emphasis placed on non-traditional agents by the Chem Bio Defense Program, how prepared are we to deal with new threats? Are our existing capabilities agile enough to rapidly adapt to deal with agents that have been previously unseen?

Mr. BRYCE. I believe we are as well-postured as possible for the highest non-traditional agent (NTA) threats, given the dynamic nature of the challenge. The Chemical and Biological Defense Program (CBDP) has accelerated NTA scientific understanding and rapidly fielded interim capabilities, while working on enduring materiel solutions based on Joint Service requirements. The Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD), in coordination with the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD), is developing capabilities to counter NTAs through an integrated portfolio process, focusing on the enabling science and technology, test and evaluation, and advanced development of detection, medical, decontamination, and individual protection products and systems. The JPEO-CBD collaborates with the other components of the CBDP, the Intelligence Community, and industry to maintain a high level of acquisition readiness for this challenge. The JPEO-CBD assesses the portfolio of fielded equipment and promising commercially available items for effectiveness against NTAs. A continuing emphasis is placed on identifying technologies that can be easily adapted to new and emerging threats. This work enables us to assess and field improved capability rapidly and to make recommendations for adjustments to existing Tactics, Techniques, and Procedures (TTPs) to minimize the impact on our forces of a previously unaddressed threat. For example, several of the upgrades that are currently being fielded are simply expanded data libraries within fielded detection equipment, providing enhanced capability with minimal disruption to operating procedures. A classified setting would be appropriate for a more detailed discussion regarding specific NTA threats.

Mr. WILSON. How effective are we at providing our troops with the most modern protective equipment for Chemical, Biological, Radiological and Nuclear (CBRN) threats? How much feedback do we get from the services on their capability gaps, and how easy is it for us to respond quickly to fill those gaps?

Mr. BRYCE. The Chemical and Biological Defense Program (CBDP) has been very effective in providing the protective equipment necessary for the warfighter to survive, fight, and win in chemically or biologically contaminated environments. Service input into the CBDP Research, Development, Test, and Evaluation (RDT&E) planning and programming process is critical to our effectiveness. Regarding planning, the Military Departments provide input in the development of CBDP planning documents, which outline near-, mid-, and far-term objectives of RDT&E efforts. The Military Departments are active participants in the conduct of operational risk assessments that help to identify capability gaps, while input is solicited from them on their priority needs. With respect to programming, the Military Departments remain actively engaged throughout the development of the Program Objective Memorandum (POM). All Military Departments review and endorse the POM through the Joint Capabilities Board and the Joint Requirements Oversight Council (JROC). The JROC-endorsed POM is provided to the Army, as Executive Agent for the CBDP, for the final review and approval recommendation. Prior to approval by the Under Secretary of Defense for Acquisition, Technology, and Logistics, the POM is vetted by the CBDP Overarching Integrated Product Team, which includes membership from the Military Departments.



Recent experience with the combatant commands includes several examples of responding quickly to fill capability gaps reflected in urgent operational needs (UONs) such as joint urgent operational needs (JUONs) and joint emergent operational needs (JEONs). To support the DOD response to the Ebola outbreak, a U.S. Transportation Command (USTRANSCOM) JEON called for a fielded and sustained capability to conduct aeromedical evacuation of multiple personnel, including exposed but asymptomatic, infected, and symptomatic patients. In response, the CBDP developed the Transport Isolation System (TIS) to close this DOD mission-critical gap. Meanwhile, a U.S. Africa Command (USAFRICOM) JUON called for a fielded and sustained capability to recover, package, transport, and complete final disposition for Ebola contaminated human remains (E-CHR) safely. In response, the CBDP developed the E-CHR System, which provides a capability to transport E-CHR.

Mr. WILSON. How do we prioritize which capability gaps we address, and in what order? Do we have adequate resources to fill those gaps?

Mr. BRYCE. The DOD Chemical and Biological Defense Program (CBDP) uses a holistic capability-based, threat-informed approach when identifying and prioritizing capability gaps. The Military Departments, through the Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense (JRO-CBRND), inform the CBDP leadership of high and significant risk capability gaps through an Integrated Risk Assessment report that informs the development of guidance for the allocation of resources. This JRO-CBRND assessment is built upon the Chairman of the Joint Chiefs of Staff (CJCS) risk assessment methodology and explains risk to the force and to mission accomplishment. It mirrors the Chairman's risk assessment metrics used in his Risk Assessment Report to Congress, provided annually. The Integrated Risk Assessment report concludes with portfolio risk mitigation package recommendations. These risk mitigation packages combine capabilities from the 18 CBRN defense core capability areas to provide the CBDP leadership with viable and flexible courses of action to consider in guiding investment. With respect to the Fiscal Years 2016-2020 Program Objective Memorandum (POM) process, all of the Military Departments concurred in the CBDP POM recommendation. The Military Departments remain concerned about future reductions in funding levels but believe the POM adequately addresses their highest priority needs.

#### QUESTIONS SUBMITTED BY MR. FRANKS

Mr. FRANKS. Can you talk about the threats being posed to our troops by non-traditional agents (NTAs); that is, emerging and novel chemical technologies and agents that we may not be able to protect ourselves from. How are we making sure we fully understand these technologies and threats? How do we make sure we are developing adequate defensive capabilities? What threats exist to our homeland and can our domestic response capabilities handle NTAs? I understand that the Department recently put in place a strategy to synchronize non-traditional agents (NTA) defenses; can you please provide a copy of this strategy to the committee and summarize it for us now?

Mr. ROSENBACH. My office is concerned about the threats posed by non-traditional agents (NTAs), both to the Homeland and globally. DOD's Strategy for Countering Weapons of Mass Destruction (CWMD) provides the overarching guidance to address this threat, complemented by the Chemical and Biological Defense Program's (CBDP) NTA Research, Development, Test and Evaluation (RDT&E) Strategy that directs specific NTA defense planning and programming actions. My colleagues in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD AT&L) are the authors of the NTA RDT&E Strategy and can provide you a copy. Additionally, DOD continues to work with our interagency partners to address the threat posed by emerging or novel chemical agents.

