AN ASSESSMENT OF THE POTENTIAL HEALTH EFFECTS OF BURN PIT EXPOSURE AMONG VETERANS

HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTH

OF THE

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CONTENTS

Thursday, June 7, 2018

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Thursday, June 7, 2018

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON VETERANS' AFFAIRS,
SUBCOMMITTEE ON HEALTH
Washington, D.C.

The Subcommittee met, pursuant to notice, at 3:01 p.m., in Room 334, Cannon House Office Building, Hon. Brad Wenstrup [Chairman of the Subcommittee] presiding.

Present: Representatives Dunn, Bilirakis, Radewagen, Higgins, Mast, Roe, Brownley, Takano, Kuster, O'Rourke, and Correa.

Also Present: Representatives Esty, Wenstrup, Ruiz, and Gabbard.

OPENING STATEMENT OF NEAL DUNN, CHAIRMAN

Mr. DUNN. All right. Good afternoon, and thank you all for joining us today. The subject of today's meeting is an assessment of the potential health effects of burn pit exposure among veterans.

And I would like to ask unanimous consent for the following non-Subcommittee Members to sit on the dais and participate in today's hearings: Congresswoman Esty from Connecticut, Congressman Wenstrup from Ohio, Congressman Ruiz from California, and Congresswoman Gabbard from Hawaii. Without objection, that is so ordered.

Before we begin, I want to take a moment to say what an honor it is to have been selected to serve as the Chairman of this Subcommittee. I am the son of a multigeneration Army family. I also had the privilege of serving as an Army surgeon. I am also the father of a combat veteran.

I have treated many thousands of soldiers, sailors, airmen, and veterans in my career. And I have treated them in VA hospitals and clinics, DoD facilities, civilian facilities, and intense and MASH units in a combat zone, so—I have worked in most of the American territories, from Puerto Rico and the USVI to the Trust Territories of Oceania. I feel personally familiar with the health needs of our Nation's veterans, and I am committed to meeting those needs.

We have great veterans, deserving veterans, in all of the places that I mentioned. And as a Nation, I feel that we are failing most of them to one degree or another.

I look forward to work with all of my colleagues on this Committee, and I do mean all of my colleagues on this Committee. And I thank you for your commitment to our veterans.

With that, I think we can also agree that this is a critical time for the Department of Veterans Affairs health care system, particularly with the signing of the MISSION Act just this week. I am grateful to Chairman Roe and former Subcommittee Chairman Wenstrup for their leadership and support. I am very much looking forward to continuing this Subcommittee's long history of rigorous oversight to ensure that our veterans have the timely quality care that they deserve.

Today's hearing concerns regarding the potential long-term health effects of burn pit exposure. This is a critical issue facing today's servicemembers and veterans, and should be an equally critical issue for VA's clinical and research programs.

The testimony provided for today's hearings by the veteran service organizations and other advocacy groups and the anecdotal reports of serious issues following exposure to burn pits in Iraq and Afghanistan are worrisome to say the least. They also make it clear that, despite a high level of attention, far more questions remain than answers on the exact nature and impact of burn pit exposure.

The Airborne Hazards and Open Burn Pit Registry, which Congress mandated in 2013, is an important tool for the VA to use to track and monitor those who are exposed to burn pits during their service. I have concerns that the Registry is not being used to its greatest potential to communicate with veterans exposed to burn pits who are worried about their current and long-term health and well-being. This registry should be used to guide the VA's research into toxic exposures.

Just 3 weeks ago, we held a joint hearing with the Subcommittee on Oversight and Investigations that exposed fears that the VA research program was not properly prioritizing proposed research regarding veteran-specific conditions and concerns. I have a hard time thinking of a topic that is more relevant, important, or deserving of the attention and support of the VA researchers than this one.

Moving forward, I would like to see the VA prioritize supporting and conducting the epidemiological research that will enable us to understand the relationship between burn pit exposure and the pulmonary and respiratory issues that veterans returning from deployment report experiencing.

That said, I fear that the narrow focus on burn pit exposure could be blinding us to other potential in-theater exposures, like particulate matter and unknown or unrecognized infectious pathogens that could have an even greater risk to those who have been deployed in the Middle East. And I believe these subjects need to be carefully monitored and researched as well.

I am grateful to our witnesses from the VA and from our veteran service organizations partners for being here this afternoon. I would also like to thank all of you who provided statements for the record, as your input is extremely beneficial and serves as an important part of the record as well.

I will say that I am disappointed that the representatives of DoD chose not to participate today. This is currently the only planned

panel on this subject. Their statement is available for the record. However, as a potential key contributor in what needs to be an ongoing research into this problem, their presence today would have been valuable.

I will now yield to Ranking Member Brownley for any opening statement that she may have.

OPENING STATEMENT OF JULIA BROWNLEY, RANKING MEMBER

Ms. BROWNLEY. Thank you, Mr. Chairman.

Every era of veterans has experienced some type of environmental, radiological, chemical, biological hazard while on the battlefield. Most recently, Operation Iraqi Freedom and Operation Enduring Freedom era servicemembers were exposed to airborne toxins, many of which we have yet to identify.

We send our servicemembers to fight abroad, and now DoD and VA have a responsibility to properly address their health care needs when they come home. The DoD and VA must work together with clinicians and investigators to identify all veterans who may have been exposed to airborne hazards.

This need to know has resulted in numerous VA-maintained registries. While today's hearing is centered around only one of these registries, I urge today's witnesses to consider whether the value of these registries would be vastly improved by consolidating them into one. One master registry would likely be easier for both veterans, physicians, and investigators to navigate.

With that said, today's hearing is focused in part on the Airborne Hazards and Open Air Burn Pit Registry. The exposure of post-9/11 veterans stationed in Iraq and Afghanistan to airborne hazards because of the military's use of open air burn pits has affected an untold number of servicemembers and veterans.

For this reason, in 2012, Congress required VA to establish the open burn pit registry. The open burn pit registry is an effort to identify and monitor the health effects of toxic airborne chemical and fumes on veterans exposed to those open air burn pits. While in the current state it cannot be the basis of scientific research, it can help the VA to define research questions and allow the VA to update and track participants.

However, it does have its limitations, as outlined by the National Academy of Sciences. As this registry is voluntary and based on self-reported information, investigators cannot link airborne hazards and long-term health efforts. This is disappointing because our veterans need our help now.

One way the VA has attempted to advance research is through its war-related injury and illness center, Airborne Hazards Center of Excellence, by flagging veterans with particularly complex or unique symptoms or diagnosis that were exposed to airborne hazards for more complete evaluations. But also, not only is VA capturing much needed data, but also ensuring they receive advanced clinical care through expertly prepared treatment plans.

However, VA's ability to advance this type of research is limited by DoD's cooperation and efforts to identify the servicemembers exposed to burn pits. That is why it is both unfortunate and disappointing, as the Chairman said, that the agency who will need

to be a true partner is unwilling to participate in today's discussion.

Furthermore, until a fully interoperable electric health record system is set up between two agencies, VA will continue to be beholden to DoD's willingness to cooperate. For this reason, it is of utmost importance that VA's Electronic Health Record Modernization team is in direct communication with both VA clinicians and VA investigators. And I look forward to hearing more from the VA on this issue.

Mr. Chairman, thank you for holding today's hearing. It is an important one. And I thank you to each of the witnesses for the work you have done to ensure these veterans are neither forgotten or overlooked. And I yield back.

Mr. DUNN. Thank you very much, Ranking Member Brownley.

I now yield 5 minutes to the overall Committee Chairman, Dr. Phil Roe.

OPENING STATEMENT OF PHIL ROE, CHAIRMAN, HOUSE VETERANS AFFAIRS FULL COMMITTEE

Mr. ROE. Thank you, Mr. Chairman and Ranking Member Brownley. And I thank everyone for being in attendance today.

As a scientist in training in medical school, epidemiology always tweaked my interest. And as a Member of this Committee for the past several Congresses, I have been following the issue of DoD toxic exposures with great interest. In fact, Ranking Member Walz and I have been the lead sponsors supporting appropriations for DoD's congressionally directed medical research program on Gulf War illness the past several years. However, I have shared my thoughts on toxic exposure medical research methodology in past hearings. I maintain that using data from self-reported registries creates a selection bias and is an inherently flawed way to conduct research.

That being said, I see tremendous room for improvement in this arena, especially with the ongoing development of a joint electronic health record between DoD and VA. With this new EHR, we have an incredible opportunity to ensure data integrity for future environmental and toxic exposure epidemiological studies. Granted, that joint health record will likely not be deployed 10 years down road. But if DoD, VA, and Cerner can't develop ways to use it to capture and mine deployment and related health data during its development, we lose an incredible opportunity to identify data to help us understand whether a veteran's service to this country contributed to their or caused their unexplained health conditions. I believe we can and must use this opportunity to ensure that capability is part of the design.

I also believe we should be taking a look, to the extent possible, at the local populations of where these exposures are believed to have originated. For example, we should be looking to study local and native people of Kuwait and Iraq to see if the conditions attributed to Gulf War illnesses are present within the local population. If you actually have a whole two sets of populations, you could study and compare. If we can broaden the sample size of those infected beyond servicemembers and veterans who self-report, we

might have a better opportunity to identify the causality of military practices and related health conditions. Just some food for thought.

As I mentioned before, this is an incredibly important subject to me, and I am disheartened that DoD declined to participate today. Current and future servicemembers deserve to know what steps DoD is taking to protect the health of the men and women who sign up to serve. Veterans deserve to know what steps VA is taking to advance research to identify and address health hazards that may be related to exposure.

I will just harken back 40 to 50 years ago now to Vietnam when we, you know, sprayed everything, and Korea also, where I served, Thailand, other places where Agent Orange was sprayed. The people who transported this, we didn't keep adequate records. And we are going to vote on a bill hopefully on the House floor in the next couple of weeks, the Blue Water Navy bill, which every Member of this Committee—we have been trying for 20 years to get it done. This Committee got it done.

We didn't keep adequate records. There is really no way to determine the science behind that. That is just impossible. So I finally said, look, let's just make this determination and do it on the basis of what is right for the veteran to do, since we cannot prove it one way or the other.

Again, I would like to thank Dr. Dunn for allowing me to join the hearing today, as well as the panelists for sharing your time with us.

And, Mr. Chairman, I yield back.

Mr. DUNN. Thank you very much to Chairman Roe.

Joining us this afternoon for our first and only panel is Tom Porter, the Legislative Director for the Iraq and Afghanistan Veterans of America. And also, Mr. Kenneth Wiseman, the Associate Legislative Director for the Veterans of Foreign Wars of the United States. And Dr. Ralph Erickson, the Chief Consultant for Post-Deployment Health for the Office of Patient Care Services for the Veterans Health Administration of the Department of Veterans Affairs. Dr. Erickson is accompanied by Dr. Drew Helmer, the Director of the War Related Illness and Injury Study Center and Airborne Hazard Center of Excellence for the VHA New Jersey Health Care System.

Thank you all for taking the time to participate in this important hearing today.

And, Mr. Porter, I believe we will begin with you. You are now recognized for 5 minutes.

STATEMENT OF TOM PORTER

Mr. PORTER. Thank you, Mr. Chairman.

Before I get started, I would like to call your attention to the many IAVA members that are here in town, many from California and Tennessee and Texas. So I just wanted to ask you to note that we have got folks in town storming the Hill on burn pits issue.

On behalf of IAVA, thank you for allowing me to share our views on what may now be the Agent Orange of our generation. I am here not only for IAVA, but as an OEF veteran exposed to airborne toxins from burn pits and other sources at many locations I was deployed to in Afghanistan and Kuwait between 2010 and 2011.

Before I went down range, I had healthy lungs. Shortly after I arrived in Kabul, where the air is particularly bad, my lungs had a severe reaction and became infected. It was controlled with medication over the next year. However, after redeploying home, I stopped the medications and symptoms came back. And I was diagnosed with asthma as a result of my deployment.

Exposure to burn pits used by the military to destroy medical and human waste, ordnance, plastics, and other waste has been widespread. It is not just those working at burn pits. Search for the Poo Pond song on YouTube and you will hear one soldier's humorous take on the enormous lake of human waste that tens of thousands of servicemembers lived, worked, and ate around at Kandahar Airfield in Afghanistan.

You could also learn from many who have served in Kabul, an enormous city with open sewers and whose population routinely burns dry animal dung to keep warm in the winter. Our military serving there are suffering the impacts from breathing airborne feces and other toxins for extended period of time. There have been burn pits there as well.

Our VSO friends, especially those who served in Vietnam, know the depth of this problem. Dr. Tom Berger at Vietnam Veterans of America will tell you they know too well the hazards of these battlefield exposures saying, quote, that is one of the reasons VVA is so involved in this issue. We don't want to see the newest generation of vets go through the same health care challenges we are still facing with toxic exposures, especially with our children and grandchildren.

Army veteran Christina Thundathil, a member of ours, told us recently of her deployment to Iraq. Although her specialty was food prep, her job was to drag the full bins of Porta-John refuse daily, douse it with jet fuel, and light it on fire, stir it with her e-tool, then repeat it until she had a brick that she could bury in the sand. She has got serious injuries and she needs a cure now.

The examples are many. However, little is understood about the long-term effects. We see an upward trend in the number of members reporting symptoms associated with burn pits, with 80 percent of IAVA members reporting being exposed to burn pits on deployment and over 60 percent of those suffering symptoms.

This year, IAVA will educate Americans about burn pits and airborne toxic exposures and the devastating impact it could be having on the health and welfare of millions of post-9/11 vets. To see the enormous extent of interest in this issue by veterans, you need to only look at the comments section on any related article online or see our viral burn pits hash tag on social media.

The VA has an airborne hazards and burn pit registry which helps them collect and analyze data on health conditions related to deployment exposures. Unfortunately, only 141,000 have completed the registry out of 3.5 million the VA says are eligible. Only 1.7 percent of the post-9/11 veterans eligible have completed it, and only 35 percent of IAVA members exposed have.

A definitive link between exposure and specific illnesses has not yet been made, and the registry is not well-known and is underused. The result is that the data is not being collected at the

levels desired to inform the next steps. It is for this reason that IAVA helped to develop new legislation.

On May 17, IAVA stood with Iraq war veteran Congresswoman Tulsi Gabbard and Afghanistan veteran Congressman Brian Mast. Thank you, Congressman. We also stood with the support of 23 other VSOs in support of the introduction of the Burn Pits Act.

The bill directly directs DoD to include periodic health assessments done by the military and, at separation, an evaluation of whether a servicemember has been exposed to burn pits or toxic airborne chemicals. If they have, they will be enrolled in the burn pit registry, unless they opt out.

The bill simply does what should have been done long ago. It compels DoD to record exposures before the servicemember leaves the military. Retired general and IAVA board member David Petraeus, who once commanded all forces in Iraq and Afghanistan, recently expressed his support for the bill saying, quote: Veterans are currently experiencing illnesses that are like—that likely are related to exposure to toxins in the war zones and swift action is needed to understand the impact on health from exposure to smoke from burn pits and other sources.

We ask the Committee to hear the calls of the many exposed veterans and enact the Burn Pits Accountability Act this year.

Again, I thank the Committee for inviting me to express our views, and I stand by for any questions.

[THE PREPARED STATEMENT OF TOM PORTER APPEARS IN THE APPENDIX]

Mr. DUNN. Thank you, Mr. Porter.

Mr. Wiseman, you are now recognized for 5 minutes.

STATEMENT OF KENNETH WISEMAN

Mr. WISEMAN. Chairman Dunn, Chairman Roe, and Ranking Member Brownley, and Members of the Subcommittee, on behalf of the Veterans of Foreign Wars of the United States and its auxiliary, thank you for the opportunity to testify on the important issue of burn pits.

The use of open air burn pits in combat zones has caused grave health complications for many servicemembers, past and present. Harmful materials are present in burn pits creating clouds of hazardous chemical compounds that are unavoidable to those in close proximity.

While the VFW is glad to see more than 140,000 veterans have enrolled in the VA's Airborne Hazards and Open Burn Pit Registry, we are concerned that the results of the National Academy study on the registry have not been fully implemented. The VFW urges VA and Congress to act swiftly on these important recommendations.

For example, a similar study operated by Burn Pits 360 allows the spouse or next of kin of registered veterans to report the cause of death for the veteran. VA must add a similar feature to its registry to ensure VA is able to track trends.

The VFW hears from veterans about the lack of outreach from the registry. The low rate of completion for the medical exam asso-

ciated with joining the registry is one of many reasons VA must improve its outreach efforts.

As VA moves to implement the electronic health record, EHR, special attention must be given to ensuring the record can interact with the registry. This will ensure that data follows the veteran from the time of the exposure through discharge and life after the military. It will also allow doctors to provide proper care knowing the full history of the veteran.

Much of the veterans' long-term health is dependent on what happened to them while in the military. While ensuring the EHR communicates with the registry is important, there is also a need for other information from DoD. The VFW has long advocated for better sharing of all relevant data on burn pits, to include environmental studies and medical records of veterans with related health issues. Congress must require DoD to share all data related to burn pits.

The VFW supports passage of H.R. 5671, the Burn Pits Accountability Act, and H.R. 5920, the Airborne Hazards and Open Burn Pit Registry Improvement Act, which would improve the Registry and the overall body of knowledge on burn pits.

The VFW is happy to learn that a joint project between DoD and VA to create a database of exposure information is underway. The individual longitudinal exposure record will create a centralized database for records related to exposure, feed data into needed research, allow doctors to know what the veteran has faced, and will allow greater access to evidence for a veteran's disability claim. The VFW knows that research is being funded and performed by the VA. The VFW supports VA's inclusion of oversight ensuring proper scientific methods are used in the studies being funded.

We also support VA's efforts to hire more researchers and to fund employee-led research like that conducted at the VA medical center in Northport, New York, which found a connection between deployments to Iraq and Afghanistan and adult onset asthma among 6,200 veterans in the local area of the facility. Several other studies are underway, and this will require dedicated funding.

The VFW is pleased that VA will ask the National Academies to review existing research to determine whether the evidence supports a connection between exposure to burn pits and deadly respiratory conditions. Veterans deserve to know what is making them sick. The VFW urges this Subcommittee to ensure the important study is commissioned and properly conducted.

Incorporating proper oversight and dedicated funding for burn pit related research is why the VFW also supports establishing a Congressionally Directed Medical Research Program, or CDMRP, specific for burn pits. The Gulf War Illness CDMRP has shown progress in identifying causes and effective of treatments for Gulf War Illness, and a similar program for burn pits will help exposed veterans.

The VFW also wants to highlight the impact of burn pits on women veterans with particular regard to reproductive issues. Medical research on the Gulf War has historically failed to properly include women veterans. A VFW member who was exposed to burn pits called me, and she told me how her children were born with birth defects, including seizures, how they were born with high lev-

els of heavy metals in their blood, and how she had to get a hysterectomy in her late 20s. This is not normal, and this must be answered.

Women veterans deserve to understand how their military service may or may not have long-term impacts on their health. As such, the VFW calls on VA to improve research related to the impact of burn pits as they relate to reproductive health issues and birth defects.

In closing, the VFW sees that there are more miles in front of us than behind us on the issue of burn pits.

Mr. Chairman, this concludes my testimony, and I am ready for any questions you or the Subcommittee may have. Thank you.

[THE PREPARED STATEMENT OF KENNETH WISEMAN APPEARS IN THE APPENDIX]

Mr. DUNN. Thank you very much, Mr. Wiseman.

Dr. Erickson, I now yield 5 minutes to you.

STATEMENT OF RALPH L. ERICKSON, M.D., DR.PH

Dr. ERICKSON. Good afternoon, Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee. I appreciate the opportunity to discuss the ongoing research and actions of the Department of Veterans Affairs is taking to identify and care for veterans who are exposed to burn pits during service in the Armed Forces.

I am accompanied today by Dr. Drew Helmer, director of both the War Related Illness and Injury Study Center, New Jersey, and VA's Airborne Hazard Center of Excellence.

Veterans are appropriately concerned about burn pits and airborne hazards during deployments, and so are we. These and other exposures may be associated with the reported symptoms of shortness in breath and diminished exercise capacity that we hear from our veterans. The collaborative and ongoing efforts of VA, DoD, and our partners in academia are being fully employed to identify veterans who may be at risk and to better understand potential short-term and long-term adverse health effects that may be associated with their exposure. Our combined aim is to limit future exposure to deployed forces and to prevent the development of disease and disability.

Open burn pits were used as a common waste disposal method at military bases in Iraq, Afghanistan, and other countries in the region. The smoke and fumes created by these burn pits added to the already existing complex burden of dust, particulate matter, and general air pollution commonly present in the Southwest Asia environment.

In 2013, Congress enacted legislation requiring VA to establish and maintain an open burn pit registry for eligible individuals who may have been exposed to toxic airborne chemicals and fumes caused by open burn pits. In 2014, VA established the Airborne Hazards Open Burn Pit Registry. This is VA's fastest growing environmental health registry and includes more than 144,000 participants as of today.

VA and DoD subject matter experts meet monthly to discuss and plan joint actions for the study of deployment-related exposures

and their possible association with subsequent adverse health conditions. In May of 2017, VA and DoD gathered 50 subject matter experts and held a symposium to address the health effects of airborne hazards exposure during deployment. This allowed VA and DoD to review and develop innovative approaches to research and clinical care. VA investigators recently convened a similar group of experts for a workshop at the American Thoracic Society meeting in San Diego.

One specific early innovation by VA was the establishment of the Airborne Hazards Center of Excellence in 2013 at the New Jersey War Related Illness and Injury Study Center. The Center of Excellence houses VA's only comprehensive clinical assessment program dedicated to studying the adverse effects of airborne hazards in veterans. Of special note, select registry participants with high priority conditions and exposures will be invited in for a comprehensive in-person clinical evaluation with the option to volunteer for related research projects.

As part of our written testimony, we highlighted six major VA and DoD studies which are addressing the potential adverse health effects associated with burn pits and airborne hazards. We also included a bibliography of recently published VA work and provided two extensive lists of ongoing VA research projects in this area.

VA is committed to the health and well-being of our veterans and is dedicated to working with our interagency and academic partners to determine the best possible care for our veterans. VA hopes to ease the suffering of veterans, while building on the momentum and gains made thus far. To this end, your continued support is essential and greatly appreciated.

Mr. Chairman, this concludes my testimony. My colleague and I are prepared to answer any questions. Thank you.