Mr. FRANKS. Three years ago, according to the Government Accountability Office, the Department shifted its chemical, biological, radiological, and nuclear response enterprise to eliminate the high-yield explosive element. This is reflected in the structure of the domestic response units the Department has been developing. Can you provide us with more detail on this and the justification for the change? Does this introduce a gap in the Department's ability to assist civil authorities in countering domestic improvised explosive devices (IEDs) for example, if there is a Mumbai-style attack on the homeland that includes multiple IEDs that could overwhelm State and local response capabilities? What mechanisms are in place for the Department to share its counter-IED expertise with Federal partners?

Mr. ROSENBACH. More than five years ago, the Department of Defense's (DOD's) chemical, biological, radiological, and nuclear (CBRN) response enterprise was known as the "chemical, biological, radiological, nuclear, and high-yield explosives

(CBRNE) response enterprise.” However, as the DOD CBRNE response enterprise included no “high-yield explosives element” (and the addition of such an element was not planned), the name of the enterprise was eventually shifted to the more accurate “CBRN Response Enterprise.”

The CBRN Response Enterprise is specially designed to assist civil authorities in saving and sustaining lives in response to the unique threat of a catastrophic CBRN incident. DOD’s specialized forces and capabilities to deal with CBRN contaminants are unique in the Federal Government and are, therefore, critical to any effective response. A response to a high-yield explosive incident does not require the same specialized forces and capabilities and DOD’s capabilities in this area are not all unique in the Federal Government. Other units and capabilities within DOD are available to assist civil authorities in countering the threat of domestic IEDs, consistent with the law and Presidential Policy Directive 17, Countering Improvised Explosive Devices. These include Army, Navy, Marine Corps, and Air Force explosive ordnance disposal units (which, based on increased demand, grew by almost 72 percent from about 3,600 personnel in 2002 to about 6,200 in 2012). These units are available to provide defense support of civil authorities, as requested by a lead federal agency and approved by the Secretary of Defense.

Mr. FRANKS. Can you outline for the committee how you interface with each of the combatant commands—and in particular, U.S. Northern Command, and U.S. Pacific Command. For your work with U.S. Northern Command, how do you train and synchronize our domestic response efforts, what shortfalls exist, and what challenges are there? For your work with U.S. Pacific Command, how do you prepare for contingency operations that may involve weapons of mass destruction as a centerpiece, such as a conflict on the Korean Peninsula, or worse, the collapse of the North Korean regime that possesses a considerable arsenal of weapons of mass destruction? How are we ensuring that we have the right capabilities to deal with these large-scale, and potentially catastrophic events?

Mr. ROSENBACH. I develop and oversee Department of Defense (DOD) policies, advise the Under Secretary of Defense for Policy and the Secretary of Defense, and work with the Chairman of the Joint Chiefs of Staff and the Combatant Commanders on homeland defense (HD), defense support of civil authorities (DSCA), cyberspace, space, and countering weapons of mass destruction (WMD) matters. For example, I work closely with the Commander, U.S. Strategic Command (USSTRATCOM), on countering WMD matters, with the Commander, U.S. Cyber Command (USCYBERCOM), on cyberspace matters, and with the Commanders of U.S. Northern Command (USNORTHCOM) and U.S. Pacific Command (USPACOM) on HD and DSCA matters.

Ensuring DOD is prepared to meet this demand to save and protect lives is one of my highest priorities. To this end, I develop and oversee implementation of DSCA policies and strategic guidance; I work with the Combatant Commanders on their DSCA operational plans, training, and exercises; and I advise the Secretary of Defense on how to improve DOD’s posture for supporting civil authorities in responses to catastrophic disasters, including those involving weapons of mass destruction.

Challenges continue to drive DOD to pursue improvements to its ability to harness resources rapidly and effectively to respond quickly to civil support requests in the homeland. For example, since Superstorm Sandy in 2012, DOD has worked with its Federal partners to explore how best to expedite the interagency requirements generation process. The formal requirements generation process, whereby civilian authorities identify and produce valid requirements for DOD action, can be slow—sometimes taking days or weeks. Contingency planning, pre-scripted mission assignments, and other measures can help expedite this process.

Our Countering WMD (CWMD) efforts center on preparing and posturing our military to address future challenges that may emerge and escalate quickly, and our focus on the U.S. Pacific Command and our partnership with the Republic of Korea military forces also remain a priority. We have maintained an increased tempo of training and exercises, such as Able Response, KEY RESOLVE, and ULCHI FOCUS GUARDIAN, which include CWMD focus areas that enhance the readiness of U.S. and Korean personnel. Additionally, we continue to reinforce our partnership and alliance through a variety of CWMD coordination and synchronization events, such as the Counter Proliferation Working Group, which includes both international partners and U.S. interagency experts. This forum is a venue within which we reinforce deterrence and improve capabilities on the Korean Peninsula to counteract an increasingly dangerous and provocative North Korea. We can provide a more detailed description of our contingency planning efforts and capabilities in the USPACOM Area of Operations in a classified setting.

Mr. FRANKS. Can you talk about the threats being posed to our troops by non-traditional agents (NTAs); that is, emerging and novel chemical technologies and

agents that we may not be able to protect ourselves from. How are we making sure we fully understand these technologies and threats? How do we make sure we are developing adequate defensive capabilities? What threats exist to our homeland and can our domestic response capabilities handle NTAs? I understand that the Department recently put in place a strategy to synchronize non-traditional agents (NTA) defenses; can you please provide a copy of this strategy to the committee and summarize it for us now?

Dr. HASSELL. To mitigate the threat of non-traditional agents, DOD has done the following: 1) rapidly fielded defensive capabilities to units who are most likely to encounter NTA threats; 2) prioritized agent research and development efforts for the most dangerous and most likely agents to be employed against our forces; and 3) ensured operational risk and validated threat assessments inform defense capability development. DOD participates in numerous Interagency forums to ensure nesting of priorities, lessons learned, and policy. Units who received the rapid fielding initiatives include DOD first responders who provide defense support to support civil authorities.

I will provide the recently published Chemical and Biological Defense Program Non-Traditional Agent Defense Research, Development, Test and Evaluation (RDT&E) Strategy Fiscal Year 2015 to 2021 for more information on Departmental efforts in the areas of detection, medical countermeasures, decontamination, and protection as it applies to NTA defense.

Mr. FRANKS. Can you talk about the threats being posed to our troops by non-traditional agents (NTAs); that is, emerging and novel chemical technologies and agents that we may not be able to protect ourselves from. How are we making sure we fully understand these technologies and threats? How do we make sure we are developing adequate defensive capabilities? What threats exist to our homeland and can our domestic response capabilities handle NTAs? I understand that the Department recently put in place a strategy to synchronize non-traditional agents (NTA) defenses; can you please provide a copy of this strategy to the committee and summarize it for us now?

Mr. BURNHAM. Advances in technology have lowered barriers to acquire WMD and opened the door for a range of non-traditional agents to be used as weapons against the United States and our forces. We believe that the Cooperative Threat Reduction Program must continue to be proactive to understand new emerging threats and must remain flexible to be able to address them. My colleagues from the Chemical and Biological Defense Program have developed the NTA Research, Development, Test, and Evaluation Strategy, I will defer to them to provide a more detailed answer to your request.

Mr. FRANKS. Can you talk about the threats being posed to our troops by non-traditional agents (NTAs); that is, emerging and novel chemical technologies and agents that we may not be able to protect ourselves from. How are we making sure we fully understand these technologies and threats? How do we make sure we are developing adequate defensive capabilities? What threats exist to our homeland and can our domestic response capabilities handle NTAs? I understand that the Department recently put in place a strategy to synchronize non-traditional agents (NTA) defenses; can you please provide a copy of this strategy to the committee and summarize it for us now?

Mr. MYERS. DTRA maintains a robust Threat Agent Science program which provides critical properties for chemical and biological agents, including NTAs, required to inform CONOPs, Therapeutic Product Profiles (TPP) and countermeasure development. The team managing this effort works with the interagency to prioritize threats for assessment. Characterization includes determining physicochemical properties, agent fate on/in operational surfaces/environments, estimating toxicity (for the safety of warfighter and the lab worker), and other characteristics necessary to understand both the threat agent and countermeasure performance. Data is shared across relevant stakeholders to use in their programs as needed and incorporated into hazard prediction models. The program is also "preparing for surprise" through the development of tools to improve forecasting of threat agents or emerging technologies. This enables novel threat development so that we can establish thresholds to inform investment strategies on emerging threats, which may not always require new defensive capabilities.

Mr. FRANKS. Three years ago, according to the Government Accountability Office, the Department shifted its chemical, biological, radiological, and nuclear response enterprise to eliminate the high-yield explosive element. This is reflected in the structure of the domestic response units the Department has been developing. Can you provide us with more detail on this and the justification for the change? Does this introduce a gap in the Department's ability to assist civil authorities in countering domestic improvised explosive devices (IEDs) for example, if there is a

Mumbai-style attack on the homeland that includes multiple IEDs that could overwhelm State and local response capabilities? What mechanisms are in place for the Department to share its counter-IED expertise with Federal partners?

Mr. MYERS. DTRA supports NORTHCOM and collaborates with the Department of Homeland Security to develop technologies to address threats of mutual concern. These challenges include development of technologies for threat detection, hazard prediction, event modeling, and decision support. With regard to hazard prediction and decision support, DTRA supports military and civil authorities through Technical Reachback. DTRA is the operational hub for DHS's Interagency Modeling and Atmospheric Assessment Center (IMAAC). DTRA supports equipping and training the National Guard Civil Support Teams (CST). For example, the DTRA-developed Mobile Field Kit (MFK) software is a sensor integration and situational awareness tool originally developed under DTRA's Smart Threads Integrated Radiological Sensor Joint Capability Technology Demonstration to be used for nuclear-radiological detection. MFK has since been demonstrated to integrate inputs from other CBRNE sensors. National Guard CSTs have successfully employed MFK with a variety of different communications equipment in numerous high-visibility events, including the Super Bowl, Pro Bowl, Boston Marathon, and national holiday celebrations. We also have a close relationship with the Joint Improvised Explosive Device Defeat Organization (JIEDDO). Additional information about relevant DTRA S&T programs can be made available in a classified forum.

Mr. FRANKS. Can you outline for the committee how you interface with each of the combatant commands—and in particular, U.S. Northern Command, and U.S. Pacific Command. For your work with U.S. Northern Command, how do you train and synchronize our domestic response efforts, what shortfalls exist, and what challenges are there? For your work with U.S. Pacific Command, how do you prepare for contingency operations that may involve weapons of mass destruction as a centerpiece, such as a conflict on the Korean Peninsula, or worse, the collapse of the North Korean regime that possesses a considerable arsenal of weapons of mass destruction? How are we ensuring that we have the right capabilities to deal with these large-scale, and potentially catastrophic events?

Mr. MYERS. We have daily interaction with every Combatant Command on a variety of issues, to include CBRN operational, planning and research and development efforts. The USSTRATCOM Center for Combating WMD synchronizes these efforts across all the Commands to ensure we have our ear close to Combatant Command demand signals. We also Liaison Officers (LNOs) embedded at each Command.

Our team works closely with USSNORTHCOM to identify and address their priorities, gaps and shortfalls. Our LNOs facilitate responsiveness, frequency and level of support for 5 major areas in R&D, and approximately 25 exercise and training events. Additionally DTRA/SCC-WMD supports USNORTHCOM with Requests for Assistance and Requests for Information for both real-world and exercise activities. In the recent past, this was something as simple as information to mitigate radiation from a stolen medical device in Mexico to assistance in training the Medical Support Teams for Homeland Ebola response.

DTRA has LNO teams at both U.S. Pacific Command (USPACOM) and United States Forces Korea (USFK), who facilitate the coordination of DTRA and SCC-WMD activities in theater. The LNO teams regularly participate in theater exercise planning and execution, and in preparation for potential contingency operations. During a crisis scenario, these LNO teams are augmented by additional trained, deployable staff, who assist in synchronizing CWMD activities and who provide expertise in specific DTRA/SCC-WMD activities and programs.

In addition, DTRA engages all Combatant Commands (CCMDs) through the CCMD S&T Manager to address their science and technology needs.

Mr. FRANKS. Can you talk about the threats being posed to our troops by non-traditional agents (NTAs); that is, emerging and novel chemical technologies and agents that we may not be able to protect ourselves from. How are we making sure we fully understand these technologies and threats? How do we make sure we are developing adequate defensive capabilities? What threats exist to our homeland and can our domestic response capabilities handle NTAs? I understand that the Department recently put in place a strategy to synchronize non-traditional agents (NTA) defenses; can you please provide a copy of this strategy to the committee and summarize it for us now?