[THE PREPARED STATEMENT OF DR. RALPH L. ERICKSON APPEARS IN THE APPENDIX]

Mr. DUNN. Thank you very much, Dr. Erickson.

I now yield myself 5 minutes for questions. And I will start with you, Dr. Erickson.

One of the critiques we have heard regarding the assessment of pulmonary health of returning servicemembers is the use of PFTs. Specifically, we have heard that studies on post-deployment servicemembers are simply read as normal or abnormal, and the studies are not compared to any potential test numbers prior to deployment because no pulmonary studies are often performed before deployment. I am looking specifically at the diagnosis of constrictive bronchiolitis.

Unless you have an abnormal PFT value, you really don't have an indication of progress in your workup, yet the patient says they don't—he or she doesn't feel as well as they—are as fit as they used to be. And given that most of these servicemen and -women are at the peak of health, would you agree that it is possible that there is a significant decrease in pulmonary function that can occur and yet the studies might still be read as normal? And do you plan on performing a study that would look at the differences in PFTs pre- and post-deployment?

Dr. ERICKSON. Absolutely, Chairman. Your question hits to the heart of the limitation of pulmonary function tests. One of our DoD collaborators in San Antonio, in fact, is trying to look at pre- and post-deployment PFTs.

But one of the innovations that I was alluding to earlier at the Airborne Hazard Center of Excellence, in fact, involves actually looking at the molecular level, looking at the diffusion of oxygen and CO2 across the alveolar membrane, because we think, in fact, that PFTs are, in fact, inadequate as a screening mechanism.

Mr. DUNN. Thank you very much.

Doctor, I think the next question is in the wheelhouse of Dr. Helmer.

One of the major problems impacting the ability to find a causative etiology from the burn pits for these illnesses is the difficulty in separating local environmental factors, such as the burning of dung for fuel, particulate matter, and local microscopic flora.

Has any research been done or are you planning on doing any research to look at the pathologic conditions endemic to the local population? Do we have any indication that the local population has been affected by the burn pits? If not, why do you think this is so, and should we be looking into that? And also, is it possible, because our servicemembers are not native to the area, that they are having an inflammatory action to the local environment which the native population may be—to which the native population may be immune?

Dr. HELMER. That is a great question, because I think we don't know a lot of those answers right now. And people are looking at those issues, both the geologic dust and its effect on our servicemembers and the local population. We are also looking at the possibility of a genetic environment interaction in our servicemembers that may be responsible for the symptoms that develop and the various health conditions that we can diagnose in servicemembers.

It is an ongoing question that we are looking at, and we are actually partnering with the DoD to try to do some of that work.

Mr. DUNN. Do you have any speculation on infectious conditions that—and I am thinking, you know, because of my deployments, honestly, of San Joaquin valley fever, coccidiomycosis, or unknown or unrecognized other infectious agents that behave like those in terms of respiratory conditions?

Dr. HELMER. That is not my particular area of expertise, but I know we are looking at that. And certainly, in terms of some of the identifiable infectious agents, we have not found them when we have gone looking for the underlying mechanism of disease in the patients who are symptomatic. But we will need to continue to look at that.

Mr. DUNN. Thank you.

So I suspect I speak for the entire Committee when I say we will be interested in seeing some of the research that you are doing to identify any of the many, many potential complicating agents here, some of which are every bit as concerning as toxic exposure.

With that, I am going to yield back my time, and we will recognize Ranking Member Brownley for 5 minutes.

Ms. BROWNLEY. Thank you, Mr. Chairman.

You know, I personally feel like the very best strategy to address this issue altogether is just to eliminate the use of burn pits. It seems to me that—I have a large Navy base in my district. They are using biofuels to fly their airplanes. I think that if we put our heads together, we could figure out a better way in which to address these issues in the battlefield. So I just wanted to say that for the record.

Dr. Erickson, I wanted to talk to you a little bit about—you stated in your testimony that the DoD is making a concerted effort to encourage servicemembers to enroll in the Registry. Can you tell me a little bit about, you know, how they are stepping up their efforts and what is really happening?

Dr. ERICKSON. Yes. Absolutely, Ranking Member. We very much cherish the relationship with DoD because we need to be linked at the hip. As we have had our monthly deployment health workgroup meetings to deal with these issues, it has become very clear that there needs to be no separation from when someone takes the uniform off and then enters VA care. And to that end, we have partnered with them.

DoD has, on their own, then, taken steps to actually promote participation in the Registry, either after a deployment or at the point of transition, which we think is just exactly the teachable moment. It is just exactly the right place.

At the present time, I mentioned we have 144,000 people who are participating. About 30 percent of that 144,000 are individuals who are currently on Active Duty, in the Guard, or the Reserve. And we expect that percentage to actually increase.

Ms. BROWNLEY. And are you monitoring that increase? I mean, it seems as though 144 is—you are stating that is a lot of progress. But based on the entire population, it seems like a drop in the bucket to me.

Dr. ERICKSON. We certainly are monitoring it. And yet I will be the first to tell you that we can do better, and we want to do better. This involves outreach through many modalities right now, not just in partnering with DoD, but through our newsletters, through our participation with VSOs, our Web sites. We do a lot of education, townhalls. The list goes on, because we want to get the word out. My hope would be that, in fact, a hearing such as this would bring additional attention to the need for more to participate.

Ms. BROWNLEY. And I was disturbed to hear Mr. Wiseman's testimony with regards to women and women really being underrepresented. And I think it is—I think we know that many times, not always, but many times, women, once they leave the military, they sometimes don't see themselves and identify themselves as veterans. So it seems to me we need to make a special effort to make sure that we have a large enough population of women to be able to ultimately get to the research we need to find the treatments that we need. I mean, to hear the testimony of a woman who is bearing children with defections and so forth, it is very, very disturbing.

Can you speak to that?

Dr. ERICKSON. Yes. Absolutely. I am a third-generation career Army officer. My daughter right now is a lieutenant colonel in the Army. And she, in fact, is deployed right now to that region.

This issue is very important to us. Our large epidemiologic studies, six of which we mentioned, purposely oversample for women, so an adequate number of women participating in those studies. Because you are exactly right; women may, in fact, have different adverse health effects. They may respond differently.

As it relates to these intergenerational effects, the next generation, we currently have two ongoing studies that we have commissioned with the National Academy. One of them is the Gulf War and Health, Volume 12, in which we have asked the National Academy, in fact, to give us a roadmap, to give us a template for how should we launch with other interagency partners to do the proper study to actually look at those effects that might be heritable, that might be passed to the next generation.

Ms. BROWNLEY. Thank you.

I only have 30 seconds left. But do the VSOs have any suggestions or ideas in terms of outreach to improve the circumstances?

Mr. WISEMAN. Every year, Madam Ranking Member, the VA sends numerous employees to the VFW national convention. We would be happy to continue that effort. We would also be happy to go to our State level conventions and regional conventions. Outreach is something that already happens. And so we can add this as one more thing that we are working on through that outreach process. And I think that would be easy, and it is a great idea.

Ms. BROWNLEY. Mr. Porter?

Mr. PORTER. Congresswoman, thanks. Well, I think they need to understand how veterans communicate and how they would like to be communicated to. Whereas one generation might want a newsletter, I can tell you the post-9/11 generation, they don't read newsletters. I was walking through the Rayburn building the other day outside the VA's office, and there was a newsletter that said for post-9/11 veterans. I had never seen that before. And that was the only time I have ever seen any kind of outreach on burn pits. I thought, wow, this would be great if it was on social media.

I mean, it would be great if they asked veterans how they would like to be communicated to, and they would probably be surprised. So they are going to have to get used to using Twitter and Instagram and Facebook and Snapchat and all those kind of things to be able to reach those folks.

Ms. BROWNLEY. Thank you, Mr. Porter.

My time is up, and I yield back.

Mr. DUNN. Thank you very much, Ranking Member Brownley and Mr. Porter.

I now turn to the Full Committee Chairman, Dr. Phil Roe. I yield 5 minutes for questions.

Mr. ROE. Thank you. And welcome Dr. Ruiz back to the Committee. We are glad to have you here.

And my generation likes to be communicated with smoke signals, so we are all different.

And I hope—and I don't know what kind of physical exam that people get when they go in the military now. But when I went in, this is the truth, my physical examination to go into the 2nd United States Infantry Division was, "If I examined you, would I find anything wrong?" So nobody ever laid a glove on me getting

in the Army. I hope they do a little better now than they were then.

I don't know whether PFTs are actually done or not, but this is so intriguing to me. I would love to be involved in this clinical study, because you have a population, Dr. Erickson and Dr. Helmer, that were deployed. You also have a group of people who never enlisted—never volunteered I mean. They are the same cohort age. You also have a population that were deployed, if you can identify them. And you also have the Navy population. So it is really an amazing group of people that you have. And I think it is important to try to differentiate whether the burn pit had anything to do with it or whether just being deployed.

I have been to Afghanistan many times. And I know 40, 50 years ago when—40-plus years ago when I was in Korea, it was very different than it is today. And hopefully, Afghanistan and Southeast Asia, Iraq will be different going forward. But it looks to me like we could find that out. Is it just being there in that environment where they said they are burning dung, or whatever toxins may be just in the air, or whether it actually had to do with how the military dispensed with its waste?

So is that being done? Because the Registry is—it is good to sign the people up. You know who they are. But I think that is very limited, what you can do. But are you doing that population study? Because it is laid right out there for us to do. And what do you need to do it? Because I would support that in a heartbeat.

Dr. ERICKSON. Yes, sir. I am picking up exactly what you are saying as it relates to epidemiology because, of course, we would always want to have a comparison group. And the perfect built-in comparison group are those who did not deploy.

Some of the studies, though, actually we might include a second comparison group which involves the civilian population. Of course, we would need to do some types of adjustments. You can do matching, as you know, or post hoc analysis that controls for those differences. But absolutely.

Mr. ROE. Are we doing that?

Dr. ERICKSON. So the large survey studies that were mentioned in the written testimony actually are able to do those comparisons.

Mr. ROE. And what did you find?

Dr. ERICKSON. Most of those are ongoing right now, so it is too early to share all those results. But they are built into the study design to—and it is intended to have those comparison groups.

Mr. ROE. Well, it is the reason I want to go ahead is I got tired of talking about cannabis, medical cannabis. And I said, well, why don't we study it? And it makes sense to me to do that. It has for 10 years. I don't know why we hadn't done it.

But the same thing here. So that study, when will we have that data? Because that will help us a lot up here at the dais to be able to make some decisions about these young people sitting out here in the audience.

Dr. ERICKSON. Chairman Roe, I will get that for you, and for each of those major studies, I will get you the expected completion date. And, of course, the goal is for them to be published in the peer-reviewed literature.

Mr. ROE. Well, I would hope that it would be.

Dr. ERICKSON. Yes.

Mr. ROE. And I think that will be incredibly helpful to us as a Committee going forward to making the decisions we need to make when we get that science-based study out there.

The other thing, and I will bring it up and only just to mention, and I will yield my time back, is that we have a phenomenal opportunity in the next few years when we roll out this combined DoD EHR. If it can do what we need for it to do, maybe not right now—and certainly, you know, my electronic health record was this. I just carry it around. This is the same as Thomas Jefferson's. But I think we have an opportunity to be able to watch a population throughout their entire life from when they are young adults until they pass on. So I hope we do it right and can set that up, because the amount of data we are going to have with this—millions of our American citizens is going to be a treasure trove of information.

So I hope you all can help us with that so, when we are guiding through that, we can use that information.

Dr. ERICKSON. Just if I can quickly say, the individual longitudinal exposure record, which is piloted this fall, will be the initial step in that direction. And through the development of the EHR through Cerner, we are looking to have that same capability carried into the record itself, so it will be permanently available.

Mr. ROE. Well, please help us—any way we can help make that happen, please let us know.

I yield back.

Mr. DUNN. Thank you very much, Mr. Chairman.

And we now recognize Representative Takano from California.

Mr. TAKANO. Thank you, Mr. Chairman.

Dr. Erickson, last month, as you know, the VA entered into a contract with Cerner to support its efforts to modernize its electronic health record system. With the development of a system where VA and DoD may share electronic—or while the development of a system where VA and DoD may share electronic health records, it will directly increase the quality of and access to health care for veterans. It will also significantly improve the development of health care solutions as it will allow for the mining and analysis of data on a much larger scale, so big data. The impact of this type of data collection is likely to have on the VA's research arm will be incredible.

What interactions have either post-deployment health services or Airborne Hazards Center for Excellence had with the EHRM team to ensure that the resulting EHR system is conducive to the collection of data surrounding a servicemember's encounter with hazardous environmental conditions such as open air burn pits?

Dr. ERICKSON. Thank you for the question. Sir, we have a member of our team, in fact, embedded with one of the subgroups that is helping develop the EHR for exactly the purpose that you express.

Mr. TAKANO. Well, my interest is, of course, that we have a more proactive approach to anticipating these sorts of symptoms. And I think if we can trace where somebody's been on Google Maps and navigation systems, we should be able to know where every servicemember has also been and correlate that to place specific kinds of ailments. Am I correct in that?

Dr. ERICKSON. Absolutely. In fact, our goal, the end state, would be that from induction to the point of discharge or retirement from the military, we would then have captured through the lifespan, the military lifespan of that individual, all of those exposures, all of those deployments, all of the medical encounters, both inpatient and outpatient.

Mr. TAKANO. So who would be responsible? Whose responsibility would that be to try and track—to try to correlate a servicemember's service record and any kind of diseases, ailments, or symptoms that there may be a pattern—recognized in that pattern? Is it DoD? Is it the VA research function?

Dr. ERICKSON. This, in fact, is a shared responsibility between DoD and VA. And, hence, the workgroup that I have mentioned to you actively looks to find a common solution. And sometimes, in fact, our studies will track someone from a given unit when they were in uniform to when they entered the VA medical system and points thereafter. So it is actually a responsibility that we share.

Mr. TAKANO. Now, do we know for a fact that the data that I am talking about, the geographic data of where that servicemember's unit was involved, is that integrated into the health record at the DoD?

Dr. ERICKSON. At the present time it is not.

Mr. TAKANO. Do we know if that is part of a future plan?

Dr. ERICKSON. You know, this is something, Representative Takano, that it is under development, and so I can't speak to that in a definitive way. I think this would be certainly a good thing to have. However, I can't confirm that the exact geo coordinates, for instance, would be included.

Mr. TAKANO. Because part of what we have experienced with Agent Orange is, you know, where were these servicemembers? Were they on ships and were they in waters or were they—how far from—and do we know when we use certain kinds of defoliants? It seems to me that when we deploy soldiers, that we have an assessment of the environmental hazards that preexist their deployment but also these burn pits, which also add to the environmental hazards. So it seems to me that we need to have, not only an integrated medical health record that is interoperable between the DoD and the VA, but we need to be able to integrate the data, the geographic data.

Do we need to kind of have a different kind of dog tag to know where these servicemembers actually have been? So I think the technology makes that available—makes it possible. Am I correct?

Dr. ERICKSON. Absolutely. One of the related issues would be classification of certain missions may make that not possible.

Mr. TAKANO. I get that, yes.

Dr. ERICKSON. And, of course, operational security.

Mr. TAKANO. Okay.

Well, I yield back, Mr. Chairman.

Mr. DUNN. Thank you very much, Representative Takano.

Representative Bilirakis, you are recognized for 5 minutes.

Mr. BILIRAKIS. Thank you, Mr. Chairman. I appreciate it very much. Congratulations on your chairmanship. I know you will do an outstanding job. It is great to see a fellow Floridian in the chair.

Folks, I would like to invite our veterans who were exposed to the burn pits to my office, maybe after the hearing, if they'd like to come and share their personal stories, those who are here in the audience. I have seen documentaries and also I have constituents who have gone through this. But I would love to hear from you as well, so please don't hesitate. My office is at 2112 Rayburn.

My first question is for Dr. Erickson. In his statement for the record, Captain Torres recommends establishing a scientific advisory committee to comprehensively review the full spectrum of research on burn pit exposure, independently examining the medical evidence both inside and outside of the VA. Other testimonies mention this similar, they have the similar ideas.

Do you support this idea?

Dr. ERICKSON. Thank you for the question. At the present time, we have a joint action plan with DoD that actually helps us set priorities for this type of research, and so that is a collaborative effort between DoD and VA which, no, it does not include an outside independent body.

Mr. BILIRAKIS. And why not? Why not?

Dr. ERICKSON. I don't know.

Mr. BILIRAKIS. Well—

Dr. ERICKSON. I can tell you this, that we have relied, for the most part, on the National Academy of Medicine to review much of our work. In fact, right now, we are under negotiation with the National Academy to do a new airborne hazards consensus review of our work.

Mr. BILIRAKIS. I just don't understand why we can't have some outside research. I mean, we have got to get in front of this issue, sir. I don't want to see—I don't want to see what happened with our Vietnam vets and the Agent Orange. This is really tragic.

So what I would like to do now is ask Mr. Wiseman and Mr. Porter. I am currently working on legislation that would explore this idea of a separate independent Federal scientific body solely charged with evaluating all the research in this area.

Can you provide any additional insight and will you both work with me on developing this further? And do you agree with me that this should be both an outside and inside medical evidence, obviously the VA but also outside the VA, so we can tackle this issue for our heroes?

Mr. WISEMAN. Well, we would agree with you, Mr. Bilirakis. And your leadership on toxic exposure issues says that you would be a great partner for the VFW.

Transparency is key. For too many years, we were told that there were no servicemembers on the Korean DMZ exposed to Agent Orange prior to April 1, 1968. And documentation has then been declassified and that is why H.R. 299 now includes that section for the Korea DMZ presumptive to start September 1, 1967. It is that type of continued research and transparency that must be had.

I mentioned in my testimony, both written and oral, the need for DoD to be required to share everything. The oversight mechanisms that Congress has in place will help with that. And I will also point to Camp Lejeune where contaminated water was found. It was reviews that found a spike in male breast cancer that led us down that road.

And so absolutely more research. Absolutely more transparency. And absolutely the VFW would be willing to work with Congress because every day is Veterans Day.

Mr. BILIRAKIS. Sir, Mr. Porter.

Mr. PORTER. We would support additional research definitely. The higher quality of the research and data that we can get produced, whether it is private or public, but we need somebody like the VA to be able to pull all that together and corral it so that it can reviewed and have it all in one spot.

The transparency is big to have DoD to be able to share all that information with the VA and the public so that we can know all the facts. So, yeah, we look forward to working with you on that.

Mr. BILIRAKIS. All right. Very good. As far as I am concerned, it is a no-brainer. So I look forward to working with you all and other Members of the Committee.

Dr. Erickson—I know I don't have much time—it seems from the witnesses' testimonies today and from colleagues on the Committee that many of us have concerns about the scientific validity, again, of the open burn registry. In fact, stakeholders in my district have told me it is so poorly designed that it results in data that is virtually useless.

You mentioned the National Academy study, but it is unclear to me how far the VA has gone to implement the recommendations from the study. Based on these concerns, what value do you think the Registry has? And what concrete examples can you give us of how the Registry has been used to advance clinical care for veterans who may have been exposed to burn pits? And I know you have addressed this, but can you address it one more time for us, because this is vital. It is very—

Dr. ERICKSON. Yes. I will try and be very quick and, of course, get back to you with additional information as necessary.

The Registry, I think, excels in allowing members of the service, veterans, to participate in a very difficult issue. So by volunteering, they are participating, they are giving us a lot of information about their experiences, their exposures, their health. Though it is not an epidemiologic study that would have the validity of a well-constructed prospective study, et cetera, it still can generate hypotheses. It can give us leads. It can give us ideas of things that we need to be looking at.

And so as we look at trends, as we cross-reference what is in the Registry with what is, for instance, in the electronic health record for those who are enrolled at VHA, again, that gives us additional ideas of what we need to be looking at, where we need to prioritize our work.

Mr. BILIRAKIS. All right. Thank you very much.

I yield back, Mr. Chairman.

Mr. DUNN. Thank you very much, Representative Bilirakis, for your questions and your comments.

Mr. O'Rourke, you are recognized for 5 minutes.

Mr. O'ROURKE. Thank you, Mr. Chairman.

And Mr. Porter and Mr. Wiseman, thank you for your testimony and for the advocacy of the members of your organizations.

I am just constantly reminded that any progress we make in Congress or on this Committee is thanks to the pressure that you

bring to bear. And I feel that today. And the urgency, just at a personal level, and I think for the Committee, has been raised. And I want to make sure that we are not having yet another meeting on this issue trying to describe why it is taking so long for us to do what is necessary for those who have served this country, and also to the Ranking Member's point, to stop this from continuing to happen. I feel like those are the two basic charges: to make sure that we cared for those who have been exposed and who are suffering and to stop this from happening going forward.

And I know the Chairman of the Full Committee has left, but I love that he reminded us of the example that we have with Agent Orange, and that it took this country more than 40 years to acknowledge our responsibility and our accountability and to pony up and begin to take care of people who we should have decades earlier been there for. Belatedly, but we got it done. And we are about to do that with blue water veterans as well, thanks to those veterans who have shown up at our townhall meetings and forced the issue. So I know that when something happens, it is going to be thanks to your advocacy. And I just want to tell you I am grateful for that.

And to Dr. Erickson, I am really—this is not on you. I am just really disappointed, and the Chairman of the Subcommittee already said this, but I join him in just saying how disappointed I am that the Department of Defense ducked this meeting. They have every reason in the world to be here. Deeply disappointing that they are not. But what I want to know from you is how have they been as a partner?

Your title is chief consultant, Post-Deployment Health, Office of Patient Care Services, Veterans Health Administration, U.S. Department of Veterans Affairs. So your post-deployment, how are you doing in working with the deployment side of the equation? As to the point as you can be.

Dr. ERICKSON. Again, we have a deployment health workgroup which we, on a regular basis, work to discuss these issues.

Mr. O'ROURKE. So let me get to this. You have 144,000 on the voluntary registry out of 3.5 million eligible. Is DoD doing everything within their power to identify those 3.5 million and connect you with them?

Dr. ERICKSON. Representative O'Rourke, I cannot speak for DoD in that regard.

Mr. O'ROURKE. I am asking you.

Dr. ERICKSON. My sense is that they have taken very strong steps to that end, especially as it relates to the point of transition.

Mr. O'ROURKE. Is there something more that they could do?

Dr. ERICKSON. You know, I think all of us could partner to do more. My sense is that, with having a much greater enrollment in the Registry, we will be able to take this much further than we have to date.