Mr. BRYCE. A detailed discussion of the list of threats would require a classified response. In general, the proliferation of non-traditional agent (NTA) capabilities and related information present a growing risk to our troops globally but the force does possess some defensive capabilities. The Chemical and Biological Defense Program (CBDP) has fielded and is continuing to develop equipment that will provide a significantly enhanced level of defense against broad categories of agents. Addi-

tionally, the training our CBRN defense forces receive prepares them to address unknown hazards and respond accordingly. The CBDP collaborates with partners in the intelligence, science, engineering, and medical communities to identify, study, and prioritize potential emerging threats and their impact on the warfighter. To enable DOD to iteratively assess risk and, when appropriate, revise our mitigation approach, emphasis is placed on understanding NTA threats in terms of their various physical states, weaponized forms, and routes of exposure.

There are no geographic boundaries for many of the chemical threats we may face. Many of the dangers to the deployed force are also hazards to the homeland. In an effort to establish a domestic defensive capability against NTAs, the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) and the Department of Homeland Security have adopted a collaborative approach toward developing capability sets. We have provided NTA detection, protection, and decontamination capabilities to the 57 National Guard Bureau Weapons of Mass Destruction Civil Support Teams (WMD-CSTs) located across the United States. Fielding of the Domestic Response Capability (DRC) Kits began in July 2012 and was completed in March 2014. Currently, the JPEO-CBD is providing an expanded data library within a fielded identification system, giving the WMD-CSTs an improved analytical, field confirmatory capability.

The CBDP Non-Traditional Agent (NTA) Defense Research, Development, Test, and Evaluation Strategy requires the synchronization of DOD NTA defense efforts for fiscal years 2015–2021 to enable the warfighter to counter NTAs as part of a layered and integrated defense. Implementation of the Strategy will ensure that the CBDP is well postured to meet existing and future NTA defense requirements. The Strategy provides a prioritization scheme for the multiple NTA classes, while at the same time acknowledging fiscal realities and the need to continue developing and delivering capability to address traditional chemical threats. The Strategy establishes an approach for the development of enduring defense solutions and recognizes accelerated or interim solutions may be necessary based on risk assessments. A copy of the Strategy will be provided to the Committee.

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#### QUESTIONS SUBMITTED BY MR. HUNTER

Mr. HUNTER. Dr. Hassell, RSDL was selected by DOD as the replacement for the M-291 carbon powder personnel decon kit in 2007. The Joint Program Executive Office Chemical and Biological Defense initially provided each branch of the U.S. Armed Forces with a sufficient quantity of RSDL to meet their Total Service Requirement (TSR). Thereafter, each service was required to replenish their inventories of RSDL (the product has a 5-year shelf-life). I am concerned that the Navy has not replenished its inventory of RSDL—allowing a significant portion of its kits to expire or not be replaced after being issued to end users. Last July, the Navy indicated to another congressional committee looking into this issue that it does not intend to replenish any of its RSDL in fiscal years 2015 and 2016. This will result in more of the Navy's RSDL kits passing their expiration dates and the service falling even farther below its TSR for RSDL. Are you aware of this?

Dr. HASSELL. Yes, it is my understanding that the Navy will not be replenishing its stock at this time, rather it will begin procurement during Fiscal Year 2017.

Mr. HUNTER. The justification documents submitted with the President's Budget Request for FY 2016 indicated plans to "Initiate Personnel Decontamination hazard mitigation projects to develop an alternative to RSDL ..." Can you briefly describe the effort?

Mr. BURNHAM. My understanding from the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) is that this refers to the Next Generation Personnel Decontamination (NGPDC) program, which is intended to provide a broad spectrum chemical and biological skin decontamination capability with low logistics footprint (e.g., shelf life and storage conditions) and reduced cost in comparison to the currently fielded skin decontaminant, Reactive Skin Decontamination Lotion (RSDL). I understand that a primary objective of the program is to address concerns identified by the Military Services regarding the storage requirements (climate control) for and shelf life of RSDL. Included in the Fiscal Year 2016 DOD Budget Request, NGPDC is currently projected to achieve Milestone A and enter the Technology Maturation and Risk Reduction Phase of the Defense Acquisition Management System in fiscal year 2020.

Mr. HUNTER. RSDL is the most effective means of removing and neutralizing Chemical Warfare Agents, T-2 toxin, and many pesticide-related chemicals, including organophosphates from the skin. Are you aware of any other products that

would provide our troops with a greater level of protection if they were exposed to Chemical Warfare Agents and organophosphate chemicals?

Mr. BRYCE. I am not aware of any other FDA-cleared products at this time. However, to address concerns identified by the Military Departments regarding the storage requirements for and shelf-life of Reactive Skin Decontamination Lotion (RSDL), we are pursuing the Next Generation Personnel Decontamination program to provide a broad-spectrum chemical and biological skin decontamination capability with a lower logistics footprint and reduced cost.

#### QUESTIONS SUBMITTED BY MR. ASHFORD

Mr. ASHFORD. Is it possible that filoviruses (Ebola) could be used as a bioweapon? What plans have been made for dealing with Ebola virus should it be used as a bioweapon and what type of research activities is DTRA conducting with the university affiliated research center for medical countermeasures?

Mr. ROSENBAACH. We know it is possible for a wide variety of bacteria and viruses, including the Ebola virus, to be used as a bioweapon. The challenge is accurately quantifying the risk, including probability and effects, of such an event.

The Administration has provided guidance that Federal departments and agencies should conduct planning to address the impacts of pandemic influenza on the Federal workforce. DOD has further extended that guidance through development and implementation of our Global Campaign Plan for Pandemic Influenza and Infectious Disease. This plan provides base guidance to Geographic and Functional Combatant Commands to develop plans to address force health protection and provision of assistance to either domestic or international partners during events of pandemic influenza or other high-impact diseases such as Ebola within their areas of responsibility.

In addition, DOD participated in interagency planning efforts led by FEMA to develop an Ebola specific crisis action plan. The U.S. Government—including DOD—undertook concerted efforts to ensure the U.S. public health system, as well as selected elements of the DOD health system, are capable of treating Ebola patients. This approach to the domestic response to save lives is the same whether the biological event is intentional or natural.