Mr. O'ROURKE. Let me ask you this question. So the Chairman, Chairman Roe, referred to his desire to study medical cannabis. And while I support that effort, I also just support allowing doctors at the VA to prescribe it today, because there are doctors who would like to prescribe it today. There are veterans who would like

to receive it. And if those two agree, then let's move forward. I don't need to study it anymore.

Are we at a point now where doctors can begin treating this without more studies and where we can—we have enough information, even if it is not, you know, studied, you know, to the 10th degree. But there are veterans who are saying "I am experiencing this, and I need this help," and there are enough doctors who are saying "I can do the following to help those veterans, and here are the kind of unique conditions that we can respond to."

Dr. ERICKSON. To the degree that a servicemember or a veteran has a defined condition, bronchitis, a type of cancer, et cetera, we certainly will aggressively pursue the normal methods of treatment to the state of the art. As it relates to answering all the questions that are surrounding this from exposure, there is a lot we still need to learn. And we are in that phase right now. We know there is an issue, but we don't have all the answers for causation.

Mr. O'ROURKE. Can we get to like a presumptive status akin to Agent Orange where you just say, look, I was here in Iraq or in Afghanistan at this time, and I can't tell you how many kilometers away from a burn pit I was or the date or exactly what was burned, but I am experiencing this, help me, and the VA is going to help you?

Dr. ERICKSON. With Agent Orange, presumptions came into effect both through legislation, which specified which diseases would be presumptions. Also—

Mr. O'ROURKE. Are you waiting on us to do that?

Dr. ERICKSON. No.

Mr. O'ROURKE. Do you need that statutorily or can you deliver that care?

Dr. ERICKSON. Or that the Secretary would have the authority, through the authority that Congress has provided the Secretary, to say that the level of evidence is sufficient for us to make a presumption. At the present time, we don't have sufficient evidence.

Mr. O'ROURKE. Even if the veteran says, I was here, I experienced this, and there were at least 150,000 other people who have taken the time to register that same complaint, we just don't have enough?

Dr. ERICKSON. We need those answers. We need those six studies that I mentioned. We need those to go to completion. We need to be able to work on a population.

Mr. O'ROURKE. Last question because I am out of time. What is the timeline to have those studies done?

Dr. ERICKSON. Again, I will provide that to you. That will be one of my takeaways.

Mr. O'ROURKE. Give me the ballpark.

Dr. ERICKSON. These can take several years.

Mr. O'ROURKE. So at the earliest, 3 years from today?

Dr. ERICKSON. That is a possibility, but it will vary study to study.

Mr. O'ROURKE. Okay. Thank you, Mr. Chairman.

Mr. DUNN. Thank you, Mr. O'Rourke.

I now recognize the representative from Louisiana, Captain Clay Higgins.

Mr. HIGGINS. Thank you, Mr. Chairman.

I would like to state for all present that it is quite disturbing that DoD is not present. I interviewed a veteran that was exposed to burn pit, a young man from my district, yesterday. He described that the burn pit was run every day and it was about 700 yards from their encampment, their permanent encampment. He stated that the smoke would envelop at times the camp and come into their tents, the large tents, their barracks. What was most disturbing is that he described the smoke as frequently being sort of sticky and was heavy, stayed together.

And this reminded me of my own personal understanding of chemical and biological weapons devised—the gas thereof to be cohesive, and to be heavier than air whereby a large invisible cloud of biological or chemical agent would be deployed.

So, Mr. Chairman, I am quite disturbed that DoD is not here, because I would like to ask them who the genius was that came up with this idea to create—we have essentially—we have essentially as a Nation deployed chemical and biological weapons upon our own troops. Wow.

Dr. Erickson, so as you know, the National Academy of Medicine has found significant limitations to the burn pit registry. It relies on self-reported information. Is that correct?

Dr. ERICKSON. That is correct.

Mr. HIGGINS. Is there any sort of an organized outreach program nationwide through social media, through VSOs, through CBOCs, through VHA facilities? Is there any sort of an organized effort to reach into the veteran population by the VA or DoD?

Dr. ERICKSON. Yes. In fact, all of the above. Within VA, we have environmental health coordinators and clinicians at each of the medical centers which, in fact, for their catchment area try to put the word out. We have educational opportunities through webinars, one of which will be next week and will involve hundreds of providers. We have an e-learning module that is available to civilian providers to instruct them about airborne hazards and about treatment. We have a training conference which is coming up for hundreds of folks who work at our medical centers to that end. I had mentioned Web sites, townhalls, newsletters.

I take to heart your comment about social media. We will do a better job beyond the blogs that we are doing—

Mr. HIGGINS. So there is an understanding that there must be an organized outreach into the veteran communities through existing avenues and pathways?

Dr. ERICKSON. There is.

Mr. HIGGINS. Thank you.

It is also my understanding that the Registry takes a significant amount of time, and that we have nearly 40 percent of the questionnaires are left incomplete, that submissions cannot be made by family posthumously, and that very few veterans choose to follow through with the free medical exam. Is that correct?

Dr. ERICKSON. That is all correct.

Mr. HIGGINS. I ask you, good doctor, how can we properly assess veteran's health and the effects of burn pits on exposed veterans if the quantitative data is lacking?

Dr. ERICKSON. My answer would be that the Registry will not give us the definitive answers. The other six studies which I mentioned, in fact, are the place to go for those answers.

Mr. HIGGINS. Thank you for your answers, sir.

My final suggestion, Mr. Chairman, and to the panel and to the VSOs present, is that the DoD should hear, as the noise of thunder from all of us, that they were not present today. These veterans have been subjected to a great deal of carnage from enemy fire and from occasional friendly fire, as tragic as that may be, in the form of munitions. But to think that we have purposefully deployed burn pits and created chemical and biological fumes and smokes to deploy upon our own troops is very disturbing.

Mr. Chairman, I yield back.

Mr. DUNN. Thank you, Captain Higgins.

I do want to take as a point of privilege on the chair to point out from the testimony that has been submitted that—the DoD testimony, that GAO has estimated 273 burn pits in 2010 in Afghanistan and Iraq combined. In 2016, they found a single burn pit that was operated by the military. However, the disposal of this refuse has been contracted to civilians, presumably local civilians. I know not exactly what they are doing, but some progress has been made. I don't want everybody to think that this is still an active practice. But I share your concern.

And I want to recognize Mr. Correa for 5 minutes for questions.

Mr. CORREA. Thank you, Mr. Chair.

First of all, let me thank Mr. Porter, Mr. Wiseman, and the veterans that are here today for your service to our country. And also, of course, for bringing these most important issues to our attention. And I want to start out by saying that I concur with Mr. Higgins and his comments about the DoD not being here.

But, Dr. Erickson, is the DoD—do you work, coordinate together on these issues? I presume you talk on what has been going on, communication?

Dr. ERICKSON. Yes, Congressman. We talk on sometimes a daily basis, but certainly a weekly basis about these airborne hazards and burn pit issues.

Mr. CORREA. So, you know, at every, you know, conflict that we have had, every war, we seem to have these issues that pop up. Agent Orange, Blue Water Navy, World War II, other issues.

Looking forward, are these registries open to veterans that are now serving, let's say, for example, begin to complain of certain issues? You begin to get these data points, you begin to create information there that maybe indicate that something is going on right now that we are not aware of. Do you keep that data? Is this registry open to everybody or just to the burn pit folks?

Dr. ERICKSON. Congressman, we have seven registries total. The eligibility requirements for the airborne hazards' registry, an individual would have had to have served in OIF, OEF, OND, Desert Storm, Desert Shield, stationed in Djibouti, Southwest Asia theater of operations after August of 1990.

Mr. CORREA. So my question is more of a, kind of a—do you have a situation, a process where if you have a person in the service right now and believes that there is something seriously wrong, where they can report this information so we begin to discover

what is going on right now as it develops? Or do we have to wait years and years to figure out, ah, something was going on in 2018, we should have done something then at the early stages of this development?

Dr. ERICKSON. Congressman, that is a good question, and that would be the responsibility of the DoD to answer that for you. I am sorry.

Mr. CORREA. Do you work with the DoD on—

Dr. ERICKSON. I certainly do.

Mr. CORREA [continued].—on these kinds of processes?

Dr. ERICKSON. But I can't speak authoritatively or directly as to what steps they do take.

Mr. CORREA. I don't want you to answer for them. I am just trying to figure out, if you work with them, if there is a process like that so we can continue or begin to anticipate these issues before they are actually on top of us. And we have so many of our men and women in uniform that have to go through this.

Dr. ERICKSON. Absolutely. In fact, that is our joint aim, is that we could, as a team, actually prevent these exposures, but in lieu of that, be able to detect early the development of disease and disability, to take care of those individuals who so proudly served our country.

Mr. CORREA. I am a little slow here, so can you repeat that to me again? Is that your aim or are we actually taking steps in that direction?

I am not trying to put you on the spot. I am just trying to ask, are you and the DoD working in something that could give us an early indicator of these issues that are kind of before us or is there no process there so that maybe this Committee can begin to address that issue? It is a very simple yes-or-no question.

Dr. ERICKSON. Yes.

Mr. CORREA. Yes, you are working?

Dr. ERICKSON. Yes.

Mr. CORREA. Thank you very much, sir. I have no questions—further questions, sir.

Mr. DUNN. Thank you very much, Mr. Correa.

I now recognize Mr. Mast of Florida for 5 minutes for questions.

Mr. MAST. Thank you, Chairman.

I do want to thank both the IAVA and Representative Gabbard for their work on this issue. I know it has been vigilant, to say the least, and so I do greatly appreciate that.

When I look back on my service, I think one of my least favorite parts of training was when one of my sergeants would yield out, gas, gas, gas. And we would have to do everything we could to get on our MOPP gear and our masks within seconds or whatever timeframe they set in front of us. And what is absolutely disturbing to me is that the chemical attacks that we really needed to fear were those that were coming from within our own camps.

And it is in that that I want to start with asking you a few questions, Mr. Porter. Of all of those veterans that you know of within your ranks, do you know of veterans that were exposed to burning vehicle parts?

Mr. PORTER. That and a whole lot of other things.

Mr. MAST. How about burning tires?

Mr. PORTER. Yes.
Mr. MAST. How about burning bottles?
Mr. PORTER. Certainly. I think, though, that people don't even know what they are exposed to because it is everything burnt all together, so—
Mr. MAST. How about those square green batteries that the military uses in basically everything that is electronic? They burned some of those?
Mr. PORTER. A good chance, yes. Everything from human waste to medical waste to fuel to tires to excess clothing, and all those bottles that 100,000 people in theater, in each theater. They would drink 10 bottles of water a day. That has all got to go somewhere. It is not going to the recycling center in Jalalabad.
Mr. MAST. MRE wrappings?
Mr. PORTER. Sure.
Mr. MAST. Mattresses?
Mr. PORTER. Sure.
Mr. MAST. ChemLights?
Mr. PORTER. Yep.
Mr. MAST. Chemical drums?
Mr. PORTER. Yep.
Mr. MAST. Tarps.
Mr. PORTER. Everything.
Mr. MAST. Movies? Magazines?
Mr. PORTER. Everything.
Mr. MAST. You already mentioned human waste.
Mr. PORTER. Right.
Mr. MAST. I think we could probably sit here all day and list the things that anybody that spent time in uniform has seen burned overseas and the stuff that they had to breathe in constantly, the stuff they had to taste in their food on a daily basis.

These airborne hazards, they do go well beyond just what is burned. I can look back and I can think about those smoke grenade holders that are right next to the driver's hatch on so many of our fighting vehicles. You were expected to put those smoke grenades directly next to where it was that you were driving. The motor pools, lined with vehicle after vehicle that were just running during PMCS, running JPA. Sandstorms, the internal exhaust that you get while you are on a Black Hawk, the CS chambers that you would go into, DU rounds from close air support. All those folks that were working on flight decks, breathing in that exhaust from aircraft. Bases, even here at home, bases that we are tearing down old buildings filled with asbestos and things like that. My fellow bomb technicians who would detonate thousands of pounds of explosives at one time and would be expected to go check out those shot holes afterwards to make sure there was nothing additional laying in there. Airborne hazards there. Of course, the burning oil fields from the times of the Gulf War.

Is there any other experiences that you would wish to share from your membership of those exposures to burn pits?

Mr. PORTER. Well, I don't know very many servicemembers and veterans that are complaining about having to go to these places. You know, from the experience yourself, you put on the uniform and you go where they tell you to go. And you even know that

there is bad stuff in the air and hazards, and a lot worse than that, in the places that we are deployed to.

It is just that the expectation is, by servicemembers and veterans, is that they get taken care of when they come home. And so that is the key, is they are going to go places, they are not going to complain about going those places, but they want to be treated when they return back.

Mr. MAST. I think you are exactly right, Mr. Porter. We do our job and we do it joyfully, even though there is not often joyous things that we are doing. And the veteran should be taken care of joyfully as well.

Mr. PORTER. Yes, sir.

Mr. MAST. I do want to move to you, Mr. Erickson, while I still have a minute here. How many burn pit exposure disability claims have been filed?

Dr. ERICKSON. I actually have that number. My understanding is a little over 9,000.

Mr. MAST. What percentage of the claims are approved for disability compensation?

Dr. ERICKSON. That number, Congressman, I will have to get for you.

Mr. MAST. Okay. What is the most common reason that veterans who have been exposed to these burn pits are being rejected for their disability claims?

Dr. ERICKSON. I will also have to take that for report afterwards.

Mr. MAST. Perfect. I will look forward to hearing your answers on those questions.

Dr. ERICKSON. Certainly.

Mr. MAST. With that, Chairman, I yield back. Thank you.

Mr. DUNN. Thank you very much, Representative Mast, for that very vivid description of the environmental hazards of combat theater. One might almost think you had been there.

And by the way, I think the entire Committee would be very, very interested in seeing the numbers of adjudicated claims and how that played out.

Representative Kuster, you are recognized for 5 minutes.

Ms. KUSTER. Thank you very much, and congratulations. We are pleased to have you on board as our chair.

So I think you can tell by the bipartisan response today how concerned we are. And thank you to the VSOs and to every one present for bringing this issue once again to the forefront.

Just a brief point of personal privilege. In March of 2009, I was in Alaska for a ski race, of all things, during a volcano, Mount Redoubt. And I came home to New Hampshire, having been in the ash for several days, and ended up with several years of pulmonary difficulties: breathing, asthma, et cetera. And it took me a while to piece this all together. It certainly took my doctors at home a while to piece it together. I continue to have asthma-related symptoms because it was crushed glass, is my understanding, coming from—

So this is obviously very different than the experience you all have had, the folks in the room. But my point being, I think there is difficulty in just trying to piece together these kinds of symptoms. And you pointed out, I think, that the pulmonary function test is inadequate.

So I guess I want to hone in on two things. One is this electronic health record and how we can make sure that there are questions asked that specifically tease out what we know to be the constellation of symptoms from illness related to burn pits. Is that part of what this Committee is looking at that is working with the electronic health record?

Dr. ERICKSON. Congresswoman, I think that would certainly be the desired end state. Again, we are just at the front end of the development of that new electronic health record, but I can tell you that these environmental exposure equities are going to be included.

Ms. KUSTER. And I think for us, and what you are hearing from us, and it may take bipartisan legislation that we would draft to put together to say we should have a presumption because I don't see why there is any reason to wait. Obviously, we have got people in the audience today that have complex symptoms, and they should be served. They should be treated.

So the other thing that I am interested in, though, is this epidemiological studies that are going on. And I understand from your testimony that you have requested the National Academy of Science to be involved with this. They have a series called Gulf War and Health. And you have asked that we have a long-term study of health effects of airborne hazards. Can you tell me the status of that particular study and what the conclusions are to date?

Dr. ERICKSON. Yes, ma'am. We are at the front end of that study in that, literally, we are working to draw up that contract right now. We have the authority to work with the National Academy because of legislation that enables us to do that.

We are looking for what is called a consensus study, which involves them putting together an ad hoc committee of blue ribbon subject matter experts from around the United States, and they will review all of the existing literature published, unpublished, they will have public meetings, and they are going to draw this together in the form of a report that we can work with.

Ms. KUSTER. So I guess, let me understand. There are two parts of this, it seems to me. Looking for this direct causal link, which would then, obviously, help us with the presumption and we could move forward. Is there also a medical purpose? In other words, then, pulmonologists will know what they are looking for, for symptoms and they can come to consensus on treatment. Is it two part?

Dr. ERICKSON. There certainly could be. Those of that practice medicine use a term called index of suspicion, and we also use a word called the differential diagnosis.

If, in fact, we know that a given patient has had certain exposures, that cues us to be looking for certain types of things, certain types of disease outcomes. So, in fact, that could enhance treatment.

Ms. KUSTER. So I guess—and I want to share the Ranking Member's concern about the testimony about women veterans, birth defects. You know, look, everybody is suffering, but let's try not to go to a whole other generation here.

How do we convey our urgency for both, for both the causal link, so that we can get to the presumption and make sure people are

served and treated, and as to helping to move forward on the medical treatment?

Dr. ERICKSON. I certainly think that the urgency is underscored by this hearing, and I thank the chair, the Ranking Member, and all the Committee Members for bringing this to the attention of the Nation.

Ms. KUSTER. Well, I want to thank the chair, certainly for your knowledge, and the Ranking Member. And my Subcommittee is the Oversight Subcommittee, but we will continue to work with the Health Subcommittee. And I think this is something that we have got consensus on. We want to move forward. Thank you.

I yield back.

Mr. DUNN. Thank you very much, Representative Kuster.

And now we turn to the Representative from American Samoa, Amata Radewagen, for 5 minutes.

Mrs. RADEWAGEN. Thank you, Chairman Dunn and Ranking Member Brownley for holding this hearing today. And thank you to the panel for your testimony. Thank you all for your service.

Ensuring the long-term health of our veterans is a top priority, and any potential hazards to our Armed Forces need to be addressed swiftly and thoroughly. To that end, I am proud to cosponsor Congresswoman Gabbard's H.R. 5671 and Congresswoman Esty's H.R. 1279. I believe these pieces of bipartisan legislation are good first steps towards addressing this issue, and I hope this hearing will help flesh out other potential steps we can take and address some of the concerns surrounding this problem.

Research and data collection are paramount to understanding a health risk with potential long-term effects, whether it be burn pits or other environmental factors. And I would like to focus my question on the burn pit registry and how it may serve as an informational resource.

So, Dr. Erickson, just so I can better understand, from an epidemiological perspective, what challenges arise when working with data points collected via voluntary health survey and registry such as that used in the burn pit registry? And as time passes, since the initial point of exposure, does research become more difficult? And if so, why?

Dr. ERICKSON. Those are excellent questions. From an epi standpoint, there are two major biases that we are concerned about. One bias is who is volunteering to participate. There is the potential that the most sick individuals, in fact, will participate, and, therefore, then give a nonrepresentative view of who is being affected and who is not.

The second bias involves self-report, in that it is an individual who is reporting their exposures, reporting what they have been told by a doctor they have. And this is not to impugn the character of anybody, but through time, it is true that sometimes, you know, my recollection, perhaps all of us, starts to wane. And so there can be a bias in that regard.

The second part of your question was—oh, with time. Absolutely. We want to get out in front of this. In fact, I hope that the written testimony that we submitted shows that, in fact, VA desires and is getting out in front of this as best we can. There are so many questions to be answered. We have got the studies underway. We

are doing a lot of really good things. Can we do better? Yes, we can do better. We hope to do better. We are looking to do better. But I think what we are doing is, in fact, on the right track. And we need to get to it now. We need to start these studies now. Because you are right, if we waited 10 years, 20 years to start those studies, then that would be Agent Orange all over again.

Mrs. RADEWAGEN. Thank you, Mr. Chairman. I yield back.

Mr. DUNN. Thank you very much, Mrs. Radewagen.

I now recognize Congressman Ruiz from California for 5 minutes for questions.

Mr. RUIZ. Thank you, Mr. Chairman. It is great to be back in my alma mater committee.

I am going to be very quick and to the point. My point is this: If you have a high enough suspicion for a severe enough consequence, then you need to act, and you need to act now.

So, Dr. Erickson, in your testimony, you say, quote, "The evidence for an association between the development of specific respiratory diseases and exposures to combustion products was found to be inadequate or insufficient."

Oftentimes, the VA says that there is no scientific proof between a link of burn pits and long-term health effects. That statement is misleading and very intellectually dishonest, that the VA makes. And I will explain why.

The 2011 Institute of Medicine report is the report that you are telling us that you are commissioning the National Academy of Science to do. I mean, it is not the report. I am saying that they took a blue ribbon group to look at all the other studies and to give us an update of what they thought. And they state, quote: Information that would have assisted the Committee in determining the composition of the smoke from the burn pit and, therefore, the potential health effects that might result from exposure to possible hazardous air pollutants was not available. Specifics on the volume and content of the waste burned at Balad Base as well as air monitoring data collected during smoke episodes were not available.

In addition, the report states that, quote: The available epidemiological studies are inconsistent in quality, were conducted with various degrees of methodologic rigor, and had considerable variations in design and sample size.

So, Dr. Erickson, if this critical data was not available or the studies' methodologies were flawed, is it just as accurate to say that studies fail to prove or disprove a causal link between burn pits and adverse health outcomes?

I don't have much time. I need you to answer.

Dr. ERICKSON. No, it was the complex wording of the question, sir.

Mr. RUIZ. So let me be very clear. There are no studies right now that can prove and there are no studies that can disprove that there is a link between the exposure to burn pits and long-term health effects, correct?

Dr. ERICKSON. I think we need to look at the totality of—

Mr. RUIZ. I am looking at the totality. There is no studies right now. I am a scientist. I am an emergency medicine doctor. I am a public health expert. You know the literature. I know the literature. Are there studies that can disprove that there is no link?

Dr. ERICKSON. I don't think the point, sir, is a matter of disproving, because as you—

Mr. RUIZ. That is the point exactly, because if we cannot disprove, then it is very possible that there is a link between the burn pits and the health effects that our veterans are facing. And if we don't have that information, then we have to go by how we practice in emergency medicine and public health. Meaning, if you have a high enough suspicion, a severe enough consequence, you have got to act. You have got to start taking care of your veterans right now.

So do we have a high enough suspicion? So we have independent research that raise suspicion of a causal link that veterans exposed to burn pits are developing serious respiratory issues, cancers, and autoimmune illnesses.