I want to emphasize, however, that both preparedness for, and response to, biological threats, no matter the agent, must be conducted through partnership among government and civilian sectors. This approach holds true for all hazards, and is reflected in strategic documents and initiatives such as the National Response Framework, the Global Health Security Agenda, and the World Health Organization's International Health Regulations.

DOD is just one partner in strengthening prevention, preparedness, and response, and in most cases we are in a support role. Therefore, investments must be made across all sectors of our government, not only for preparation and response in the homeland, but also to help build capacity internationally. These investments must be long-term commitments as the threat landscape continuously changes.

Mr. ASHFORD. How effective are our methods for detecting potential exposure of military personnel in the field to chemical, biological, and radiological agents? You have described for us the EZ-1 test for Ebolavirus; how long does it take for the EZ-1 test to provide a result of positive or negative? Are there DTRA funded efforts to develop a more rapid test?

Mr. ROSENBAACH. DOD's chemical, biological, and radiological (CBR) response is built upon a strategy of "layered defense." In keeping with this strategy, we have multiple layers of detection fielded for CBR agents that encompasses detection and diagnostic equipment (such as aerosol detection systems and clinical diagnostic assays); information (such as medical and environmental biosurveillance systems); doctrine and tactics, techniques, and procedures; and trained CBR and medical forces. DOD is currently developing updated detection capabilities to enhance our ability to detect potential exposure to chemical, biological and radiation threats. More detail on this capability, as well as the EZ-1 test, is available from the Office of the Deputy Assistant Secretary of Defense for Chemical and Biological Defense (within the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics).

Mr. ASHFORD. The DOD has developed a transport module that can be used to move up to 6 to 8 infected individuals. What plans and contingencies are in place or under consideration for the transportation and subsequent treatment of military personnel who are infected? DOD officials have said they anticipate infected military personnel will be treated at the U.S. facilities who have treated the U.S. civilian patients. Which office within the DOD will be establishing the agreements with

the treating biocontainment unit the procedures and protocols to transport and treat military patients infected with Ebola or some other highly infectious disease?

Mr. ROSENBACH. The Department has a standing agreement with the Department of State (DOS) to support DOD requests for medical evacuation (MEDEVAC) assistance from West Africa using Phoenix Aviation Group (PAG) on an as-needed and reimbursable basis.

In addition, DOD has developed, tested, and fielded a mass evacuation capability to meet contingency requirements in support of Operation UNITED ASSISTANCE. The Transportation Isolation System (TIS) is built upon a standard Patient Support Pallet and provides biocontainment for a combination of up to four to eight asymptomatic patients, including up to eight ambulatory, high-risk contacts or a maximum of four infected, litter-bound patients. In January 2015, this capability achieved initial operational capability with three systems available to deploy, but has not yet been utilized. Twenty-two additional systems will be procured by DOD between April and May 2015. The Department views the TIS as a contingency option in the event of unavailability of the commercial MEDEVAC service offered through the DOS contract and as a capacity gap-filler in the event of a large-scale MEDEVAC need.

The Administration has documented its medical evacuation procedures in the United States Medical Evacuation Concept of Operations (MEDEVAC CONOPS). This CONOPS identifies that four DOD components have responsibilities during a MEDEVAC mission, including the Office of the Secretary of Defense, the Joint Staff, U.S. Northern Command, and U.S. Transportation Command.

With respect to the subsequent treatment, should a military member become infected, that member would be treated at one of the U.S. civilian biocontainment facilities that have treated the other U.S. civilian patients. The Department has developed a contingency capacity to care for Ebola patients in several medical centers within the continental United States, including Walter Reed National Military Medical Center. However, it is the Department's intent to continue to leverage the collective experience and expertise of the three civilian Ebola treatment centers unless that resource becomes overburdened.

Mr. ASHFORD. DTRA leadership has indicated in previous testimony that there are not enough scientists with expertise in CBRN technologies to staff all the services and commands and that DTRA currently addresses this gap by providing its expertise in a coordinated manner to all services. What measures are being taken to provide a well-trained workforce to address this gap in the future and at the same time not train future bioterrorists such as Aafia Siddiqui?

Mr. ROSENBACH. Maintaining sufficient technical expertise is a foundational activity in our 2014 Strategy for Countering Weapons of Mass Destruction (CWMD) as we and our interagency and international partners rely on the intellectual capital provided by the Department's cadre of CWMD experts, both military and civilian. In the context of constrained budgets, we will continue to be challenged to recruit and develop the numbers of experts that we need. However, components such as the Defense Threat Reduction Agency (DTRA) have developed creative ways to provide chemical, biological, radiological, and nuclear (CBRN) support, such as through its technical reach-back capability.

One example of precautions we take to prevent insider threat risk, consistent with U.S. Select Agent Regulations, is that we require that anyone who works with Biological Select Agents and Toxins (BSAT) must be enrolled in a Biological Personnel Reliability Program (BPRP). The program provides for a comprehensive review of each individual given access to BSAT, be they U.S. citizens or foreigners, and includes assessments such as background security checks, medical reviews for mental and physical competence, and personnel records. As we are continuously monitoring the threat landscape, my staff will continue to participate in periodic U.S. interagency reviews of the adequacy of personnel reliability and other biosecurity processes.

Mr. ASHFORD. Is it possible that filoviruses (Ebola) could be used as a bioweapon? What plans have been made for dealing with Ebola virus should it be used as a bioweapon and what type of research activities is DTRA conducting with the university affiliated research center for medical countermeasures?

Dr. HASSELL. We know that the Japanese cult, Aum Shinrikyo, attempted to obtain the Ebola virus as part of its biological warfare program, although fortunately they failed in their attempt. Adversaries could intentionally acquire the disease during an outbreak and, similar to suicide bombers, deliberately spread Ebola to as many people as possible before succumbing themselves. For these reasons, filoviruses remain a priority on our medical countermeasures (MCMs) list.

We continue to work to develop MCMs and diagnostic technologies against filoviruses. The Chemical and Biological Defense Program (CBDP) is working with

the Centers for Disease Control and Prevention and National Institutes of Health to conduct clinical trials on CBDP-developed Ebola vaccines and therapeutics. We are studying rapid, point-of-care diagnostic technologies that would allow us to diagnose Ebola faster than the currently available assays, as well as technologies with the potential to tell whether patients were naturally or intentionally infected.

Mr. ASHFORD. How effective are our methods for detecting potential exposure of military personnel in the field to chemical, biological, and radiological agents? You have described for us the EZ-1 test for Ebolavirus; how long does it take for the EZ-1 test to provide a result of positive or negative? Are there DTRA funded efforts to develop a more rapid test?

Dr. HASSELL. The Joint Requirements Office Capability gaps assessment highlighted several gaps in our current methods for detecting potential exposure of military personnel in the field to chemical, biological, and radiological agents. These gaps are being addressed in the Next Generation Detection System (NGDS), which includes additional diagnostic tests for remaining biological pathogens and staged development of diagnostic capabilities for toxin, chemical, and radiological/nuclear exposures.

The EZ-1 RT-PCR test takes between 3 and 6 hours, depending on the laboratory and the number of samples tested at one time. The Chemical and Biological Defense Program (CBDP) has funded efforts to test the diagnostic utility of lateral-flow assays. Although lateral-flow assays can give quick results, they also have a high rate of false negatives. The potential for this type of diagnostic in aiding with triage decisions at treatment units is still being explored. Additionally, CBDP continues to fund research focusing on the detection and identification of chemical and biological threats in near real-time. Future programs focus on the improvement of algorithms, excitation sources, and detector elements to increase warning time, reduce false negatives, increase sensitivity, and reduce cost.

Mr. ASHFORD. The DOD has developed a transport module that can be used to move up to 6 to 8 infected individuals. What plans and contingencies are in place or under consideration for the transportation and subsequent treatment of military personnel who are infected? DOD officials have said they anticipate infected military personnel will be treated at the U.S. facilities who have treated the U.S. civilian patients. Which office within the DOD will be establishing the agreements with the treating biocontainment unit the procedures and protocols to transport and treat military patients infected with Ebola or some other highly infectious disease?

Dr. HASSELL. USTRANSCOM is managing all Transportation Isolation System (TIS) operational issues and procedures. We continue to support them in development and fielding of the TIS.

Mr. ASHFORD. DTRA leadership has indicated in previous testimony that there are not enough scientists with expertise in CBRN technologies to staff all the services and commands and that DTRA currently addresses this gap by providing its expertise in a coordinated manner to all services. What measures are being taken to provide a well-trained workforce to address this gap in the future and at the same time not train future bioterrorists such as Aafia Siddiqui?

Dr. HASSELL. DTRA and the Joint Program Executive Office for Chemical and Biological Defense both have programs to develop the next generation of scientists with expertise in CBRN technologies. In doing this, individuals and organizations conducting research on behalf of the CBDP are required to follow all Departmental and Federal regulations, such as having robust Personnel Reliability Programs for individuals working with Biological Select Agents and Toxins (BSAT). While working with BSAT is important to identify and fill capability gaps in order to protect the warfighter and the public, the DOD ensures biological security policy is consistent with Federal Select Agent Regulations. We ensure regulatory requirements are balanced with important research objectives, and the DOD continues to conduct BSAT research in a safe and secure manner to develop protective countermeasures critical to national security.

Mr. ASHFORD. Is it possible that filoviruses (Ebola) could be used as a bioweapon? What plans have been made for dealing with Ebola virus should it be used as a bioweapon and what type of research activities is DTRA conducting with the university affiliated research center for medical countermeasures?

Mr. BURNHAM. Yes. Ebola and other filoviruses can be developed into bioweapons. This could be done a variety of ways but as an example, someone intentionally infecting himself is just one very low-tech way to "weaponize" the Ebola virus or other filoviruses. An infected individual can take several days or longer to develop symptoms after infection, so it is plausible that the infected individual could travel to other parts of the world before they showed symptoms of infection. An outbreak of Ebola virus or another filovirus could be an opportunity for someone seeking to intentionally infect himself.



The Ebola outbreak in West Africa was a naturally occurring outbreak, and as we saw, travel of infected people back to their home nations constituted a significant security threat. That is why preparedness for outbreaks for pathogens of security concern—whether intentionally spread, accidentally released from a lab, or naturally occurring—is important.

Response to an intentional release of Ebola virus would be very similar to the response to a naturally occurring outbreak. In both cases, early detection of the outbreak coupled with an appropriate response is critical to mitigating the effects. The Cooperative Threat Reduction Program's Cooperative Biological Engagement Program works with foreign partners to enhance their disease detection capabilities, so that when outbreaks of pathogens of security concern occur, like the recent Ebola outbreak in West Africa, our partners can react quickly to contain the outbreak before it can spread to the United States.

My colleagues on the panel from the Defense Threat Reduction Agency and from the Chemical and Biological Defense Program can provide information on our research and medical countermeasure efforts related to Ebola and other filoviruses.

Mr. ASHFORD. How effective are our methods for detecting potential exposure of military personnel in the field to chemical, biological, and radiological agents? You have described for us the EZ-1 test for Ebolavirus; how long does it take for the EZ-1 test to provide a result of positive or negative? Are there DTRA funded efforts to develop a more rapid test?

Mr. BURNHAM. My colleagues in the Chemical and Biological Defense Program lead the development of a range of detectors and medical countermeasures, including the EZ-1 test. They can provide the specific information you're requesting.

Mr. ASHFORD. The DOD has developed a transport module that can be used to move up to 6 to 8 infected individuals. What plans and contingencies are in place or under consideration for the transportation and subsequent treatment of military personnel who are infected? DOD officials have said they anticipate infected military personnel will be treated at the U.S. facilities who have treated the U.S. civilian patients. Which office within the DOD will be establishing the agreements with the treating biocontainment unit the procedures and protocols to transport and treat military patients infected with Ebola or some other highly infectious disease?

Mr. BURNHAM. The DOD has an agreement with the Department of State to provide medical evacuation (MEDEVAC) services as needed for military personnel. The Chemical and Biological Defense Program led the development of the Transport Isolation System (TIS). This system is viewed as a contingency supplement to these MEDEVAC services in the event of a large-scale MEDEVAC need. My colleagues on the panel from the Chemical and Biological Defense Program and the Defense Threat Reduction Agency will provide more specifics on the capabilities of the TIS.

The Office of the Secretary of Defense, the Joint Staff, USNORTHCOM, and USTRANSCOM are responsible for developing agreements, protocols, and procedures related to MEDEVAC for the DOD as outlined in the United States Medical Evacuation Concept of Operations.