The same report found dioxins, dioxin-like compounds to be of concerns because of their association to burn pits and because some of the concentrations exceeded U.S. Air Quality standards. We know that dioxin was present in Agent Orange.

The New England Journal of Medicine, a study by Robert Miller from Vanderbilt University, performed lung biopsies in 49 soldiers exposed to burn pits in Iraq and Afghanistan who were healthy before being deployed. 38 of the 49 were diagnosed with constrictive bronchiolitis, a very rare disease.

In another study in Seton Hall University Law School, Center for Policy and Research analyzed 500 veterans who were exposed to burn pits while serving in Iraq and Afghanistan. Seventy-four percent reported respiratory issues, including severe shortness of breath. Twenty-six percent of them had more severe illnesses such as brain cancer, lung cancer, hardened bronchial tubes, and acute leukemia. We have found carcinogens in the smoke, carcinogens in the soil, metals found in lung biopsies in these patients.

There are case studies, like Jennifer Kepner, my constituent, 39 years old, who died of pancreatic cancer. Her oncologist did all the studies, genetic tests, all the other history, exposure history. The only plausible source was exposure to these burn pits.

So, Dr. Erickson, in your testimony, the evidence for an association between the development of specific respiratory diseases and exposure to combustion products was found to be inadequate or insufficient. So would you say these studies and other case examples of veterans like Jen Kepner show a high suspicious enough for an association between burn pits and the long-term consequences?

Dr. ERICKSON. The concern that you are voicing, sir, is in fact the reason that we are asking the National Academy to—

Mr. RUIZ. Great. So you agree with me, there is high enough suspicion for you to pursue these studies.

So now let's ask the question. Is there severe enough consequences? Ask the family of Jennifer Kepner who died from pancreatic cancer; Amanda Downing, who died to adrenal cancer at the age of 24; Brandon Maddick, who died of esophageal cancer at 26. If the outcome is severe enough. Ask the patients sitting in this room if their dyspnea on exertion, their autoimmune disease, their pulmonary fibrosis, their chronic bronchiolitis, and others who are permanently disabled, oxygen-dependent, with broken families, depression, exacerbated PTSD, and possible suicidal ideations.

Do you think that the consequences of this exposure are severe enough?

Dr. ERICKSON. I very much believe that their suffering is real. I very much believe that—

Mr. RUIZ. Great.

Dr. ERICKSON [continued].—the exposures are real.

Mr. RUIZ. So if there is a high enough suspicion with severe enough consequences, we must act. And let's keep in mind, I know we are talking about registries, but registries aren't going to remove cancer in a body. Registries aren't going to provide the health care that the patients need or the benefits that they need. We need to make sure that we give the veterans their treatment, their benefits, and educate doctors and veterans about this right now.

Mr. DUNN. Dr. Ruiz, your comments are well taken. We appreciate that.

Mr. RUIZ. Thank you.

Mr. DUNN. Representative Tulsi Gabbard from Hawaii, you are recognized for 5 minutes for questions.

Ms. GABBARD. Thank you very much, Chairman Dunn, Ranking Member Brownley. I appreciate the opportunity to come and join your Committee on this critical issue.

There obviously are some important pieces of legislation that we are seeking to push through to begin to address some of these issues. It is unfortunate that this remains an obscure issue for too many Members of Congress and too many people who either have not served themselves or have not been directly impacted, to be friends with or related to someone who has.

The fear I know that we hear from fellow veterans is that this will continue to drag on and on. And as soon as you talk about a government study, this is something that can drag on. Meanwhile, people here are suffering from illnesses, and they wonder if they will be alive when these studies are complete.

It is a testament to the importance of this issue that we see VSOs who are here, who have united from across generations to help bring attention to this issue and to make it so it is no longer obscure. It is not only impacting our veterans, but it is impacting their family members.

I want to recognize a military spouse who is in the room, Tori Seal. She has been a strong advocate on this issue. Her husband, Jay, tended burn pits during his deployments and is now suffering from stage IV cancer. Because this issue is not resolved, she is not eligible for any caregiver benefits because her husband was not diagnosed with PTSD or TBI, and his illness is not being recognized as service-connected, even as his specific job, his duty while deployed was to tend to these burn pits directly.

What can be done for people like Tori at this point whose full-time job is caring for her husband who has stage IV cancer?

Dr. ERICKSON. Congresswoman, I am not a benefits expert, and so I will have to get back to you with a more detailed answer. Because there are things to be done, but I don't want to misspeak and misrepresent. I know there are things that are available for surviving spouses.

Ms. GABBARD. Something similar that I heard from another veteran, who is working with Burn Pit 360, this morning was the com-

parison between the types of exposure that our veterans have had deployed throughout the Middle East, Iraq, Afghanistan, Kuwait, elsewhere, both those who were working directly with burn pits and those who were working within the area, as many of us did, living and working and breathing the toxic fumes that came from these burn pits every day, and how similar that exposure is to the multitude of toxins that first responders were exposed to after 9/11.

Congress passed the James Zadroga 9/11 Health and Compensation Act of 2010 to address the very type of thing we are talking about here, where first responders were getting very sick with all kinds of illnesses and cancers and dying at a very early age. And yet they were not receiving the benefits or care or recognition that this is a result of their service.

We shouldn't be re-creating the wheel here, so I am wondering what the VA has done in looking at what has already happened with James Zadroga Act to help with the 9/11 first responders so that we are not starting from scratch and studying something for years that has already been studied in a similar situation and applied and fixed.

Dr. ERICKSON. One area that we could collaborate in, and this would be with all the Members of the Committee, would be that if you have candidate diseases or health care outcomes that you think are tied to exposure to burn pits and airborne hazards, that we would be able to then work with you on that list to see where the evidence is, where it is not. Because I don't think you are looking for any and all health care outcomes and proposed legislation that might match the World Trade Center-type legislation, but I think you would want a defined list.

Ms. GABBARD. So what has the VA done in this respect so that we are not starting from scratch?

Dr. ERICKSON. As I mentioned, we have in our written testimony a number of major studies, six major studies that are underway with DoD. Also, there were attachments in the written testimony which, in fact, provided examples of our published studies. The bibliography that I provided. Also, two lists of additional studies that are currently funded by VA.

Ms. GABBARD. Okay. That doesn't really answer the question as far as an action. You listed a whole bunch of different studies, but as far as what action steps are being taken to make it so that we are recognizing the service-connected illnesses.

Dr. ERICKSON. So specific actions—I apologize for not understanding the question. The specific actions, currently, those who serve in the military and are honorably discharged receive 5 years of health care eligibility, I understand. So that's an open door.

The registry which exists, which we are trying to now encourage additional participation in, provides an entry point where the individual who is participating can ask for a medical exam. So this provides a clinical encounter which is then—

Ms. GABBARD. Excuse me, Dr. Erickson. I appreciate that you are kind of starting from ground zero here. Everyone in this room is aware of kind of the basic benefits that servicemembers are eligible for, but it is not addressing the fact that we have a lot of people in this room and a lot of people who can't be here today who have

tried over and over and over and over again to get that care, and they have been denied. And they have specifically attributed their illness to their exposure to burn pits.

Dr. ERICKSON. As it relates to claims, again, this is not my wheelhouse to discuss claims and how those are processed, but I can put you in touch with those who will be able to answer those questions.

Ms. GABBARD. Okay. Thank you, Mr. Chairman. I think that the attention that you are placing on this issue is so, so, so important. And the only way that we are going to get anything done on this, whether we do it as a body in Congress or whether we work with the VA to be able to help these veterans, either way, I appreciate the urgency and attention that you are placing on this as people's lives hang in the balance.

Mr. DUNN. Thank you, Representative Gabbard.

I will say, I don't want the veterans in the crowds to think that they can't get treated for these illnesses. I think, as I understand it, you can get treatment for these disabilities. What we are having trouble with, the thing that is in limbo is the disability recognition and the rights. I will allow Dr. Ruiz to answer that.

Mr. RUIZ. And, Dr. Dunn, one of the things that we found in the case study of Jennifer Kepner was that they need to report this illness within 5 years.

Many of the presentation of pulmonary fibrosis, autoimmune diseases, cancers, including even PTSD, our veterans don't even understand or develop symptoms beyond 5 years. And so when they get ill, they can't get care from the VA.

Mr. DUNN. Okay. Thank you for that clarification.

And I want to recognize Representative Esty from Connecticut for 5 minutes for questions.

Ms. ESTY. Thank you, Mr. Chairman. And I want to thank all of you for joining us here today.

Mr. Wiseman, it is your second appearance before this Committee today.

Mr. WISEMAN. We are going strong, ma'am.

Ms. ESTY. And again, I want to thank you. As people on the Committee may or may not know, he will be leaving us, his position to go to Virginia and help head things up over there. But I want you to know, I know we would not be here today if it were not for your personal fierce persistent advocacy on this issue.

Mr. WISEMAN. Thank you. And it is going to likely take legislative action by this body. That is how we got Blue Water Navy. That is how we got Agent Orange. That is how we have got so many other things. Congress needs to act.

VA's hands, in their defense, are tied because of Congress's previously passed laws. I am accredited to do VA claims. I will still be doing those. I will still be inside the VFW as a state commander, and I will be happy to come back any time. I thank you.

Ms. ESTY. Well, thank you very much. I am actually the Ranking Member of the disability appeals Subcommittee, so we are very much looking at this. And I think, you know, my colleague, Ms. Gabbard, is right, this is going to require congressional action. And it is completely unacceptable to think that we are going to wait having just now really been wrestling through the Agent Orange

issues, that we would be doing that to the present generation of veterans. It is wrong. We should know better by now. And I know people here know that, but we have to find the will to make that happen.

Shortly after I was elected in 2012, a decorated Iraq veteran in my district came to me, Mike Zacchea. He has written a book called The Ragged Edge. And he experienced the burn pits and saw his colleagues, his men experience them too. And he educated me as soon as I got elected. I wasn't on the Committee. He said, you need to do something about this. You need to understand how important that is.

And since his educating of me over 5 years ago, as everyone on this Committee has seen, you begin to open the door on that and you hear, you hear from people all over your district about it. And I had a niece who served in Afghanistan. This is a real problem.

So a couple of things I wanted to flag. The issue about women's exposure is real and serious, and especially when the consequences, again, may be outside this time period, the exposure and then refusal to cover is unacceptable. And we should do better. Congress needs to do better on that issue.

I have often wondered, if the Defense Department were responsible for paying the bill after the fact, if they wouldn't think a lot more about it before exposing people? Have the payment for those come out of the DoD budget rather than coming out of Veterans' budget and we might be in a different place.

I don't know how we do that, but I will tell you, I think that we need to seriously engage. And again, I will add my voice to the chorus of my colleagues to express our extreme disappointment that DoD did not come today. The fact that they aren't here does not absolve them of responsibility. And they have the opportunity to mitigate this at the time. And we need to get them back to the table, because those serving deserve to have them, their awareness of this at the time that it is happening. It is not their only mission, but it is part of their mission to take care of those who are serving while they are serving. It is the VA's mission to take care of them when they come home or don't come home.

So, again, I know we are looking forward to working with you, but epidemiological studies take a really long time, and people have direct needs right now. So this Committee is committed to moving forward, taking care of the people who are suffering right now, and do what we can to mitigate in the future and reduce the exposures. Try to understand that, but not wait till we have all the answers. I serve on the Science Committee. We will never have all the answers. That should not get in the way of our doing right by the people who wear the uniform.

So again, I thank you for allowing me to join the Committee today for this hearing. I have legislation, as I think you know, on this topic, and have since early on in Congress. And I am really grateful to the Chairman and Ranking Member and the Full Committee's Chairman commitment for us to do whatever we can to address this issue head on and not stick our heads in the sand. Thank you.

Mr. DUNN. Thank you very much, Representative Esty.

With that, we have—all Members of the Committee have asked questions.

I want to extend my gratitude as Chairman to all the panel Members. I think you have all showed a great deal of work and dedication to this. We appreciate you taking your time and sharing your expertise and your personal stories. With the Committee, clearly this is a subject that touches a wide variety, a large number of people. You saw a great interest on the part of the Committee, and I think that you will see that continue. So please keep us in your thoughts. Please keep us informed. And I will tell the panel, you are now excused. And thank you for your service very much.

I ask unanimous consent that all Members have 5 legislative days to revise and extend their remarks and include extraneous material. And without objection, that is so ordered. And this hearing is now adjourned.

[Whereupon, at 4:45 p.m., the Subcommittee was adjourned.]

A P P E N D I X

Prepared Statement of Tom Porter

Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee:

On behalf of Iraq and Afghanistan Veterans of America (IAVA) and our more than 425,000 members worldwide, thank you for the opportunity to share our views, data, and experiences on the matter of burn pits and airborne toxins, what may indeed now be the "Agent Orange" of our generation.

I am here not only as IAVA Legislative Director, but as a veteran of Operation Enduring Freedom who was exposed to a variety of airborne toxins from burn pits and other sources at many locations I was deployed to in Afghanistan and Kuwait between 2010 and 2011. Before I went downrange during that period, I had zero breathing problems and completely healthy lungs. In the first couple of weeks after I arrived in Kabul, where the air is particularly bad, my lungs had a severe reaction and became infected. It was controlled with medication over the next year. However, after re-deploying home, I stopped the medications and symptoms came back and I was diagnosed with asthma as a result of my deployment.

Exposure to burn pits used by the military to destroy medical and human waste, chemicals, paint, metal/aluminum cans, unexploded ordnance, petroleum and lubricant products, plastics, rubber, wood, and other waste has been widespread.

And it is not just those working at burn pits. Search for the "Poo Pond Song" on YouTube and you will hear one Soldier's humorous take on the enormous lake of human waste that tens of thousands of international servicemembers lived, worked, and ate around at our formerly large base at Kandahar, Afghanistan.

You could also learn from the many who have served in Kabul—an enormous city with open sewers and whose population routinely burns dry animal dung to keep warm. Our military serving there get a healthy dose—and are suffering the impacts from breathing airborne feces for extended periods of time. There have been burn pits there as well.

This is to say nothing of the other toxic chemicals and fine particulates our men and women in uniform were exposed to everyday. Our friends around the veteran space, especially those who served in Vietnam, know all too well how detrimental toxic exposures and environmental hazards can be. As Dr. Tom Berger, Executive Director at Vietnam Veterans of America's Veterans Health Council explains, "Vietnam veterans know only too well the health hazards of exposure to toxic chemicals on the battlefield. That's one of the reasons VVA is so involved in this issue—we don't want to see the newest generation of vets go through the same health care challenges we're (still) facing with toxic exposures, especially with our children and grandchildren."

One of our members, Christina Thundathil, a U.S. Army veteran, told us recently of her deployment to Balad, Iraq. Although her specialty was in food preparation, her job in Balad was to drag the full bins from port-o-johns daily, douse the contents with jet fuel, light on it on fire, stir it with her e-tool, then repeat until she had a brick she could then bury in the desert. She's severely injured because of these exposures, and she desperately needs a cure for her ills.

The examples are many. However, little is understood about the long-term effects of exposure to these burn pits and other airborne hazards. With our presence in Iraq and Afghanistan no longer in the headlines, the country must continue investing in the system of care for veterans and their families.

Year after year, we have seen an upward trend in the number of members reporting symptoms associated with burn pit exposure. Eighty percent of IAVA members who responded to our latest survey report being exposed to burn pits during their deployment; over 60% of those exposed report associated symptoms.

Our members have made it clear: 2018 is the year IAVA will educate Americans about burn pits and airborne toxic exposures and the devastating potential impact they could be having on the health and welfare of millions of Post-9/11 veterans and their families.

To see the enormous extent of interest in this issue by veterans, you only need to look at the comments section of any related article, or see our #BurnPits hashtag that has gone viral. These veterans need help now.

The Department of Veterans Affairs has a "Airborne Hazards and Open Burn Pit Registry," which helps VA "collect, analyze, and report on health conditions that may be related to environmental exposures experienced during deployment." Although established in 2014, only 141,000 have completed the registry questionnaire out of the 3.5 million veterans the VA says are eligible to register. Only 1.7% of the post-9/11 veterans eligible to register have done so, and only 35% of IAVA members exposed have.

A definitive scientific link between exposure and specific illnesses has not yet been made, and the Burn Pit Registry is not well-known and is underutilized. The result is that the data on these exposures is not being collected at the levels desired to inform next steps. Until this point, the Department of Defense (DoD) has not taken formal accountability of toxic exposures by theater locations for deployed servicemembers. It is for this reason that IAVA helped to develop new legislation to tackle this problem.

On May 17, the IAVA team stood alongside Iraq War veteran, Congresswoman Tulsi Gabbard, and Afghanistan veteran, Congressman Brian Mast, with the support of 23 other veteran service organizations to announce the introduction of the Burn Pits Accountability Act. The legislation directs DoD to include in periodic health assessments and during military separations an evaluation of whether a servicemember has been exposed to open burn pits or toxic airborne chemicals. If they report being exposed, they will be enrolled in the Burn Pit Registry unless they opt out.

This legislation is bipartisan, commonsense, and simple. It simply does what should have been done long ago—compels DoD to record exposures before the servicemember leaves the military.

IAVA Board Member and retired General David H. Petraeus, who once commanded all forces in Iraq and Afghanistan, in recently expressing his support for this bill, said "Veterans are currently experiencing illnesses that likely are related to exposure to toxins in the war zones and swift action is needed to understand the impact on health of exposure to smoke from burn pits and other sources.

IAVA has supported and does support other VA-focused toxic exposure legislation, and will continue to, but this is a new solution to tackling this enormous problem.

We ask the Committee to hear the calls of the many exposed veterans and get our arms around the problem now so VA can do the necessary research and better support and inform treatment. Congress should enact the Burn Pits Accountability Act THIS YEAR.

Again, I thank the Chairman and Members of the Committee for inviting me to express our members' views on this critical issue. I am happy to answer any questions.

Prepared Statement of Ken Wiseman

Chairman Dunn, Ranking Member Brownley and members of the Subcommittee, on behalf of the Veterans of Foreign Wars of the United States (VFW) and its Auxiliary, thank you for the opportunity to testify on the important topic of burn pits.

The use of open air burn pits in combat zones has caused invisible, but grave health complications for many service members, past and present. Particulate matter, polycyclic aromatic hydrocarbons, volatile organic compounds and dioxins—the destructive compound found in Agent Orange—and other harmful materials are all present in burn pits, creating clouds of hazardous chemical compounds that are unavoidable to those in close proximity.

While the VFW is glad to see that more than 140,000 veterans have enrolled in VA's Airborne Hazards and Open Burn Pit Registry, we are concerned that the results of the National Academies of Science's study on the burn pit registry have not been fully implemented. The findings must be included in forging a path forward for research on conditions caused by exposure to the toxins associated with burn pits. The VFW urges the Department of Veterans Affairs (VA) and Congress to act swiftly on recommendations from this important study.

For example, a similar registry operated by Burn Pit 360 allows the spouse or next-of-kin of registered veterans to report the cause of death for veterans. VA must add a similar feature to its registry to ensure VA is able to track trends. Other improvements include streamlining the registration process, updating duty locations based on records provided by the Department of Defense (DoD), and eliminating

technical glitches to ensure veterans are able to register. Another concern the VFW hears from veterans is the lack of outreach from the registry. Veterans expect to receive notifications or updates from VA on current research and VA's progress to identify and treat conditions associated with exposure to burn pits.

As VA moves to implement the Electronic Health Record (EHR), special attention must be given to ensuring this record can interact with the Airborne Hazards and Open Burn Pits Registry. This will ensure that data follows the veteran from the time of the exposure through discharge and life after the military. It will also allow doctors to provide proper care knowing the full history of the veteran.

Much of a veteran's long-term health is dependent on what happened to them while in the military. Burn pit exposure can cause problems while in service and this information must be shared with VA to ensure proper care is given. While ensuring the EHR communicates with the registry is important, there is also a need for other information to come from DoD. The VFW has long advocated for better sharing of information to include the location of burn pits used, types of materials burned in the pits, data collected by industrial hygienists regarding exposures, data collected from post-deployment health assessments, and all information associated with a medical retirement caused by health conditions related to burn pit exposures.

Such information from DoD will go a long way in ensuring veterans receive the care and benefits they deserve. It would provide for data needed to conduct longitudinal studies which contribute to the existing body of research on health conditions. The VFW continues to hear from members who suffer from debilitating respiratory conditions believed to be caused by exposure to toxic burn pits. The VFW sees the publication from The National Academies of Science, Engineering, and Medicine, Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry, as further proof that a connection between the EHR and the VA's burn pit registry must be made.

The 2017 report noted that there was a connection between burn pit exposure and numerous health conditions including emphysema, chronic obstructive pulmonary disease (COPD), and asthma. However, the report stated that the evidence for this connection was self-reporting by veterans, that further research would be needed to make a more definitive connection, and that medical records would be the best source of the needed information about proper diagnoses of these conditions. The VFW supports this call for further research and inclusion of the veteran's VA medical records in this research.

There are three major areas where the VFW sees a need for action. The VFW has always agreed that science must connect the medical conditions of veterans to their military service. However, ensuring research is properly funded and conducted in an academic manner remains a concern.

The VFW is confident that research conducted with proper scientific methods exists. One such study, New-onset Asthma Among Soldiers Serving in Iraq and Afghanistan, published in the Allergy & Asthma Proceeding and conducted by staff at the VA Medical Center in Northport, New York, found a connection between deployment to Iraq and Afghanistan and asthma among the 6,200 veterans reviewed. Other studies have shown similar evidence of association between pulmonary conditions and exposure to toxic burn pits. That is why the VFW urges VA and Congress to commission a review of the existing body of research on burn pits to determine what conclusions can be made and what research needs to be conducted to find more answers.

While the VFW is glad to see VA has commissioned independent research on the burn pit registry, more independent research is necessary. That is why the VFW supports establishing a Congressionally Directed Medical Research Program (CDMRP) specifically for burn pits. The CDMRP has shown progress in identifying causes, effective treatments, and biomarkers for Gulf War Illness, and the VFW is confident a similar program for burn pits will help exposed veterans finally determine whether their exposure to burn pits while deployed is associated with their negative health outcomes.

An important finding in the Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry is the need for new research methods to be developed. The VFW is concerned about the impact of sampling error on the results of some studies. Specifically, several VA and DoD-sponsored epidemiologic studies compare the difference in pulmonary health conditions between veterans who deployed to Iraq and Afghanistan and those who did not deploy. However, such studies do not control for the realities of deploying to combat zones. Often, the deployed veteran's sample included veterans who were deployed, but whose duties did not require them to work in or near burn pits. Additionally, non-deployed samples include veterans who may have deployed in support of previous operations such as the Gulf War, during which they may have been exposed to other toxins.

Historically speaking, medical research has never exceeded at including women. Another barrier also faced by VA is the need for women veterans to be over-represented in medical research in order to produce accurate and usable results. With this in mind, as well as budgetary restrictions, the data on reproductive outcomes of women veterans who have served is lacking. While there are plenty of anecdotal stories and seeming trends surrounding infertility issues for women who served—be it in combat, surrounded by toxic exposures, or in a training command—there is minimal scientific data.

VA found some preliminary data showcasing that women who have deployed may have higher rates of pregnancy loss and infertility, but the researchers acknowledged that the study did not include enough participants to confidently deem that data as valid. Women veterans deserve to understand how their military service may or may not have long-term effects on their health. As such, the VFW calls on VA to improve research related to the impact of burn pits as they relate to reproductive health issues.

An additional area of concern where research is needed is how burn pit exposure impacts future generations. The biological children of those veterans exposed may face health issues just like the children of Vietnam veterans. There are two significant sections of the law that cover spina bifida and other birth defects, and it was research that connected these conditions. The Toxic Exposure Research Act was designed to provide the type of research needed for connecting conditions affecting children because of their parents' exposure, and the VFW supports funding such research so that care can be provided to those affected.

In closing, the VFW sees that there are more miles in front of us than behind us on the issue of burn pits. We call on VA to take actions under current regulations with regard to the processing of disability claims and research so that veterans and their loved ones get the answers they deserve. We also support additional funding and oversight being provided by Congress to ensure that the research can be conducted in a way that provides these needed answers. Considering the use of open air burn pits is unique to the military, there is no escaping the fact that veterans are sick and dying because of their military service. This is an area where action must be taken.

Mr. Chairman, this concludes my testimony. I am prepared to take any questions you or the Subcommittee members may have.

Prepared Statement of Dr. Ralph L. Erickson

Good afternoon Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee. I appreciate the opportunity to discuss the ongoing research and actions the Department of Veterans Affairs (VA) is taking to identify and care for Veterans who were exposed to burn pits during service in the Armed Forces. I am accompanied today by Dr. Drew Helmer, Director, War-Related Illness and Injury Study Center, New Jersey (WRIISC—NJ) and VA's Airborne Hazards Center of Excellence (AHCE).

Introduction

Exposure to open-air burn pits and airborne hazards during deployment may be associated with adverse health consequences. The collaborative and ongoing efforts of VA, the Department of Defense (DoD), and our partners in academia in the areas of clinical care, research, education, and communications are being fully employed to identify Veterans who may be at risk and to investigate and quantify potential short-term or long-term adverse health effects that may be associated with their exposure to contaminants or toxic substances from open-air burn pits and other airborne hazards. Information obtained through these collective efforts helps inform study designs and, in time, helps advance clinical practice and standards, as medical practice continually evolves based on new knowledge. Simply put, the ultimate aim of these combined efforts is to place us in a position to know how to better limit future deployed units' exposure to potentially harmful contaminants and toxic substances and to prevent the clinical manifestation of any associated diseases, or at least enable us to clinically manage and control progression of any confirmed associated adverse health outcomes in affected individuals.

Open burn pits were used as a common waste disposal method at military sites in Iraq and Afghanistan. They have historically been used in other parts of the world by the military, but the contents of what was burned in these conflict areas, as well as the Southwest Asia environment itself with dust, particulate matter,

burning oil wells, and general air pollution make these recent exposures more complex.

On January 10, 2013, Section 201 of Public Law 112–260 was enacted, requiring VA to establish and maintain an open burn pit registry for certain eligible individuals who may have been exposed to toxic airborne chemicals and fumes caused by open burn pits. As implemented and enhanced by VA, the registry was designed to include Servicemembers who deployed to the Southwest Asia theater of operations (as that term is defined in 38 Code of Federal Regulations § 3.317(e) (2)) on or after August 2, 1990, or on or after September 11, 2001, to include Afghanistan and Djibouti. On June 16, 2014, in response to this mandate, Veterans Health Administration's (VHA) Office of Public Health (now managed by the Office of Post Deployment Health Services) established the Airborne Hazards Open Burn Pit Registry (AHOBPR) for eligible Servicemembers and Veterans. At present, this is VA's fastest growing registry and has over 143,000 participants as of June 2018.

Smoke from open-air burn pits contained substances that may have adverse health effects. Separate and distinct from potential open-air burn pit hazards, ambient particulate matter (PM) was identified as a potential threat to respiratory health early in Operation Iraqi Freedom (OIF). Sampling conducted by preventive medicine personnel deployed to the United States Central Command area of operation typically demonstrated levels of PM (sometimes referred to as particle pollution in public communications) above those the U.S. Environmental Protection Agency's National Ambient Air Quality Standards, which are designed to protect sensitive populations with an adequate margin of safety. A major contributor to ambient PM in Southwest Asia was re-suspension of dust and soil from the desert floor. During Desert Shield/Desert Storm, Operation Enduring Freedom (OEF), Operation New Dawn (OND), and OIF, open-air burn pits were used with high frequency. Burn pit emissions contributed to the total burden of air pollutants, including gases and PM, to which deployed personnel were exposed.

Potential Long-Term Health Effects of Exposure to Open Burn Pits and Airborne Hazards

A 2011 Institute of Medicine Report on "Long-term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan" determined that there is "limited/suggestive evidence of an association between exposure to combustion products and reduced pulmonary function" in the subject populations. The evidence for an association between the development of specific respiratory diseases and exposure to combustion products was found to be inadequate or insufficient. Currently, it is unknown if reduced pulmonary function is a consequence of exposure to PM during deployment or if combustion products exposure during deployment is a risk factor for the development of clinical disease later in life.

VA's Post Deployment Health Services (PDHS) is currently working to match the health records of participants in AHOBPR. This will be a long-term review as many disease processes, such as cancer or chronic obstructive pulmonary disease, may have a long latency period. As mentioned, this is the VA's fastest growing registry, and it was recently critically evaluated by the National Academy of Medicine (NAM). NAM noted that a limitation of this registry is that it is self-reported information and therefore subject to inaccuracies. DoD is making a concerted effort to encourage all eligible Servicemembers who are separating from the service to enroll in the registry during their transition period. Also, the optional Airborne Hazards registry physical examination allows an objective recording of physical manifestations of a condition/illness and current health status. PDHS sends out approximately 5,000 emails and letters a month to encourage completion of the medical exam. An estimated 3.7 million Veterans and Servicemembers are eligible to join the registry.

PDHS continues to review and conduct original research with AHCE located at WRIISC—NJ. Additionally, PDHS has requested that the next consensus report from NAM in the series "Gulf War and Health," (Volume 12) review what is known about the long-term health effects of airborne hazards. We anticipate that these efforts will lead to better understanding of these exposures.

VA and DoD continue to research possible relationships between exposure to open-air burn pits and cardiopulmonary symptoms, such as shortness of breath or decreased exercise tolerance. An illness of particular interest and concern is constrictive bronchiolitis. Constrictive bronchiolitis is a chronic debilitating lung condition and can have many causes including chemical and other environmental exposures, organ transplant rejection, medications, infection, and smoking. Due to an early report of a case series of possible constrictive bronchiolitis, there has been great interest in this condition as a potential explanation for the cardiopulmonary symptoms of Servicemembers after deployment. At this time, there is little evidence

that the diagnosis of constrictive bronchiolitis accounts for more than a tiny portion of the Veterans with symptoms after deployment. There is a growing consensus that the cardiopulmonary symptoms experienced by some Veterans after deployment to Iraq and Afghanistan are due to a heterogeneous collection of conditions that may be either triggered or exacerbated by a variety of contributing factors. VA is committed to continued research to identify any statistically significant associations between this type of exposure and the onset of constrictive bronchiolitis, including the mechanism of injury and dysfunction, ultimately leading us to the identification of more targeted effective treatments for Veterans with associated cardiopulmonary symptoms (beyond what is now available to treat them symptomatically).

Current and Anticipated Future VA Actions

VA and DoD Subject Matter Experts (SME) meet monthly to discuss and plan joint actions for the study of deployment-related exposures and their possible association with subsequent adverse health conditions. Though many deployment-related topics are discussed, airborne hazards and open-air burn pit-related issues are a frequent agenda item. In particular, the VA/DoD Health Working Group Airborne Hazards Joint Action Plan, in support of the VA/DoD Joint Executive Council Strategic Plan, is updated annually by this group.

VA and DoD are also working jointly to improve real-time exposure monitoring of deployed forces and to fully capture of these data in the Individual Longitudinal Exposure Record (ILER) currently under development. Once fully fielded, ILER will match a Servicemember's deployments by date and location with the exposures they have experienced.

In May 2017, VA and DoD gathered 50 SMEs and held the 4th Airborne Hazards Symposium to address the health effects of airborne hazards exposure during deployment to Iraq and other countries in the Southwest Asia Theater of Operations. VA and DoD speakers provided updates on the current status of the environmental exposure assessment, clinical care, surveillance, education, outreach, and research on airborne hazards. Representatives from Veterans Service Organizations provided insight on the needs of Veterans and made recommendations on VA/DoD efforts. Experts actively worked in breakout sessions to identify the challenges, priorities, and gaps in each of these areas. These SMEs also reviewed recommendations from NAM report, "Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry, 2017." This Symposium has allowed VA to develop a cogent direction regarding innovative approaches to research and clinical care.

AHCE at WRIISC—NJ is located at the East Orange Campus of the VA New Jersey Health Care System. AHCE was established in 2013 to provide an objective and comprehensive evaluation of Veterans' cardiopulmonary function, military and non-military exposures, and health-related symptoms for those with airborne hazard concerns. As planned, AHCE has expanded to become the VA's only comprehensive clinical assessment program for airborne hazards concerns of deployed Veterans. However, AHCE reach extends well beyond innovative clinical evaluations, as AHCE has leveraged its experience to educate providers (e.g., national webinars, symposia, fact sheets) and engage the research community (e.g., conference presentations, invited research discussions, publications, and grants).

Regarding clinical care, AHCE at WRIISC—NJ will link the self-reported responses from the AHOBPR online questionnaire to VHA clinical data. Building on this information, the AHCE team will screen targeted participants and gather additional non-VHA medical records. AHOBPR participants with high-priority conditions and exposures will be invited in for a comprehensive in-person clinical evaluation with the option to volunteer for related research projects.

Scientific Research Regarding Open-Air Burn Pit Exposure

The Cooperative Studies Program within the VA Office of Research and Development (ORD) approved funding in 2016 for a large cohort study to examine the potential effects of PM exposure on lung function. The aim of the proposed study is to assess the association of previous land-based deployments to Iraq, Afghanistan, and neighboring regions with current measures of pulmonary health among a study cohort of 4,500 Veterans. The cohort will include a representative sample of U.S. Army, Marine Corps, and Air Force military personnel who served during the OEF/OIF/OND era, between October 2001 and December 2014, and who have separated from the active military.

VA and DoD are working together and in partnership with various private institutions on studies regarding possible adverse health effects related to exposure to open-air burn pits as well as on the use and effectiveness of AHOBPR. A few of these studies include:

- The National Health Study for a New Generation of U.S. Veterans: This population-based epidemiologic study of 22,000 Veterans will determine if the Veterans of OIF and OEF have reported an increased prevalence of health problems and behavioral risks following deployment in combat theaters relative to non-deployed Veterans.
- The Comparative Health Assessment Interview: This study is currently surveying Veterans who served in Iraq and Afghanistan, Veterans who served elsewhere, and a comparison group of civilians to assess environmental and deployment related exposures and health outcomes. Data analysis will begin in early 2019 with preliminary results in late 2019 or 2020.
- The Pulmonary Health and Deployment to Iraq and Afghanistan Objective: This study is intended to assess the association of deployment and potential exposure to airborne hazards during deployment with current measures of respiratory health. The project is funded for May 2016 through September 2022.
- The Effects of Deployment Exposures on Cardiopulmonary and Autonomic Function: The study evaluated cardiopulmonary function in deployed OEF/OIF Veterans versus those deployed elsewhere to determine whether deployment related exposures alter cardiovascular autonomic control.
- The Millennium Cohort Study: Led by DoD, this is the largest prospective study in U.S. military history. It is designed to assess the long-term health effects of military service both during and after service time; 70 percent of the enrollees are now Veterans.
- The Million Veterans Program: This is a VA ORD-funded project that is collecting demographic, medical, and genetic data on 1 million Veterans who receive their care through VA. This study will be invaluable in evaluating the genetic components of respiratory disease risk.

As noted above, more than 143,000 Veterans are enrolled in AHOBPR and an estimated 3.7 million Veterans and Servicemembers are eligible to join. With continued outreach, VA hopes the number enrolling will climb and more individuals will opt to have the Airborne Hazards medical examination, which will allow us to obtain more data. These data will inform current and future study designs and ultimately translate into the clinical sphere, helping us to more fully address the health-related concerns of potentially affected Veterans. Their concerns are, of course, shared by VA, DoD, and Congress.

Investigators at VA ORD PDHS and AHCE have authored or co-authored important peer-reviewed published manuscripts related to the respiratory health of Iraq and Afghanistan Veterans, including comprehensive literature reviews, evaluations of health and exposure concerns, relationships between pulmonary function and deployment-exposure, association of respiratory and cardiovascular conditions with burn pit emissions, and a unique pattern of pulmonary function abnormalities. AHCE researchers collaborate frequently with research entities, such as Northwell Health Systems and National Jewish Health, on joint projects, including presentations at national medical professional meetings.

A bibliography of these scientific articles and other research is submitted to the Committee as an appendix to this testimony.

Conclusion

VA is committed to the health and well-being of our Veterans and is dedicated to working with our Interagency and academic partners determine the best care possible for our Veterans. VA acknowledges the many sacrifices Veterans make in service our country and remains committed to outreach and research on potential adverse health effects associated with exposure during deployment to open-air burn pits and airborne hazards. This information is needed to improve therapeutic approaches to care. VA also remains committed to conduct aggressive outreach about AHOBPR to eligible populations to ensure that these individuals are aware of the benefits of participating in AHOBPR and are informed about the Departments' efforts, both joint and separate, to determine if such exposures are associated with any specific adverse health effects.

It is critical that we continue to move forward with the current momentum and preserve the gains made thus far. To this end, your continued support is essential. Mr. Chairman, this concludes my testimony. My colleagues and I are prepared to answer any questions.

Statements For The Record

BURN PITS 360 (LE ROY TORRES)

Thank you, Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee for today's hearing and for this opportunity to submit a statement for the record.

Introduction

My name is Le Roy Torres, Captain, U.S. Army Reserve (Retired). I am a 2007 Iraq War veteran, and Founder of the Burn Pits 360 veterans organization. My wife Rosie Torres, co-founder and Executive Director of Burn Pits 360 has provided a statement for the record on a previous occasion, but today is especially notable. After a decade of advocacy following my service in Iraq, we are grateful that the Committee today is conducting a hearing on the health consequences of burn pits exposure and investigating how the government is treating veterans suffering from these toxic wounds of war. Today we ask each of you to stand in solidarity with us to honor with substantive measures the lives of thousands of my fellow comrades who lost their lives to the "war that followed us home."

I served a dual role as a Texas State Trooper for 14 years after being discharged from state service and as a Soldier for 23 years before being medically retired. I earned my graduate degree from the University of the Incarnate Word with the hopes of becoming an Army Chaplain. I deployed to Balad, Iraq from 2007 to 2008 where I was exposed to the largest burn pit within the Operation Iraqi Freedom (OIF) theatre of operations. As a husband, a father and a first responder, I have been deprived of my dignity, honor and health. I returned home from war to face a health care system that failed me and an employer too afraid to understand an uncommon war injury resulting in termination of my law enforcement career; subsequently facing foreclosure, while at the same time receiving VA denial letters for compensation for illnesses still not recognized by VA.

Since returning from Iraq, I have had over 250 medical visits and was hospitalized immediately upon returning from the war. In November 2010, I was diagnosed with a debilitating lung condition (constrictive bronchiolitis) following a lung biopsy at Vanderbilt University. My medical doctors determined last month that I have toxic brain injury due to exposure to toxins, likely resulting from my burn pits exposures in Iraq.

For the past decade, Burn Pits 360, which Rosie and I co-founded, has been at the forefront of this issue, advocating for the families of the forgotten and those battling life-threatening illnesses. They stand with us here today and will be standing with us later on the steps of Congress, and many of their personal stories are included in Appendix A, which we encourage you to review with the care that they deserve.

Burn Pits 360 is a 501(c)(3) non-profit veterans organization located in Robstown, Texas.

Our mission is to advocate for veterans, service members, and families of the fallen affected by deployment-related toxic exposures. Burn Pits 360 created and maintains a burn pits exposure registry, which we will discuss in more detail below.

Our organization's impact has included helping to provide impetus to legislation creating the Airborne Hazards and Open Burn Pit Registry (AHOBPR) signed into law in 2013, P.L. 112–260, which also directed a longitudinal burn pits exposure study to be jointly conducted by the U.S. Departments of Defense (DoD) and Veterans Affairs (VA).

We participated in the open comment period for registry revisions submitted to the VA Office of Public Health (OPH), resulting in the addition of constrictive bronchiolitis (CB) to the registry. We presented our registry data to the National Academy of Sciences, Engineering, and Medicine (NASEM) committee created under the 2013 legislation, which resulted in an insightful scientific publication online in 2015 and in a peer reviewed medical journal in 2017. [1] We have presented key statements to the Defense Health Board and have actively participated in every VA/DoD AHOBPR Burn Pit Symposium.

Burn Pits and Health Consequences

Numerous military bases in the Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF) theatres of operation produced several tons to several hundred tons

[1] Szema, Anthony et al, "Proposed Iraq/Afghanistan War-Lung Injury (IAW–LI) Clinical Practice Recommendations: National Academy of Sciences' Burn Pits Workshop," Am J Mens Health, 2017 Nov; 11(6): 1653–1663. https:// dx.doi.org/10.1177%2F1557988315619005

of solid waste per day. Open-air burn pits were the primary waste disposal method during the majority of the duration of these wars in Iraq and Afghanistan. This involved the burning of plastics, medical waste including human body parts, expired pharmaceutical drugs, chemicals including paint and solvents, petroleum products, and unexploded ordinance, which according to some reports may have also included Iraqi chemical warfare agents.

Additionally, some of the burn pits were reportedly built on top of soil contaminated by chemical warfare agents.[2] Due to the unacceptable risk posed by these burn pits to our service members, their use was eventually mostly banned, except under narrow circumstances, in 2010. Tens of thousands of service members have been exposed to toxic chemicals and microfine, highly respirable and dangerous particulates from burns pits and they continue to suffer serious, disabling health consequences upon their return.

A defense contractor stationed at Al-Taqaddum in Iraq from 2006 to 2007—roughly the same time as I was also stationed in Iraq—described the impact of burn pits and their health effects in a published news story: "Burn pit smoke would encircle the entire military base in an enormous dark ring that settled to the ground after darkfall.. A lot of people got rare cancers and died. Any exposed skin and mucous membranes, as experienced by many of us, felt on fire, and burning. Many of us developed shortness of breath."[3]

The wars in Iraq and Afghanistan exposed U.S. service women and men to an unprecedented array of airborne health hazards including from open-air burning in vast burn pits; shock waves and toxic particulates from improvised explosive devices (IEDs), including vehicle-borne improvised explosive devices (VBIED) and those containing chemical warfare agents; and hazardous microfine sand particles.[4] Service members with new-onset, post-deployment respiratory symptoms from these hazards have been labeled as having Iraq/Afghanistan War-Lung Injury (IAW–LI),[5] a term we will also use throughout this document.

Burn Pits Health Consequences Led to Creation of Burn Pits 360's National Registry

In 2010, Burn Pits 360 created a national burn pits exposure registry, joining forces with other affected families who were united by the need to prove the correlation between the veterans' toxic exposures during their deployments and the post-deployment illnesses (that in some cases were resulting in death) that had since plagued them. It appeared to be the only way to convince the federal government that its denials—of the reality of our exposures and resulting health issues, of granting us necessary health care, of approving our claims for needed disability compensation, and, "bottom line," of allowing us the continued right to live—must stop.

Burn Pits 360 continues to manage this registry, which has since grown to about 6,000 participants. This registry also allows registrants the ability to later report a decline in health function, and their survivors to record mortality information including the cause of death.

Here is some of what we now know:

- Air sampling data indicate that smoke from these burn pits contained chemicals associated with cancers, lung diseases, cardiovascular disease, kidney disease, neurological disorders, and more.
- The Burn Pits 360 national registry confirms that the array of devastating health conditions being suffered by exposed veterans include rare forms of cancer, pulmonary diseases, neurological disorders, and many other otherwise-unexplained diseases and symptoms.
- There are over 100 death entry submissions in the Burn Pits 360 registry, including from rare cancers—and from suicide.

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[2] Walker, Lauren, "US military burn pits built on chemical weapons facilities tied to soldiers' illness," The Guardian (UK), February 16, 2016. https://www.theguardian.com/ us-news/2016/feb/16/ us-military-burn-pits-chemical -weapons-cancer-illness- iraq-afghanistan-veterans

[3] Elizabeth Hilpert, quoted by Dan Sagalyn, "Photo essay: The burn pits of Iraq and Afghanistan," November 17, 2014, PBS News Hour. https://www.pbs.org/ newshour/world/ photo-essay-burn-pits-iraq-afghanistan

[4] Szema, Anthony et al, "Iraq dust is respirable, sharp, and metal-laden and induces lung inflammation with fibrosis in mice via IL–2 upregulation and depletion of regulatory T cells," J Occup Environ Med. 2014 Mar;56(3):243–51. https://dx.doi.org/ 10.1097/JOM.0000000000000119

[5] Szema, Anthony et al, "Proposed Iraq/Afghanistan War-Lung Injury (IAW–LI) Clinical Practice Recommendations: National Academy of Sciences' Burn Pits Workshop," Am J Mens Health, 2017 Nov; 11(6): 1653–1663. https:// dx.doi.org/ 10.1177%2F1557988315619005

- Burn Pits 360's registry data demonstrates the national failure to adequately prevent, diagnose, treat, and compensate burn pit-exposed service members and veterans.