Mr. ASHFORD. DTRA leadership has indicated in previous testimony that there are not enough scientists with expertise in CBRN technologies to staff all the services and commands and that DTRA currently addresses this gap by providing its expertise in a coordinated manner to all services. What measures are being taken to provide a well-trained workforce to address this gap in the future and at the same time not train future bioterrorists such as Aafia Siddiqui?

Mr. BURNHAM. We recognize the need to have access to scientific expertise to address technical issues related to CBRN technologies. My office has addressed this challenge by actively recruiting U.S. scientists with backgrounds in the physical and biological sciences and interest in counter proliferation/counter WMD issues to provide technical advice on CBRN technologies.

One of the original goals of the Cooperative Threat Reduction Program was to redirect Soviet weapons scientists to peaceful purposes after the collapse of the Soviet Union. In part because of these efforts, there are fewer weapons scientists today. Our biological threat reduction program, the Cooperative Biological Engagement Program (CBEP), continues to work with foreign scientists. We train them to help improve their nations' disease detection capabilities, so that outbreaks of pathogens of security concern can be contained before they spread. As part of this work, CBEP reinforces a culture of safety and responsibility in the conduct of life science research. We also support the integration of foreign scientists into the global research community where their work is subject to peer review from the international scientific community.

Mr. ASHFORD. Is it possible that filoviruses (Ebola) could be used as a bioweapon? What plans have been made for dealing with Ebola virus should it be used as a bio-

weapon and what type of research activities is DTRA conducting with the university affiliated research center for medical countermeasures?

Mr. MYERS. Ebola is recognized by the U.S. government as a potential biological warfare agent. It is a Tier 1 agent on the Center for Disease Control's Select Agent List and it is a threat as a BW agent to U.S. forces. Studies show that filoviruses can be easily disseminated or transmitted from person to person; result in high mortality rates and have the potential for major public health impact; and might cause public panic and social disruption. All of these factors make filoviruses appealing to threat actors. In response to this threat, and the threat of naturally occurring filoviruses, DTRA continues to research effective therapeutics and vaccines to protect U.S. military members against a biological warfare attack involving Ebola as a threat agent.

Mr. ASHFORD. The DOD has developed a transport module that can be used to move up to 6 to 8 infected individuals. What plans and contingencies are in place or under consideration for the transportation and subsequent treatment of military personnel who are infected? DOD officials have said they anticipate infected military personnel will be treated at the U.S. facilities who have treated the U.S. civilian patients. Which office within the DOD will be establishing the agreements with the treating biocontainment unit the procedures and protocols to transport and treat military patients infected with Ebola or some other highly infectious disease?

Mr. MYERS. DTRA developed and tested the Transportation Isolation System prototype systems and the Joint Program Execution Office (JPEO) procured and delivered the first 3 systems to USTRANSCOM during January of 2015. USTRANSCOM is managing all Transportation Isolation System operational issues and procedures for DOD. Responsibility for coordinating transportation and treatment of infected patients falls to the Departments of State, Health and Human Services, and the Centers for Disease Control and Prevention.

Mr. ASHFORD. DTRA leadership has indicated in previous testimony that there are not enough scientists with expertise in CBRN technologies to staff all the services and commands and that DTRA currently addresses this gap by providing its expertise in a coordinated manner to all services. What measures are being taken to provide a well-trained workforce to address this gap in the future and at the same time not train future bioterrorists such as Aafia Siddiqui?

Mr. MYERS. DTRA's Nuclear Science and Engineering Research Center (NSERC) partners the Agency with DOD degree-granting institutions and labs in order introduce future military leaders and CBRN experts to current C-WMD problems. Current NSERC outreach efforts span multiple technical and non-technical disciplines including nuclear engineering, chemical and biological technologies, network sciences, systems engineering, and defense strategic studies. All research topics are continually refined to remain relevant to DTRA research objectives, and all performers are thoroughly vetted by their parent organizations prior to receiving fiscal support.

DTRA executes a basic research program, primarily through university engagement. One of this program's two primary goals is to promote the development of the next generation science and technology workforce for countering WMD. As such, DTRA provides opportunities for and engages with students by supporting basic research grants, expanding postdoctoral research, and encouraging joint laboratory-university basic research. The basic research program has over 160 active awards supporting more than 200 Principal Investigators (PIs) and Co-PIs, and training more than 600 students and post-doctoral researchers.

Additionally DTRA has several other methods to mitigate the skills gap. Besides external recruitment of qualified individuals, there are internal instructional techniques such as on-the-job training and mentoring facilitated by the Science and Technology Functional Community. Functional skills-enhancing curriculums are documented in Workforce Development Guides. The Science and Technology Guide identifies competency-based training and supports the development of long-term career roadmaps. Cross training is another method used to provide opportunities for junior employees to develop their skills to help meet the future needs of the organization.

Mr. ASHFORD. Is it possible that filoviruses (Ebola) could be used as a bioweapon? What plans have been made for dealing with Ebola virus should it be used as a bioweapon and what type of research activities is DTRA conducting with the university affiliated research center for medical countermeasures?

Mr. BRYCE. Yes, it is conceivable that filoviruses could be used as weapons. Filoviruses can be disseminated via aerosols, have a low infectious dose, and have high morbidity and mortality rates—all important elements for bioweapons. In response to this threat, and the threat of naturally occurring filoviruses, the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) is pur-

suings development of a filovirus vaccine. The intent is to field an FDA-licensed trivalent human vaccine to protect the warfighter against aerosolized exposure to the Ebola Zaire, Ebola Sudan, and Marburg hemorrhagic fever viruses. The objective end-product would protect against all three viruses in a single vaccine formulation and would protect against both the bioweapon and the naturally occurring threat. For Fiscal Year 2016, the JPEO-CBD is requesting an investment of \$37M to complete non-clinical efficacy studies and pilot scale production, as well as to continue Phase I clinical trials for competitive prototypes. DTRA's Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD) has contributed to this effort by transitioning several potential vaccine technology approaches against filoviruses to the JPEO-CBD in Fiscal Year 2014.

The JPEO-CBD leverages the University Affiliated Research Centers (UARC), U.S. Government laboratories, and industry for the development of medical countermeasures. JPEO-CBD has leveraged the formulation expertise at one of the UARCs at the University of Nebraska for filovirus vaccine development efforts. With respect to overall plans for dealing with Ebola virus should it be used as a bioweapon, I will defer to Mr. Eric Rosenbach, Assistant Secretary of Defense, Homeland Defense and Global Security.