Proposed Agenda

There are a number of crucial issues related to burn pit exposure and IAW–LI that we strongly believe the House Veterans' Affairs Committee should investigate and which require the focused attention of the VA. The current lack of clear understanding of the health impacts of these exposures should not circumvent our national obligation to assist every affected military service member and veteran. In particular, we highlight the following important focus areas:

1) Improving the VA's burn pit registry so that it is can be an effective research tool for monitoring and identifying the health consequences of burn pit exposure;

2) Conducting more and better research into the health consequences of burn pit exposures and to develop effective treatments;

3) Establishing evidence-based clinical practice guidelines and a specialized care program for IAW–LI and comorbid conditions;

4) Creating a scientific advisory committee related to burn pit exposures and IAW–LI;

5) Improving VA disability compensation claims for burn pit veterans, including establishing presumption of service-connection for debilitating symptoms and diseases that have been linked to burn pit exposure.

1) Improving the VA's Burn Pit Registry

As noted earlier, in 2013, DoD and VA were directed by Congress to set up a registry to collect information from service members who may have been exposed to toxic chemicals and fumes caused by open air burn pits and other airborne hazards. The resulting Airborne Hazards and Open Burn Pit Registry (AHOBPR) to date has 141,246 registrants who completed and submitted the registry questionnaire.[6]

And, on February 28, 2017, the NASEM committee mandated in P.L. 112–220 (the Committee on the Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry) released its final report, entitled, "Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry." Several key points emerged that we will mention shortly.

First, with a total of over 3.5 million eligible personnel, participation in the VA's registry is far below expectations and there is not yet a clear understanding why. Without a drastic increase in registration, it is difficult to see how the VA's registry can provide an accurate assessment of the health effects of open-air burn pits on our service members and veterans.

Further, our constituents on the Burn Pits 360 registry have raised concerns as to how the VA's registry functions. Currently, there is no way for a service member or veteran to report a decline in health like we allow in our registry. If registrants initially register as having no ill effects from the burn pits but are subsequently diagnosed with a disease or illness, they cannot later add that information to the A registry. This limits the long-term effectiveness of using the VA registry to assess the impact of toxic burn pits on our service members' health over an extended period of their lives and to conduct longitudinal studies regarding the health effects associated with burn pit exposures.

We are also concerned with the participation rate in the VA registry's initial in-person medical evaluation. As we understand it, the evaluation's intent is to have a VA practitioner systematically assess a service member or veteran for symptoms related to their toxic exposures. This would allow for the creation of a fuller picture of the patient's health than can be obtained through the self-reported survey alone. However, according to a presentation given by Stephanie Eber and Susan Santos of the VA, as of April 2017, only 2.8 percent of registry participants have undergone this exam. We have also received reports of inconsistent examinations, diagnoses, and treatments afforded to service members seeking care associated with their toxic exposures.

Another serious shortfall of the VA registry is that it does not allow family members to register the death of registry participants, especially important when there

[6] U.S. Department of Veterans affairs Web site, retrieved June 5, 2018, https:// www.publichealth.va.gov/ exposures/ burnpits/registry.asp Registrants completed and submitted the registry questionnaire between April 25, 2014 and May 1, 2018, including from OIF, OEF, Operation New Dawn, Djibouti since 9/11, and Southwest Asia since August 1990.

is reason to believe the death was a result of toxic exposure from burn pits (ours does). Without tracking the mortality rate through methods such as allowing surviving family members to report deaths and the cause of death, the registry's ability to establish mortality rates related to conditions and diseases associated with toxic exposure is precluded.

Most significantly, the NASEM committee on the assessment of VA's registry stated in its final report: "On the basis of its evaluation of the data, the committee concluded that the exposure data are of insufficient quality or reliability to make them useful in anything other than the most general assessments of exposure potential." [7]

The Committee concluded:

Attributes inherent to registries that rely on voluntary participation and self-reported information make them fundamentally unsuitable for addressing the question of whether burn pit exposures have caused health problems. Addressing the issues identified by the committee would, though, improve the AH&OBP Registry's utility as a means of generating a roster of concerned individuals and creating a record of self-reported exposures and health concerns.

All parties-service members, veterans, and their families; VA; Congress; and other concerned people-would benefit from having a realistic understanding of the strengths and limitations of registry data so that they can make best use of them and, if desired, conduct the kind of investigations that might yield salient health information and improve health care for those affected. [8]

Finally, as of June 4, 2018, the VA's Web site currently states that "VA is working to improve the registry based on recommendations in the report" [9] that was issued more than 15 months earlier. It appears that this sentence of the Web site was recently changed. Previously, the Web site stated, "A workgroup of VA subject matter experts is reviewing the report's nine recommendations to determine ways to improve the health status and medical care of veterans." To date, we are not yet aware of improvements to the VA's registry recommended either by the NASEM report last year or the researchers' recommendations published online in 2015 and in a medical journal last year. [10]

Recommendation. We encourage the Committee to seek answers from the VA for the following important questions, and legislating or otherwise ensuring changes as may be appropriate based on VA's responses:

1. Thousands of veterans who were exposed to toxic smoke from burn pits in Afghanistan and Iraq are coming home and developing serious illnesses like constrictive bronchiolitis, other respiratory conditions, and cancers. Is it VA's position that prolonged exposure to smoke from open burn pits burning of toxic waste can have lasting negative health consequences?

2. The VA has not seriously researched the consequences of burn pit exposure. Congress mandated that VA implement the Registry to monitor health conditions affecting veterans and service members who were exposed to toxic smoke from burn pits and other hazards. But, according to a 2017 report from the National Academy of Sciences, the registry is fatally flawed and ineffective as a way to investigate the true health consequences of burn pits. Will VA commit to reforming the burn pits registry to make it a genuinely useful tool for documenting the true health consequences of burn pits?

3. Who is on the "workgroup of VA subject matter experts" that was reviewing the nine recommendations? What records reflect their work in response to the 2017 National Academy of Sciences report, including their recommendations or determinations?

4. What records reflect the improvements that the VA is considering to the Registry based on the recommendations of the 2017 report?

5. What records exist regarding complaints about the burn pit registry, including complaints from individual veterans regarding the registry?

6. What outreach methods are in place to ensure that service members deployed to Iraq and Afghanistan post-9/11 are aware of the registry and are encouraged to

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[7] National Academy of Science, Engineering, and Medicine (NASEM), Committee on the Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry, "Report Highlights," February 28, 2017. http://www.nationalacademies.org/ hmd/reports/2017/ assessment-of-the-va-airborne-hazards- and-open-burn-pit-registry.aspx

[8] NASEM 2017

[9] ibid.

[10] Szema et al, 2017

register if they believe they have been exposed to toxic matter through open air burn pits?

7. What factors explain the discrepancy between the numbers of service members potentially exposed, versus the number of registrants to the burn pits registry?

8. What is the VA's strategy to increase participation in the registry?

9. Does the VA regularly communicate with registrants?

10. How is the VA gathering data, if at all, to assess change or decline in health among service members, to support a longitudinal assessment? Why would the VA not support including an option for updated reporting in the registry?

11. How is the VA gathering mortality data, if at all, associated with toxic exposures through burn pits? Why would the VA not support including an option for reporting deaths in the registry?

12. What factors explain the low participation rate of registrants with the associated exam?

13. Has the VA adopted a strategy to increase the participation rate in the initial exam?

14. Is there a uniform protocol in place that practitioners who administer the exam are following? If yes, what is the protocol and has it proven effective in recognizing common warning signs and symptoms indicating toxic exposure?

15. What protocol does the VA have in place to ensure that its practitioners are equipped to detect and treat medical issues associated with toxic exposure among registry participants VA examines?

Recommendation. To encourage full Registry participation, Congress should direct VA to conduct a national outreach campaign to include:

- Newsletters to registry participants
- Social media campaigns
- Development of VA registry outreach written materials for distribution in VA and veterans service organization (VSO) facilities, at events, and on all social media sites operated by DoD and VA.

2) Conducting More and Better Research

The VA was directed under P.L. 112–260 to contract for an independent scientific report that would contain the following: [11]

- An assessment of the effectiveness of actions taken by the Secretaries to collect and maintain information on the health effects of exposure to toxic airborne chemicals and fumes caused by open burn pits.

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[11] PUBLIC LAW 112–260–JAN. 10, 2013 126 STAT. 2423—SEC. 201. ESTABLISHMENT OF OPEN BURN PIT REGISTRY.
(b) REPORT TO CONGRESS.-
(1) REPORTS BY INDEPENDENT SCIENTIFIC ORGANIZATION.- The Secretary of Veterans Affairs shall enter into an agreement with an independent scientific organization to prepare reports as follows:
(A) Not later than two years after the date on which the registry under subsection (a) is established, an initial report containing the following:
(i) An assessment of the effectiveness of actions taken by the Secretaries to collect and maintain information on the health effects of exposure to toxic airborne chemicals and fumes caused by open burn pits.
(ii) Recommendations to improve the collection and maintenance of such information.
(iii) Using established and previously published epidemiological studies, recommendations regarding the most effective and prudent means of addressing the medical needs of eligible individuals with respect to conditions that are likely to result from exposure to open burn pits.
(B) Not later than five years after completing the initial report described in subparagraph (A), a follow-up report containing the following:
(i) An update to the initial report described in subparagraph (A).
(ii) An assessment of whether and to what degree the content of the registry established under subsection (a) is current and scientifically up-to-date.
(2) SUBMITTAL TO CONGRESS.-
(A) INITIAL REPORT.-Not later than two years after the date on which the registry under subsection (a) is established, the Secretary of Veterans Affairs shall submit to Congress the initial report prepared under paragraph (1)(A).
(B) FOLLOW–UP REPORT.-Not later than five years after submitting the report under subparagraph (A), the Secretary of Veterans Affairs shall submit to Congress the follow-up report prepared under paragraph (1)(B).
https://www.gpo.gov/ fdsys/pkg/PLAW–112publ260/pdf/PLAW–112publ260.pdf

- Recommendations to improve the collection and maintenance of such information.
- Using established and previously published epidemiological studies, recommendations regarding the most effective and prudent means of addressing the medical needs of eligible individuals with respect to conditions that are likely to result from exposure to open burn pits.

To date, it is unclear to us whether this has happened. Certainly VA has not yet determined the "most effective and prudent means of addressing the medical needs of eligible individuals with respect to conditions that are likely to result from exposure to open burn pits."

Recommendation. We encourage the Committee to provide continued oversight with regards to the status of this report and the implementation of its recommendations.

According to VA's Web site, NASEM's 2011 report, Long-Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan, "found limited but suggestive evidence of a link between exposure to combustion products and reduced lung function in various cohorts similar to deployed Service members, such as firefighters and incinerator workers. This finding focused on pulmonary (lung) function, not respiratory disease, and noted that further studies are required. There is little current scientific evidence on long-term health consequences of reduced lung function." [12]

VA goes on to say, "VA and the Department of Defense will conduct a long-term study that will follow Veterans for decades looking at their exposures and health issues to determine the impact of deployment to Iraq and Afghanistan. Read the February 4, 2013 notice in the Federal Register to learn more."

It has been more than five years since VA announced it planned to conduct this long-term study. VA has had ample opportunity to conduct it.

Recommendation. We encourage Congress to mandate an independent epidemiologic research study—outside of VA, which has already had ample opportunity to do so—that will help to more formally identify the association our Burn Pits 360 Registry has already shown between burn pit exposure and resultant health conditions and deaths.

Such research should include determining the incidence and prevalence of IAW–LI and other potentially related health conditions in: (1) military service members and veterans currently in treatment for post-burn pit exposure health complaints; (2) Iraqi local populations similarly exposed to U.S. burn pits; (3) healthy control populations of Iraq and Afghanistan War deployed and non-deployed era service members/veterans.

Recommendation. We encourage the Committee to seek answers from the VA for the following important questions, and legislating or otherwise ensuring changes as may be appropriate based on VA's responses:

1. Which specific office(s), working group(s) or people are assessing the adequacy and effectiveness of data gathering and surveillance of the health consequences of burn pits?

2. Does VA have any unpublished studies, reports, or similar documents regarding health effects of burn pits?

3. How does VA review, assess, and assimilate studies into (i) its assessment of the long-term health consequences of burn pits and (ii) its screening for potential burn-pit related disease and (iii) its treatment for burn-pit related disease?

4. What records exist that would reflect VA's assessment of such studies (including, potentially, internal correspondence, memos, etc.)

5. What internal assessments, memos, or other documents underlie the VA's determination that "At this time, research does not show evidence of long-term health problems from exposure to burn pits."

6. Which specific office (or which officials) are involved in internal reassessment or reevaluation of VA's determination that there is currently no evidence of long-term health problems? What records exist that would reflect any such ongoing assessment or evaluation?

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[12] U.S. Department of Veterans Affairs Web site, retrieved June 4, 2018: https://www.publichealth.va.gov/ exposures/burnpits/health-effects-studies.asp

7. The VA's "fact sheet" on burn pits, which describes ongoing research into the health effects of burn pits and the inconclusive nature of prior research. The last time we reviewed it, that fact sheet was last updated in November 2013 and only referred to studies from 2009 and 2011. Which specific office (or which officials) are involved in reassessing the statements in that fact sheet in light of more recent research? What records exist that would reflect potential reassessments or updates of the fact sheet?

DoD–CDMRP Burn Pit Exposure Medical Research

As many of the members of this Committee know from past hearings on another toxic exposure issue, Gulf War Illness, many ill Gulf War veterans are encouraged by ongoing treatment research directed by Congress, including by many of you and other leaders and Members of the House Veterans' Affairs Committee. Specifically, that treatment research is being done by the Gulf War Illness Research Program (GWIRP), part of the Congressionally Directed Medical Research Program (CDMRP) that is funded under the Department of Defense (DoD) health budget.

Like the GWIRP, many of the health research programs within the CDMRP are standalone programs. However, others are congressionally designated topic areas within broader programs like the CDMRP's Peer Reviewed Medical Research Program (PRMRP). The specific topic areas to be pursued are determined by Congress each year through annual Defense appropriations.

For Fiscal Year 2018, there are several medical research topic areas in the CDMRP–PRMRP that remain of strong interest to veterans affected by burn pit exposure, including: Acute Lung Injury; Burn Pit Exposure; Constrictive Bronchiolitis; Lung Injury; Metals Toxicology; Mitochondrial Disease; Pulmonary Fibrosis; and Respiratory Health. We are grateful to Congress for including all of these research topic areas, particularly the restoration of the Burn Pits Exposure topic area.

CDMRP is important for this treatment-focused research for several reasons. First, CDMRP has the ability to fund any qualified research team, not just those employed by the funding agency. By contrast, VA's medical research program is solely intramural and open only to VA-employed researchers. Much of the valuable medical research related to burn pits exposure has been led by researchers at independent, academic medical centers including Vanderbilt University, Stony Brook University, the Deployment-Related Lung Disease Center at National Jewish Health, and others.

Second, CDMRP includes in all levels of planning, proposal review, and funding decisions the active participation of consumer reviewers—patients (or their caregivers) who are actually affected by the disease. This is of critical importance. VA offers no opportunity for similar involvement in research decision-making by the patients who are ultimately affected by such decisions.

Finally, CDMRP has already shown its effectiveness with regards to other complex post-deployment, toxic exposure health conditions including traumatic brain injury (TBI) and Gulf War Illness (GWI), including through its emphasis on collaboration, treatment focus, and effective two-tiered peer review.

Recommendation. We encourage Members of the Committee work to create a Congressionally directed standalone Burn Pits Exposure Research Program (BPERP) within the Congressionally Directed Medical Research Program (CDMRP), modeled after the successes of other CDMRPs including the treatment-focused Gulf War Illness Research Program, as follows:

A standalone burn pits exposure CDMRP would ideally be laser-focused on improving the health and lives of veterans suffering the negative health effects of burn pit exposures and on learning all that is possible from their health experiences to help future veterans similarly exposed. Like the existing standalone CDMRPs, the proposed Burn Pits Exposure Research Program would have its own dedicated staff, focused exclusively on advancing the Congressional directives related to this burn pit exposure medical research program. Ideally, it would be focused on several major areas to more rapidly improve the health and lives of veterans affected by burn pits exposure:

- Accelerating the development of treatments and their clinical translation for Iraq/Afghanistan War Lung Injury (IAW–LI) and comorbid associated conditions
- Improving scientific understanding of the pathobiology resulting from burn pit exposures, including in both affected veterans and in animal models of burn pit exposures, and including research priorities to identify biomarkers of exposure, biomarkers of exposure effect, and biomarkers of illness—all critical in improving the definition and diagnosis, disease monitoring, and monitoring of the effectiveness of tested treatments of veterans affected by burn pit exposure

- Assessing comorbidities, including the incidence, prevalence, early detection and diagnosis, treatments for, and any unique factors related to burn pits exposed veterans': constrictive bronchiolitis (CB/OB), pulmonary fibrosis, sarcoidosis, chronic obstructive pulmonary disease (COPD), post-exertional asthmas, and other respiratory diseases; cancers including lung cancer, leukemia, glioblastoma and other brain cancers, renal cancer, and other cancers
- Identifying force health protection prevention measures to prevent future burn pit exposures, and to provide early assistance to future military service members exposed to burn pits?
- Using other CDMRP successes as a model, investing appropriated medical research funding to develop a collaborative, inter-institutional, interdisciplinary burn pits exposure research consortium, while investing other appropriated medical research funding to support focused medical research in the areas described above

We understand the process for fiscal year 2019 Defense appropriations has already moved forward. However, we have seen there is great value in having a project like this led by Members of the House Veterans' Affairs Committee. We would be pleased to work early next year with any Members interested in creating, on a bipartisan, bicameral basis, a cosigned request for fiscal year 2020 funding to create such a Burn Pits Exposure Research Program.

3) Establishing Evidence-Based Clinical Practice Guidelines and Specialized Treatment

According to a recent search of VA's Web site that appears to list and link to all of the existing VA/DoD Clinical Practice Guidelines, VA and DoD have not yet developed evidence-based Clinical Practice Guidelines (CPG's) for health care providers to know how to identify, evaluate, treat, and refer patients with IAW–LI or other conditions that may be associated with exposure to burn pits.[13] At least one other VA/DoD CPG has come under harsh fire in a 2013 hearing before this Committee for not being evidence-based, and worse.[14]

There remains an unmet need of adequately educating primary care clinicians in the evaluation and treatment of burn pit related physical illness, including in DoD, VA, and civilian health care environments. There also remains an unmet need of describing evidence-based treatment recommendations for IAW–LI (including post-exertional shortness of breath and diagnosed respiratory conditions), toxic brain injury, and all disease and illnesses associated with deployment toxic exposures including from burn pits.

IAW–LI is debilitating to the affected veterans. This war-induced disease impacts multiple dimensions of everyday life, such as the ability to perform one's job and the ability to exercise. Research has shown that service members and veterans suffering from this war-related lung injury have new-onset asthma or fixed obstructed airways. Research has also reported titanium bound to iron in fixed mathematical ratios of 1:7, which is extremely rare in nature, in the lungs of soldiers, suggestive of an anthropogenic, man-made source. In more severe cases, these service members developed severe respiratory disability that required a lung transplant. IAW–LI has been shown to be long-term and does not improve, even though some of these veterans were exposed in 2003—fifteen years ago. Yet almost counter intuitively, symptoms as severe as these are not detectable by routine testing and require sophisticated specialty care.

Currently, there are no evidence-based treatments available for this disease process, but researchers are investigating several candidate medications in development, which have been found to reverse IAW–LI injuries in mice exposure models. ??Because of the VA's dereliction of duty to this matter for the last fifteen years; it is our generation's Agent Orange.

IAW–LI sometimes is not easily diagnosed by physicians, because many are still unaware of this injury. Also, it is difficult for suffering patients to realize what their symptoms are because this is an unconventional disease. Many believe the symptoms are attributed to Post-Traumatic Stress Disorder (PTSD), not IAW–LI. Sophisticated tests such as impulse oscillometry and analysis of lung tissue for metals are only available at Quaternary Care Medical Centers. Quaternary care is very specialized and highly unusual and not offered at most medical facilities.

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[13] U.S. Department of Veterans Affairs Web site, retrieved June 5, 2018: https://www.healthquality.va.gov

[14] U.S. House Committee on Veterans' Affairs, "Persian Gulf War: An Assessment of Health Outcomes on the 25th Anniversary," https://veterans.house.gov/ calendar/ eventsingle.aspx?EventID=1104

Recommendation. Congress should mandate that VA create evidence-based clinical practice guidelines for IAW–LI that are appropriate for DoD, VA, and non-VA health care providers to be able to identify, evaluate, treat, and refer patients with conditions that may be associated with exposure to burn pits including IAW–LI and comorbid cancers, respiratory, and other diagnosed diseases.

VA Clinical Care: Establishing a Specialized Health Care Program

Develop deployment related toxic exposure specialty clinic within the VA health care systems. Currently veterans are being misdiagnosed and symptoms are being dismissed as psychosomatic and not for the true illnesses they are suffering from.

Recommendations. We ask that Congress query VA leadership: Will VA commit to establishing a dedicated research center to study and develop treatments for health conditions resulting from burn pit exposure?

4) Develop a Burn Pits Exposure Scientific Advisory Committee

Currently, no federal advisory committee exists that is specific to burn pits exposures. And, there are few opportunities within current DoD and VA activities that allow for burn pit exposed service members and veterans to actively participate in making recommendations related to research or policymaking that directly affects their well-being.

Recommendation. Congress should mandate the establishment of a federal scientific advisory committee to provide a comprehensive review and recommendations on the full spectrum of burn pits exposure research. It should include several VA, DoD, and independent scientific researchers and clinicians who actively work on burn pits exposure research or clinical care, and should include several clearly representative, affected service members, veterans, and their survivors. Its activities should include review the experiences of affected service members and veterans, and scientific and medical evidence in order to make recommendations to DoD, VA, and possibly also the Department of Health and Human Services (HHS).

5) Improving VA Burn Pits Exposure Claims

VA's Compensation and Pension Manual, M21–1MR, provides guidance for adjudicating claims resulting from various toxic exposures. The relevant section, entitled, "Service Connection for Disabilities Resulting from Exposure to Other Specific Environmental Hazards,"[15] at least partially governs VA's burn pits exposure-related compensation claims. Relevant identified hazards include "large pit burns throughout Iraq, Afghanistan, and Djibouti on the Horn of Africa" and "particulate matter in Iraq and Afghanistan."

VA Training Letter 10–03, identified in the manual, provides more specific policy guidance on processing burn pit claims.

Additionally, after the 1991 Gulf War, Congress enacted statutory directives at 38 U.S.C.§ 1117, which addressed a range of disabilities in veterans who served in Southwest Asia. VA then promulgated its regulations at 38 C.F.R. § 3.317. Although rarely applied correctly by VA, the law provides for presumptive service connection for a "qualifying chronic disability." A qualifying chronic disability means a chronic disability resulting from "an undiagnosed illness" (UDX) or "a medically unexplained chronic multi-symptom illness [CMI] that is defined by a cluster of signs or symptoms, such as: (1) chronic fatigue syndrome; (2) fibromyalgia; (3) functional gastrointestinal disorders" [including irritable bowel syndrome (IBS)]. If a veteran's disability pattern is either one of these, then VA must grant service connection based on § 3.317. Veterans with burn pit exposure who served in the Southwest Asia theatre of operations (which does not include Afghanistan or Djibouti) anytime from August 1991 the present may also qualify to have their claims adjudicated under these provisions.

VA should have little problem establishing exposure in burn pit cases because nearly every forward operating base (FOB) in Iraq, Afghanistan, and Djibouti had a burn pit. Given the widespread nature of the burn pits, and the inability of military personnel records to identify all duty locations, VA adjudicators are generally supposed to accept the veteran's lay statement of burn pit exposure as sufficient to

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[15] U.S. Department of Veterans Affairs, Veterans Benefits Administration, M21–1MR, Part IV, Subpart ii, Chapter 2, Section C, Topic 12, "Service Connection for Disabilities Resulting from Exposure to Other Specific Environmental Hazards." https://www.benefits.va.gov/ WARMS/ docs/admin21/m21—1/ mr/part3/subptiii/ ch05/pt03—sp03—ch05—secj.doc

establish the occurrence of such exposure if the Veteran served in Iraq or Afghanistan.

VA Claims: Medical Diagnosis and Adjudication Practices

At times, VBA staff have exhibited confusion about relevant diagnosis for veterans with burn pits exposures. Confounding burn pit claims with Gulf War Illness claims, they have returned documentation explaining that service-connection could not be granted because the veteran did not have an undiagnosed illness (UDX) or a medically unexplained chronic multi symptom illness (CMI). These are complex regulations that VA has systemically failed in correctly applying to the appropriate cases.

Burn Pit related claims are not the same claims as under the Persian Gulf War regulations. Claims based on the Gulf War regulations are granted, if at all, on a legal presumption that the disability is related to service in Southwest Asia. Whereas, claims based on OIF/OEF exposures, such as burn pits, are granted, if at all on a direct basis (i.e., event or exposure during service; diagnosed disability; and, a medical nexus between the two.)

There are times, however, when VA claims staff appropriately apply both sets of rules. A good example is when a veteran who served in Iraq after September 11, 2001 files a service connection claim for a disability that could satisfy the "qualifying chronic disability" requirements of 38 C.F.R. § 3.317 but is also a disability that may be directly related to exposures in Iraq after September 11, 2001, such as burn pits. In such a case, VA should consider both sets of rules separately and then grant the veteran's claim under whichever is of greatest benefit to the veteran.

Recommendation. The Committee should request detailed information from VA on the gaps and overlaps between the application of these two types of claims adjudication processes for veterans with burn pits exposure and resultant disability.

VA Claims: Adjudication Issues

Most disability claims require a medical examination from a VA practitioner or contracted VA examiner. In burn pit claims, these so-called Compensation and Pension (C&P) exams are very important because VA has not yet acknowledged a medical nexus between burn pit exposure and the disabilities burn pit veterans are experiencing. Often, the veteran's only chance to show a medical link between their symptoms and contact with burn pit emission is a medical opinion issued by one of these C&P examiners.

This makes it all the more troubling that VBA staff so routinely fail to follow VA guidance on requesting C&P exams for burn pit exposure claims. When they do follow the guidance, the only training C&P examiners receive on burn pit emissions is a one-page "fact sheet" produced by VBA when it issued Training Letter 10–03.

VBA staff also frequently neglect to send the minimalist fact sheet required for all C&P exam requests pursuant to VBA's M–21 procedural manual. This leaves examiners with little to no information about which chemicals have been detected in burn pits emissions, how burn pits were operated, and other potentially critical medical information.

Most examination reports serve little more purpose than to reveal the person conducting the examination has no experience in burn-pit related claims or are simply not aware they even exist. The status quo answer in response to requests for VA medical opinions is quickly becoming that VA has not found the particular veteran's disease process is caused by service in Southwest Asia. Such opinions rarely acknowledge the claim is even burn pit related, much less provide any analysis on the chemicals produced by the burn pits in relation to the veteran's disability.

If a veteran files a disability claim within a year of their separation from service, a C&P exam is generally ordered for all claims. A year or more after a Veteran's separation, C&P exams are ordered if the claim meets a certain threshold of evidence. VBA usually manages to verify exposure and thus request an exam in burn pit cases. But confusion about burn pit claims has led to mistakes that could prevent or delay the ordering of a C&P exam. Or, if the wrong type of exam is ordered, a second exam may need to be requested. Veterans often have to wait months to get an exam due to the longstanding backlog of disability claims.

In developing for a medical nexus between burn pit exposure and the veteran's diagnosis, VBA staff have ordered medical examinations for the wrong condition (often Gulf War Illness related). Or, when claims staff ordered the correct exam, they have requested medical opinions from examiners who, by VA's own standards, are unqualified to give them-for example, physicians assistants (PAs).

Inadequacy of training on burn pits exposure and Gulf War claims appears to be a deciding factor in the negative outcomes veterans are experiencing with these claims. This inadequate training appears to extend from VHA and contractor medical examiners to VBA claims adjudication staff.

These errors and confusion in the development process have led to unnecessarily long wait times for veterans suffering from often debilitating, and sometimes life-threatening, disabilities resulting from their burn pits exposures.

Recommendation. Congress should make necessary statutory changes to ensure appropriate outcomes for burn pits exposure claims, including mandating training (and ensuring the appropriateness of that training) for VHA and contractor medical examiners and VBA claims adjudication staff.

VA Claims: Tracking Burn Pit Claims

Despite establishing the Airborne Hazards and Open Burn Pit Registry where veterans can self-report burn pit exposure and related symptoms, VA does not adequately identify or track VA compensation claims related to burn pit exposure. VBA frequently uses "Special Issue Identifiers" to track certain types of claims. Claims related to military sexual assault, for example, would be marked so that VBA staff or VHA researchers could see claim-specific trends in wait times, approval rates, etc.

In VA Training Letter 10–03, VBA staff are instructed to use the only identifier pertaining to exposure claims: "Environmental Hazard in Gulf War." This identifier covers a range of exposures too diverse to draw any statistical conclusions about burn pit claims.

Without a tracking system, veterans' advocates are left in the dark. We don't know how many burn pit-related claims have been submitted, how many have been denied, which medical issues are being reported, or how long veterans are waiting to get an answer. Importantly, we cannot confirm that burn pit claims are being incorrectly processed in a systemic way, as it often appears.

Recommendation. Congress should mandate that VA track and report on a quarterly basis all relevant data for VA compensation claims related to burn pit exposure, including numbers of claims submitted, approved, denied, reasons for denial, and numbers of claims denied per reason for denial.

VA Claims: Establishing presumptions of service-connection

Among the serious diagnosed medical conditions identified in service members with IAW–LI is an extremely rare, irreversible, and often fatal respiratory disease called constrictive bronchiolitis (CB) and sometimes also called bronchiolitis obliterans (OB). The medical literature reveals CB/OB to be caused by occupational exposure to diacetyl ("popcorn lung"), in Iranian survivors of Iraqi sulfur mustard (mustard gas) attacks during the 1981–88 Iran-Iraq war, and in OIF/OEF veterans.

Currently, CB/OB can only be can only be identified by a highly invasive lung biopsy conducted under general anesthesia, though medical research is currently underway in the Congressionally Directed Medical Research Program (CDMRP) that if successful would allow for non-invasive diagnostic methods.

Biopsies have been performed on numerous OEF/OIF Veterans whose worsening breathing problems including shortness of breath, especially following even limited exertion, could not be diagnosed by traditional tests, such as x-rays, CT scans, MRIs, or pulmonary function testing. Lung biopsies have returned a positive diagnosis for CB/OB in approximately 90 percent of these cases.

There are several issues of concern here. First, we are hearing from veterans that VA is not currently service-connecting their CB/OB without a confirmatory biopsy.

And, even with such confirmation, VA often denies service-connection on the basis of lack of proof of in-service causation. For veterans without a confirmatory biopsy of CB/OB, it is nearly impossible for them to get VA (or DoD) to provide one.

And, veterans returning without a formal CB diagnosis but with debilitating post-deployment respiratory and other chronic symptoms, which for many veterans developed while they were still deployed, far too often are denied by VA for service-connection.

In short, VA's requirements for these debilitating post-deployment respiratory conditions are nearly impossible for most veterans to meet, despite their serious disability. By contrast, the U.S. Social Security Administration (SSA) has added CB as a Compassionate Allowance after medical research identified the disease as causally related to environmental toxins, including burn pits, in Iraq and Afghanistan. Not so with VA.

Additionally, many of Burn Pits 360's members and constituents have been diagnosed with unexplained cancers, including an array of leukemias, brain cancers, and other cancers. Many of these veterans are young. Many have died, without compensation or appropriate VA assistance for themselves or their survivors.

Recommendations. We ask that Congress amend Title 38, United States Code, to:

A.) Provide a presumption of service-connection for VA compensation for symptom-based respiratory disability in veterans exposed with presumed exposure to these airborne hazards;

B.) Provide a presumption of service-connection in cases where the veteran has been given a diagnosis of CB/OB or other debilitating respiratory diseases, including chronic obstructive pulmonary disease (COPD), post-exertional asthma, pulmonary fibrosis, and other diagnosed respiratory conditions;

C.) Provide a presumption of service-connection in cases where the veteran has developed any of the array of post-deployment cancers that we have identified in these veterans.

6) Legislation

We urge Congress to introduce a health care and compensation act.

APPENDICES

Appendix A: Burn Pits 360 Registry Testimonies

Appendix B: Medical Opinions

Appendix C: Burn Pits 360 Staff Biographies

Appendix D: Burn Pits Photos (Upon Request)

APPENDIX A: Burn Pits 360 Registry Testimonies

The following are testimonies of service members, veterans, and Gold Star families affected by this generation's Agent Orange. They are written in their own words.

Greg (Caro, Michigan)

Mrs. Torres, I talked to you a couple of years ago when my health really started getting bad. Well, here I am and my health is more than bad. I am standing at deaths door, my lungs are shutting down and the VA will do nothing. I would just appreciate if you would help my wife Theresa and my son Travis after I am gone...help them to go after the VA, and get something for the hassle of it all and for having to watch me slowly die. I would appreciate it, Thanks Greg

Jay Seals (Nashville, Tennessee)

In March 2008 my husband joined the Army. He went to Basic training at Ft. Jackson, AIT at Ft Gordon, and then was stationed at Ft. Campbell to be assigned the 101st airborne division 2–502 HHC from November 2008 to August 2012. While serving with the 2–502 HHC he was deployed to Howz-e Madad Afghanistan from June 2010 to April 2011. In August of 2012 he was assigned to SHAPE in Belgium until November 2013. While serving in Belgium he received surgery for a hernia. Shortly before the surgery, according to documentation, a scan was done and a small mass was found. This information was added to his Military Medical records but no follow up was done and he was not informed of the mass. In December 2013 Jay returned to Ft.Campbell and was assigned to 101st airborne division 5–101 CAB HHC. During this time he had many appointments with various medical staff about this stomach and abdominal pain. He was given OTC pain meds and told to hydrate. Jay was Honorably discharged from the Army April 19, 2016. He was then hospitalized for a bowel blockage from April 27th to April 30th 2016 at Blanchfield Army Community Hospital. He reported for duty with the Tennessee National Guard in May of 2016. He filled out all of the paperwork with the VA and was seen by VA doctors. He was experiencing weight loss and esophageal spasms. On September 12, 2016 he was diagnosed with stage 2 gastric cancer. On October 3, 2016 surgeons installed a port for chemo and performed an exploratory laparoscopy. During the laparoscopic procedure they found that the cancer had broken through the stomach wall and "spots" of cancer was found throughout the peritoneal cavity. This

changed the diagnosis to Stage 4 gastric/stomach (terminal) cancer and was placed on a palliative care plan. After finding the document stating that a mass was found in 2012 was reviled by the Tennessee National Guard, it was requested that Jay receive Line of Duty status and be placed as Activated National Guard assigned to the Warrior transition Battalion. He has been in this position since November 29, 2016. Jay is currently being treated by the VA and Vanderbilt Oncology teams in Nashville. I was told at the beginning of this that Jay might have 6–9 months to live but he has exceeded the expectations. Jay knows he will pass in the next year or two and he hopes to still be with the WTB to make sure that I will have a support base to fall back on when he is gone.

*A brief bio for me *

Cheryl "Tori" Seals is a mother, wife, advocate and palliative caregiver. She is the mother of 2 children that have now ventured out on adventures of their own. Tori is a full-time caregiver for her husband, Jay, who is fighting terminal stage 4 stomach cancer. Care giving for Jay includes everything from getting him to all his medical appointments and chemo sessions to assisting him in all his daily routines including but not limited to making sure he eats, personal grooming, making him as comfortable and happy as possible and taking medication. Since his cancer is terminal, we know we must prepare for his end of life needs as well. When late night insomnia strikes she is preparing for her future by working on becoming an advocate and lobbyist for soldiers and their families by taking online training on political science and advocacy. Prior to being a full-time caregiver, she has had a variety of careers, Including but not limited to Information Technology Specialist for a Defense Contractor; Designer, Production Manager and Sales Representative for a Promotions Company; Federal Compliance Officer for a Home Loan Company; Artist and Creative designer/sales for a couple of Renaissance Festivals; Personal Assistant to an Executive Sales Representative; and Talent/Celebrity Handler, Physical Security, Logistics and Operations Specialist for many Conventions and Festivals across many genres and locations throughout the US.

Megan Kingston (Virginia)

My story begins in 2007, when I was deployed to Iraq for Operation Iraqi Freedom. We were stationed at Camp Liberty, pad 12. We literally ate, slept, and lived right next to one of the largest burn pits in the country. Every morning we would wake up to go to work and be rained upon by large pieces of black soot and debris from the pit. We would walk through this to get to the chow hall, and we would be in it all day long. On some nights, we were even able to see the flames change different colors based on what they were burning. (Different colors mean different types of heavy metals.) I can recall on many occasions, I would have upper respiratory infections and I also treated many people in my unit for the same. I was the medic. It was like this day in and day out.

On some occasions, I even lit burn pits on fire using jet fuel and a flare to get it going, so we could dispose of our trash while out in the field. To paint the best picture, this is every day life in Iraq, for over 365 days.

After returning home from the War, I remember coughing up so much black stuff in the first six months. I though nothing of it other than we are finally in clean air and it was my body getting rid of the toxins of war. To my surprise, that was just the beginning of my medical issues to come later. The year was 2014 and I was training for a triathlon and remaining fit for work, as I was a plain-clothes officer for the US Government. I went for a run one day, and couldn't breathe the next. Over the course of two years, I finally underwent an open lung biopsy to diagnosis Obliterative Bronchiolitis. This disease is more commonly known as Constrictive Bronchiolitis and, it is terminal. I continue to progress to the point where I am on oxygen 24/7 and can no longer do my job. I was medically retired and now I focus my energy on school and remaining as healthy as possible. If it were not for these Pits, I would still be able to have my career and my health. I thank you for your time and understanding in this matter and I hope that you have a pleasant rest of the day. I look forward to meeting with you all on the 7th of June.

Staff Sgt. David L. Thomas (Colorado)

Noncommissioned officer in charge, S–2, 1st Space Battalion, was diagnosed with Stage IV lung cancer that metastasized to the brain in April 2013, but has chosen to continue his service. ??"I was given a prognosis of six to 18 months survival rate," Thomas said. "What I was most disappointed about at that moment was the fact that I was selling Bethe (his wife) and our children short. Second was the fact that I would no longer be here serving in the U.S. Army doing what was the most important thing: overseeing the safety of my family and our great country via my service.

Upon enlisting, he intended to be a career service member. ??"Joining the Army was something that was always on my mind since I was a child," Thomas said. "The attacks made up my mind for me. Defending my family and America itself was no longer an option, but rather a duty.

Thomas deployed to Iraq for the first time. After 13 months in Baghdad and a few months at home, he deployed again in September 2005, back to Baghdad. He returned home in January 2007, reclassed his job specialty, and in December 2008 deployed to Northern Iraq, first to Kirkuk and then to Mosul. He returned home in September 2009 and began preparing for his next deployment, this time to Kandahar, Afghanistan, in May 2011. It was during this fourth deployment that he began to notice a prevalent and chronic cough. He returned from this deployment in May 2012, and in October 2012, Thomas transferred to the 1st Space Battalion headquarters in Colorado Springs, Colo.??"I saw a doctor in January 2013, and was told I had an upper respiratory infection or the flu," Thomas said. "I did not receive any diagnostic testing such as a chest X-ray or lung function test. I was given an antibiotic and sent on my way."??Elizabeth had begun insisting that he go to the doctor because of the chronic cough, and finally on April 19, Thomas decided to seek medical advice. ??"My wife and I were in bed watching TV when I had an episode of chest pain. I thought I had a mild heart attack," Thomas said. "The next morning I went to the emergency room since sick call could not see me for chest pain."??After diagnostic testing, Thomas was informed that he had a nodule in his medial left lobe, and additional doctor visits and testing were conducted. ??"It was the day after my 46th birthday that I was diagnosed," Thomas said. "I also learned that I had actually had lung cancer for more than two years, including during my last deployment to Afghanistan."??Elizabeth said her initial reaction was shock. ??"I remember thinking, 'I can't believe I'm hearing these words," she said. "I felt cheated. This was the first time in a while we were going to have uninterrupted family time free from deployment. I thought we were going to have all of this time together."??Thomas began treatment in May 2013. ??"I determined to fight cancer and have been undergoing chemotherapy," Thomas said. "I have also undergone two cyber knife procedures to my brain for tumors and a week of radiation to my chest."??. Through David's fight both internally and externally without complaint, we are witness to his courage and commitment to complete the mission. ??Thomas, however, does not feel like he is doing anything extraordinary. ??"Never did quitting my career in the U.S. Army cross my mind," Thomas said. "Nor will I allow this illness to prematurely cause me to leave the Army. If it is up to me, I will be a member of the armed forces until the day I do leave this world to be with my father in heaven. ??"I have made a decision that I will not let cancer change my duty to my country, family or friends," he said. "I will fight cancer and continue to work as long as I am able. I will continue to place the mission first while acting with professionalism and continuing to mentor my NCOs and Soldiers."??Upon learning of his cancer, Thomas began to research what could have caused it. ??"I began to uncover the research and studies on Iraq Afghanistan War Lung disease, and the devastating effects of the 'burn pits' on service members and civilians who have served overseas," Thomas said. "Through my research I learned that IAWL is a chronic pulmonary condition that will affect one in seven service members who have served overseas. While Veterans Affairs and the services have not officially recognized IAWL or the effects of the burn pits, there are a lot of people suffering and awareness of IAWL needs to be brought to the public's attention."??Thomas established the David Thomas IAWL Foundation to promote awareness of the disease. ??"Eventually, through fundraising, we hope that the foundation has enough funds to provide basic testing for veterans or active duty service members who might need to determine if they have IAWL," Thomas said. "In many ways, through my foundation, my last mission is to bring awareness to IAWL and those who are suffering."??Elizabeth said that her husband is her hero, and not just because of his current fight. ??"David kept saying, 'I'm never going to deploy again. I need to be able to. It's my job,'" she said. "He loves what he does. He's always saying he wished he could do more; that what he's done isn't enough. He's a hero to me. Not just that he's kept going, but his whole Army career. Even with all of this, he doesn't take the praise. But just by getting up every day and going to work, he shows everyone that he doesn't quit. He always replies with, 'Where else would I be?'"

CSM James Hubbard (Kansas)

My name is Katie Hubbard, and I am the widow of Command Sergeant Major James W. Hubbard, Jr. CSM Hubbard. He was a great husband, father, grandfather, and soldier. CSM Hubbard served eight years on active duty before becoming a soldier in the United States Army Reserve.

CSM Hubbard's unit was called to Active Duty orders and sent to Iraq as part of Operation Enduring Freedom and Operation Iraqi Freedom 1. During those campaigns, CSM Hubbard served as the Command Sergeant Major for the 450th Movement Control Battalion, Talil Air Base in Iraq and Camp Arifjan in Kuwait. CSM Hubbard stated that he had to climb into check the remnants of tanks that were blown up by depleted uranium as well as living and working around burn pits throughout the country. CSM Hubbard noted the smells and smoke that he observed from the burn pits and even noted on his post-deployment medical check that he was concerned about the chemicals in the air at Talil, as well as smoke from oil fires, pollution, other fuels, solvents, paints, radiation, lasers, and other environmental exposure concerns.

Upon his return from Iraq, the medical doctors noted his blood was "wonky" and referred him to his civilian provider. He was followed for six months after before being initially cleared. In 2007, CSM Hubbard was deployed as the CSM for the 139th Med Group, Task Force Falcon IX to Camp Bond steel in Kosovo. While there, he complained of getting more tired easily and that his run was not as good as he was used to. He would also often reflect on his service in Iraq, what he saw, and the concerns he had about all the things that were released into the air from all the stuff that they burnt in the burn pits.

When he returned in late summer of 2008, he was sent to the VA hospital in Topeka, KS for a post-deployment check-up and is cleared to return to his civilian job. The VA was concerned with his blood work and called him to immediately return, stating he may have to be hospitalized. CSM Hubbard and I were in shock and were not told what may be going on. He went back to the VA for a follow-up after taking a military trip to Washington State, where it was noted that his hemoglobin levels were very concerning, and he was referred to the oncology department. His first appointment the VA oncology doctor stated to us that he did not think it was cancer that it was possibly just a bug from his deployment, but if it were cancer it would not be the "bad" kind. He ordered a bone marrow biopsy on October 24, 2008. We were to return on November 14, 2008, where the VA oncologist told him that he had cancer. Specifically, he was diagnosed with Acute Lymphocytic Leukemia, or ALL, which is common in young children not 50+yr old men!