Mr. ASHFORD. How effective are our methods for detecting potential exposure of military personnel in the field to chemical, biological, and radiological agents? You have described for us the EZ-1 test for Ebolavirus; how long does it take for the EZ-1 test to provide a result of positive or negative? Are there DTRA funded efforts to develop a more rapid test?

Mr. BRYCE. It is important to distinguish capabilities that detect agents in the environment from capabilities that diagnose diseases in a medical setting. Environmental detection affects force protection and offers the opportunity to put on individual protection (suits, boots, masks, and gloves) or to avoid exposures entirely. If exposures cannot be avoided, medical countermeasures, including vaccines, pre-treatments, diagnostics, and therapeutics, offer the next lines of defense. Medical diagnostic capabilities are critical for effective patient treatment and in containing communicable threats. DOD diagnostic tests for chemical, biological, radiological, and nuclear (CBRN) threats are subject to the same high standards as commercial diagnostic tests developed for routine health care. Once the FDA verifies that diagnostic methods are effective and safe, tests become "cleared" for use.

This practice ensures that the best available diagnostic technologies are available to meet DOD's needs. The most recent Ebola outbreak illustrates this process. Both the Joint Biological Agent Identification and Diagnostic System (JBAIDS) and the Next Generation Diagnostics System Increment 1 (NGDS Inc 1) supported the Ebola response. The EZ-1 test used to support Operation United Assistance was made available through Emergency Use Authorization (EUA) and is authorized for EUA use on three high-throughput diagnostic platforms, including the fielded JBAIDS system and two commercial platforms commonly used at DOD laboratories. Once a sample is taken, the EZ-1 test takes between 3 and 6 hours, depending on the laboratory and the number of samples tested at one time. The assay developed for the NGDS Inc 1 (BioThreat-Ebola test), also authorized under an EUA, can return results in seventy (70) minutes. The NGDS Inc 1 platform and Ebola test kits were made available to support Operation United Assistance under an urgent materiel release.

Finally, there are several efforts funded within the Defense Threat Reduction Agency and the Defense Advanced Research Projects Agency seeking to ensure a robust developmental pipeline in the areas of medical diagnostic capability and environmental detection devices. The JPEO-CBD will continue to coordinate with these and other developmental efforts.

Mr. ASHFORD. The DOD has developed a transport module that can be used to move up to 6 to 8 infected individuals. What plans and contingencies are in place or under consideration for the transportation and subsequent treatment of military personnel who are infected? DOD officials have said they anticipate infected military personnel will be treated at the U.S. facilities who have treated the U.S. civilian patients. Which office within the DOD will be establishing the agreements with the treating biocontainment unit the procedures and protocols to transport and treat military patients infected with Ebola or some other highly infectious disease?

Mr. BRYCE. DOD has an agreement with the Department of State (DOS) to support requests for medical evacuation (MEDEVAC) assistance from West Africa. If DOS were to become overburdened with requests to fly patients to the United States, DOS could request DOD support to transport patients. Meanwhile, DOD has developed, tested, and fielded a mass evacuation capability to meet contingency requirements in support of Operation United Assistance. The Transportation Isolation System (TIS) is built upon a standard Patient Support Pallet and provides bio-

containment for multiple patients. In January 2015, this system achieved initial operational capability with three systems available to deploy. Additional systems will be procured by DOD during the remainder of Fiscal Year 2015.

The Administration has documented its medical evacuation procedures in the United States Medical Evacuation Concept of Operations (MEDEVAC CONOPS). This CONOPS identifies that four DOD components have responsibilities during a MEDEVAC mission, including the Office of the Secretary of Defense, the Joint Staff, U.S. Northern Command, and U.S. Transportation Command.

Were they to become infected, service members would be treated at one of the U.S. civilian biocontainment facilities that have treated the other U.S. civilian patients. DOD has developed a contingency capacity to care for Ebola patients in several medical centers within the continental United States, including Walter Reed National Military Medical Center. However, it is DOD's intent to continue to leverage the collective experience and expertise of the three civilian Ebola treatment centers unless those resources become overburdened.

Mr. ASHFORD. DTRA leadership has indicated in previous testimony that there are not enough scientists with expertise in CBRN technologies to staff all the services and commands and that DTRA currently addresses this gap by providing its expertise in a coordinated manner to all services. What measures are being taken to provide a well-trained workforce to address this gap in the future and at the same time not train future bioterrorists such as Aafia Siddiqui?

Mr. BRYCE. My organization, the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD), located on the Edgewood Area of Aberdeen Proving Ground (APG), works with our U.S. Army APG partners to support science, technology, engineering, and math (STEM) events throughout the community. Activities include supporting the Aberdeen Proving Ground STEM Exposition, providing mentors for the Cecil County STEM Academy, and participating in local science fairs and engineering competitions. We support Federal and DOD STEM strategic plans by advocating effective approaches for improving STEM teaching and learning, and by promoting STEM education experiences that feature hands-on learning to generate student engagement and interest in the STEM fields.

With respect to maintaining a well-trained workforce, recruitment and retention will likely be more challenging should the fiscal uncertainty that has overshadowed DOD operations continue into Fiscal Year 2016 and beyond. If sequestration impacts resume in full, attracting and keeping the scientists, engineers, and program managers we need will likely become more difficult than it already is in the competitive human capital environment. The furlough days taken, as well as those remaining as possibilities, have impacted morale.

On a more positive note, the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD) has started a program called "Scientists in Foxholes" which will familiarize JSTO-CBD personnel with the equipment and operating environments encountered by the warfighter. This will help the Military Departments to understand the art of the possible and the scientists understand the warfighter's mission.

Regarding the protection of DOD programs from access by dangerous or potentially dangerous individuals, I believe the best course of action available to DOD is rigorous enforcement of its Personnel Reliability Programs such as maintaining strong Biological Personnel Reliability Programs, the participation in which is required for individuals to work with Biological Select Agents and Toxins (BSAT) for DOD. There are numerous requirements for personnel within a Biological Personnel Reliability Program, including: a security background investigation, drug testing, medical records review, personnel records review, a legitimate need for access to material, approval of access to BSAT by a certifying official, and good social adjustment.