We were then sent to the VFW service office where we met with the officer and the social worker for the VA. When meeting with the service officer and social worker, we were told they had seen an increase in the number of service members coming back from Iraq and Afghanistan with leukemia and other cancers. Our doctor also stated he believed the cancer was due to the burn pits and depleted uranium. CSM Hubbard was given a 100% service connected disability rating from his leukemia diagnosis. CSM Hubbard went to MD Anderson in Houston, TX for treatment, where they stated that 85% of his blasts in his blood were cancerous when he began treatment.

Unfortunately, during cycle four of treatment, he died suddenly on May 21, 2009. He was serving as the interim brigade CSM for the 330th Med Brigade in Fort Sheridan, IL and the CSM for the 139th Med Group in Independence, MO, at the time of his death. After his death, I wanted to learn more about the areas he served and what he may have been exposed to that contributed to his death, which the Topeka VA had told us that his leukemia was a result of the burn pits and depleted uranium he was exposed to in Iraq. We were one of the lucky few that had his cancer acknowledged and rated as service-connected.

I found many reports during my research that substantiated CSM Hubbard's concerns about the toxins in the air from the burn pits, including government documents listing chemicals found in the air in Iraq. CSM Hubbard had also expressed difficulty running and tiredness, which were the result of his leukemia. The VA also had told us that they had noticed that it was taking five to ten years after deployment for some of the cancers to be found, which fit in the timeline of James' exposure and subsequent diagnosis. His cancer was also not common at all for people his age, further connecting the effects of deployment to his cancer. CSM Hubbard is greatly missed, and it is my hope that his death will help shine a light on the toxic effects of the burn pits and help to create the necessary steps to protect service members, take care of the ones effected, and honor the ones that have died as casualties of war.

Alyssa Holschbach

I appreciate all the great work Burn Pits 360 has been doing for years. I first learned of your excellent organization in September of 2012, when I was stationed at Bagram and being sickened by a burn pit that was moved very close to my camp (Sabalu-Harrison).

Over the course of about three weeks after that pit was moved close to my camp, I got very ill. The smoke was so thick, you could taste it. It engulfed our whole camp, including our living spaces. I guarded the prison and was up in the towers most days. It would get so thick; you couldn't see the next tower over. We all were suffering. They gave us respirators you would maybe use for painting. They didn't do anything to block the smoke and fumes. The cartridges were also only good for eight hours and we never received replacements. We worked twelve-hour shifts. They probably only gave them to us in an attempt to shut us up. I developed symptoms similar to a severe allergic reaction. My face swelled up with hives (which it hurt to put that useless respirator on over). My skin, tongue, and lips tingled. I had sharp pains in my chest while I breathed and it was very hard to breathe. I was so miserable; I maybe could get one to hours of sleep a night because I felt like I was suffocating. I was finally Medevaced to Germany on October 1, 2012.

In the years since, I've struggled with respiratory and skin issues. I'm very worried about health consequences down the line, but VA doctors blow off my concerns. Some don't even know what a burn pit is.

Congress needs to take action to ensure that all service members exposed are taken care of properly and receive appropriate screenings given our risk for rare cancers and other diseases.

The "Burn Pits Accountability Act" is a great start, but it doesn't impact veterans already out of the service from my understanding. More needs to be done for all of us.

Thank you for your time and for letting me share my story,

P.S. I've attached pictures of the burn pit I was exposed to. One is a picture of it engulfing our living area.

SFC Heath Robinson (Ohio)

The oncologist's first words were, "WHAT THE HELL HAVE YOU BEEN EXPOSED TO?" before continuing on with my husband's diagnosis of Stage IV terminal lung cancer with no primary tumor. He explained that this type of cancer is ONLY caused by toxic exposure and in tears told us that if the cancer can't be controlled the prognosis was 6 to 8 weeks for Heath to live. With no primary tumor to target, we learned that any treatment would be experimental. After consulting with 20 fellow oncologists to determine the best course of treatment, no one had an answer. The cancer is so rare that there aren't enough statistics regarding life expectancy or which treatments have the best results. A month prior to the cancer diagnosis, Heath was suffering from chronic nose bleeds and eventually bleeding from his ears which was determined to be manifestations of a rare autoimmune disorder, Mucous Membrane Pemphigoid

The cancer had metastasized to Heath's mucous membranes, scapula, pericardium, lymph nodes and his entire thoracic cavity. The immunotherapy, Keytruda has extended his life and improved his quality of life, however, we are unable to attend your hearing on June 7 due to his scheduled treatment day and his condition right now isn't very good for him to travel.

SFC Heath Robinson served as an army combat medic being deployed to Kosovo and eventually Iraq for Operation Iraqi Freedom. He was exposed to burn pits during both deployments and more so in Iraq. He lived on Camp Liberty in late 2006 and worked a lot of the time on Camp Victory. Both bases had notorious burn pits, however, one job he held for 3 months placed him within 75 yards of a burn pit for hours on end each day.

Our family is devastated, as we have been living this nightmare with him battling to stay alive for just over a year. Even more devastating for us is worrying about what's going to happen to our 4 year old daughter and me if he doesn't survive this. It's even more mortifying to hear the V.A. continuing to deny a connection between toxic emissions from burn pits and illnesses while they claim research and data supports their conclusion. This is ridiculous as other credible studies have already proven and warned of the dangers of serious health issues those in close proximity to those burn pits could contract. These studies have been totally ignored by the V.A. and that's shameful.

I am asking you today, as the wife of a terminally ill wounded soldier and now his caregiver, counselor and the one making sure every day he has left on this earth is a good one.to please stop this nonsense of the V.A. commissioning burn pits research. An outside entity not controlling the outcomes to favor the V.A. should be in charge. Robert F. Miller, M.D. Pulmonary Medicine; Vanderbilt University and Dr. Anthony Szema, 2500 Nesconset Highway, Suite 17A, Stony Brook, New York 11790 have both done tireless studies and research on why thousands of Iraq and Afghanistan War veterans have succumbed or are battling serious, rare and un-

heard of diseases. It's an injustice to all potential burn pit victims that these two physicians were not invited to testify at your Subcommittee on veterans' health hearing on June 7, 2018.

Thank you for reading my letter. My veteran husband is truly discouraged and disappointed that he won't have an opportunity to testify before a congressional committee. He's proud to have served his country with honor and dignity and wouldn't hesitate to do it again, however, he is deeply disturbed that his country refuses to acknowledge his toxic wounds as combat related and that hurts.

Heath's wife, Danielle Robinson June 2, 2018

SFC Fred Slape (Texas)

My name is Diane Slape, I am the widow of SFC Frederick T Slape, Retired US Army. When we retired in 2012, I was certain War Zone dangers were behind us. In late August 2015, days after we'd sent our daughter to her first year of college and started building our Forever Home, Fred went to his routine VA Drs appointment. Just to be told again "your White Blood Cell count is elevated, you need to stop smoking." But this time was different, The VA called to tell Fred, they were concerned about the results, to call for a lab appointment, one he couldn't get until October. Despite my 43yr old husband's overall good health, according to his Oncologist Team, Fred died 9 weeks after he was diagnosed with Stage 4 Adenocarcinoma of the Brain & Lung lymph nodes, a disease that usually strikes 70–80yr old people. Most Veterans exposed to the Toxic Burn Pits, who are diagnosed with cancer, aren't living past 18–24 months, due to the aggressive nature.

His exposure to the Toxic Burn Pits occurred during his 2 deployments, 2009 in Southern Afghanistan and 2011 in North Eastern Afghanistan. Fred & his troops had their living & working quarters combined in the same building, less than 25ft from the burn pits, that burned 24 hours a day, 7 days a week; unless a General or the SECDEF was coming. These burn pits were shoveled/raked by my husband's soldiers, with little to no protective clothing on. The soldiers breathed this black acrid smoke morning, noon and night, even in their sleep. My husband had mentioned to his commanders that the Burn Pits were causing difficulty breathing and that they were going to kill somebody, to which they replied Stop being so dramatic, SFC Slape. My husband told me that they burned items, such as vehicle fluids, aerosol cans, computers, Styrofoam, human waste, plastic water bottles, medical waste, amputated body parts, uniforms, dead animals—many things that shouldn't be burned, much less burned together.

In August 2015, Fred still showed no symptoms, then 2 days of sporadic headaches along with seriously impaired vision, an MRI discovered the mass in Fred's brain. As if we had expected it, when the Dr told us of the brain mass—Fred & I looked at each other and said "Burn Pits". After 5 days in the hospital, every infectious disease test known to man, and a CAT scan, they discovered the mass in his chest. Many asked Why didn't we go to the VA? My husband said chuckling "What? And Die there?" After reviewing 3 years of lab results, the VA Drs should have been concerned about Fred's blood work since 2012. Being Retirees, we had Tricare coverage too, as well as VA access. Most non-retired veterans do not have the Tricare option, leading to possibly better care.

In the remaining 5 weeks of Fred's life, he would have 1 round of the most intense 3 day chemo treatment, his first and only seizure, brain surgery to remove an aggressively growing brain tumor, during the 2 wk recovery from surgery, He had chest radiation & a stomach tube inserted, just in case the radiation closed off his esophagus. During this recovery period, 4 new inoperable tumors were growing quite rapidly inside Fred's brain. 1 very large one in the Temporal lobe where the initial one was removed, 1 in the Frontal lobe that tripled in size and 2 in the cerebellum, never seen before in all the CAT Scans previously. 3 days later Fred had started brain radiation, which hospitalized him the next day. Oncologists informed us the chest/brain radiation, as well as the 1 round of Chemo had no effect on the cancer in his chest or brain. We opted for 1 more round of brain radiation, which rapidly led to Fred's death 2 days later. Please help so that Fred's young soldiers, who are 20 & 30 yrs old and currently healthy, do not struggle or suffer as Fred did, but without Healthcare that is specific to their exposures & services for their families.

Colonel Mc Cracken (Georgia)

Dear Mr. Vice President,

I am so very sorry for the loss of your son, Beau. My husband, USA Colonel David A. McCracken served an active duty tour at Victory Base Complex (VBC), Baghdad, Iraq in 2007. My husband also died of glioblastoma multiform on September 2, 2011

after an 11-month battle. A year after his death, it was brought to my attention that exposure to toxic chemicals from the open-air burn pits were an attributing factor to his cancer.

My husband was also mentioned in the book, "The Burn Pits, the Poisoning of America's Soldiers" by Joseph Hickman, page 126. As you know, grief is a powerful emotion and I make a choice everyday to ensure that my journey is one of healing and hope. I can't imagine the pain associated with the loss of a child. I can only see and experience this loss from my own perspective and that of my children.

I have researched, spoken of and supported efforts regarding the effects of these burn pit toxins. I do this so that my children will see that this effort is a worthy one. It can be exhausting, frustrating straight through to my soul. I've spent more restless nights than I like relentlessly learning and researching this issue with limited return on this particular 'investment'.

It is a special breed of people who take up the calling to serve. I will continue the fight with my small voice to keep my husband's memory alive and to show my children that where there is a passion to make things right, change can be affected.

My husband, a 45-year-old in perfect health returned coughing and complaining of headaches. I watched his health decline rapidly as I'm sure you have witnessed as well. If anything, I want my husband's death to mean something. Some small thing. Not an 'agent of change' but an 'angel of change'.

Sir, my spirit was renewed with your words during your recent interview with PBS. It is my greatest hope that you are able to embrace—with similar passion—an outlook of support that brings awareness to the effects of burn pits on our loved ones. I have long felt that I didn't want David's death to be simply a memory, but a catalyst for change and action. I have every hope that you feel the same.

Please continue this fight. Continue to engage and bring awareness to this issue.

Signed with hope and renewed spirit,
Tammy J. McCracken
Proud Wife of deceased USA Colonel David A. McCracken

Timothy Johnson

Dear Vice President,

First off I was so very saddened to hear of your sons diagnosis and eventual passing. I too am a parent whose son has died because of brain cancer.

I am writing in regards to the burn pits in Iraq and their link to cancers. My son Sgt. Timothy Lee Johnson of the USMC died of glioblastoma multiform at the age of 35. He was a bomb dog handler deployed to Iraq. Upon his diagnosis he was deemed 100% disabled service connected with the VA. He had a wonderful doctor who believed the exposure to these toxins were the contributing factor in his cancer.

My hope is more investigation and subsequent help to victims will take place.

I am glad to hear more safety and equipment is now in place.

I have attached the memorial from His funeral. The photo is him with his dog in Iraq. I believe there are thousands of other veterans who have suffered many illnesses and cancers because of the exposure to the burn pit toxins. I believe many have not come forward not realizing they are sick because of their exposure.

May the word continue to be declared so they too can get the medical care they need. Sincerely, A hurting mom, Donna Johnson

P.S. If this letter can be added to many more of those whose lives and loves were lost.

Major Kevin Wilkins (Eustis, Florida)

Dear Vice President

I do not want to take up much of your time, so this letter to you will be short and to the point.

My husband, USAF Major Kevin E. Wilkins, RN., served an active duty tour at the Balad Air Force Base, Balad, Iraq in 2006 where your son Beau was also stationed. My husband died of a glioblastoma brain tumor in 2008 after exposure to the toxic chemicals from the open-air burn pit at that base. (He was also mentioned in the book, "Burn Pits" by Joseph Hickman on page 32). I won't go into the effect his death had on my 2 children and me because you already know the pain.

VP Biden, you can help by talking about the effects these burn pits have had on you, Beau's wife and the entire family. I know you promised Beau that you would run for President, but I believe that standing up for Beau in the light of what has happened to him and many other soldier's and their families, is so much greater than being President of the United States. Everything happens for a reason, and

I believe it is your calling to help the many other soldiers who are still alive but fighting to live.

If you would like to see the work I have been doing to try to help other families whose soldiers have been exposed to the toxic chemicals, please Google "Jill Wilkins Burn Pits" and you will see the media coverage I have been involved in including CNN.

Very Sincerely,

Jill R. Wilkins

Proud Wife of deceased USAF Major Kevin E. Wilkins, RN

Robert Elesky

I served four years active duty 1981–85 US Army. During that time, I served in the 172nd, Fort Hood 2nd Armor Division, and in the Sinai Desert Egypt on the MFO Peace Keeping Force.

When the war started in Afghanistan they needed Veterans to fill crucial support roles for our military and I needed a job, so I signed on with KBR. I ended up on Kandahar Airfield on January 2, 2004. I for sure will never forget the stench of the five-acre sewage pond on the west end of the base. When units would leave, anything they didn't take with them went into a pile on the southwest end of the base. We would go to that pile daily to salvage things we needed for repair of vehicles and whatever else we might need. Then a big armored bulldozer showed up, dug a big hole, and push the pile into it and it was set afire, exactly when I can't recall, but not too long after the pile was pushed into the pit. After they started burning the stuff my sinuses were a disaster. The burn pit was set on fire every evening around dark. I could see the burn pit from my tent is how close it was to us. We slept in the fumes, worked in the fumes, and ate in the fumes.

In 2012 I developed difficulties in breathing out of my right nostril and started developing nose bleeds. I then went to the Dr. and they diagnosed me after scans a nasal biopsy with a solitary sphenoid sinus plasmacytoma, very very rare, with most cases in the Middle East to my understanding. When I was diagnosed I immediately wanted to know what I had, and how I got it. All my research led me back to "Toxic Exposure" The only place I was ever exposed to toxins that would cause something like this was Kandahar Airbase in 2004–2005 and Balad, Iraq 2005.

During my research I discovered I could file a DBA claim which is workers compensation for civilians who work oversea in support of our military. I did that right away. My case drug on for years and KBR eventually settled with me for an amount that was nowhere near what was needed for such a situation, but we had no choice because of the financial situation this illness had put us in.

After my diagnoses they immediately started radiation therapy on me and was able to kill the plasmacytoma in my nasal cavity. However subsequent PET scans revealed a bone lesion on my sternum which they again radiated but it didn't work, so I ended up on sixteen weeks of chemo therapy.

After recovery I went back to work in Medical sales. I then developed other lesions on my right cheek bone about the size of a golf ball. Again, I was put back into radiation treatment. Having to take more time off work to go to Portland for radiation treatments again. Devastating to our income. Again, the radiation was successful, but by now my employer could see I couldn't do my job like I used to with my illness and I was terminated in the hospital while undergoing treatment. They didn't say my illness was the reason, I'm just if, but based on my past performance and the current performance the conclusion is a logical one.

So, after being terminated I found odd jobs to do to keep busy as my wife was working at the time and I just needed some time to recoup.

I was sent for another PET scan that revealed multiple bone lesions on my head, arm, knee, and femur. What has everyone a bit baffled is my blood work is always unremarkable and my bone marrow biopsies always come back clean. So currently I have been on chemo therapy since January unable to work due to my treatments and on my way to Seattle for a bone marrow transplant. My wife no longer works at the post office to support us as her position there was seasonal, my youngest son who is a firefighter and EMT is having to take leave of his work to be my care provider in Seattle, so my wife can continue to work the only job she can find to try and pay our mortgage and bills.

This has been devastating to us emotionally, financially, anyway that you can't think of something like this can negatively affect your life. The anxiety of the cancer, the anxiety of wondering if you'll have a home to come home to is overwhelming. I'm not the only one in this position. There are literally thousands of us

who went down range in defense of our nation who are being discarded as if we were garbage with little to no compensation.

All we hear is that there's no direct link between the Burn Pits and our illnesses. I find that insulting. If that's true, why don't we just burn trash in our neighborhoods? Why do we have an EPA? The data already exists. That's why we don't burn trash in our neighborhoods. We already know breathing toxins make people sick, don't we?

I'm outraged that memos were sent to the pentagon as far back as 2000 with air quality reports saying that we should stop burning this trash next to the bases. Those memos were ignored and shoved in someone's desk drawer. Why? Who did that? I'd like to know.

So, for now we are just barely making it. I rarely see my wife, children and grandchildren because of their work schedules and I fear of getting a sickness from one of the grandkids. One of them always has a runny nose or something. I live in constant pain and isolation wondering how it's all going to end and I'm not alone. There are "Thousands" if not "Tens of Thousands of us, and we'd like to know what you're going to do for us after sending us down range in defense of freedom, and knowingly poisoning us. Can you answer that question? We willingly accepted the risk of war.

APPENDIX B: Medical Opinions

(see below)

APPENDIX C: Burn Pits 360 Staff Biographies

CPT (Army Ret.) Le Roy Torres, Founder

Le Roy Torres is the co-founder of Burn Pits 360 Veterans non-profit organization. Torres was medically retired from the Army after 23 years with the rank of Captain following his diagnosis from a lung biopsy to include other secondary medical diagnosis. He served 7 years Active and 16 years Reserve. Torres also worked as a State Trooper for the Texas Highway Patrol after he was forced to accept a medical discharge following his 14 years of state service. Torres earned his B.A. and M.A. in Administration—Organizational Development at the University of the Incarnate Word. Torres also enrolled in Seminary and completed several courses through Liberty University during his application process for the Army Chaplaincy Program. Subsequently Torres was medically boarded from the Army Reserve due to his medical conditions associated with burn pit exposure forcing him to discontinue the Army chaplaincy process.

Torres is an ardent advocate alongside his wife Rosie for the military families and warriors battling illnesses associated with deployment related environmental toxic exposures during the OEF/OIF War Campaigns. Torres alongside his wife founded the first Burn Pits 360 Warrior Support Center in Robstown, Texas. Torres is also passionate about assisting the first responder community that serve a dual role to their state and country that are battling not only medical conditions from exposure; but also those facing battles with invisible wounds, job loss, and other challenges that arise from such hardships that have taken a toll on so many Veterans and their families.

Rosie Torres, Executive Director

Rosie Lopez Torres is the co-founder of Burn Pits 360 Veterans Organization. Rosie held a civil service position at the Department of Veteran Affairs Health Care System for 23 years. Rosie advocates full time for Veterans, Service members and families suffering from deployment related illnesses. She co-founded Burn Pits 360 alongside her husband Le Roy Torres. Rosie also co-founded the Warrior Support Center, which is the organization's headquarters but also a center where local Veterans and their families can seek access to training, a computer room, recreation room, and peer support services. Rosie is currently attending Liberty University where she is studying law.

Tammy McCracken, Secretary

Professionally, Tammy McCracken works full time as a Senior Technical Architect with GISinc., a location analytics company. She has managed over $250M in technical projects over the course of her career. She is responsible for client relations and designing solutions that meet the unique needs of her clients. She is a Certified Information Systems Auditor and is currently pursuing her Master's in Data Analytics at Georgia Tech.

In addition to her technical career, she is a military widow serving on several non-profit boards promoting healing and health to Veterans and Widows. Her passion is to ensure that her husband, Colonel David A McCracken's memory and legacy live on and that no other widows face the trials and challenges she has painfully navigated subsequent to his untimely and unnecessary death.

Cindy Aman, Legislative Liaison

In her professional life, Cynthia Aman works full time for the Delaware State Public Defender's office as a Mitigation Specialist. She has her Master's in Forensic Psychology and continues to pursue continued education in this field.

Cynthia is also a Veteran who was assigned to the 1138th Military Police Company with the Missouri Army National Guard. She developed an irreversible, progressive lung disease called Constrictive Bronchiolitis, from her deployment to the Middle East. Since her diagnosis she has worked as an advocate on Burn Pits and Toxic Exposure. She is currently the Legislative Liaison with Burn Pits 360 and spends her free time working hard to represent and speak for those who have been silenced.

Stacy Pennington, Legislative Liaison

Stacy Pennington has been an advocate for veterans fighting for rights of those affected by toxic exposure caused from burn pits in Iraq and Afghanistan. This deep commitment to fight for those affected by toxic exposure occurred a decade ago after the onset of her brother's sudden illness and death.

Stacy is the Community Outreach Director for AARP. She is dedicated to the field of Gerontology. She is active in educating, providing services and advocating for those 50 plus. Stacy has worked for the AARP for thirty years.

In addition, Stacy is a part of several non-profit organizations including Burn Pits 360, Leadership Cheatham County and Leadership Middle Tennessee.

Diane Slape, Director of Gold Star Families Program

Diane Slape's professional career is currently the Project Administrator for NNAC, Inc., a Commercial Construction firm with the majority of their projects in the Military Sector, all over the Northwest and Texas. Diane always knew she wanted to help Vietnam Veterans with PTSD, but financial aid and family contribution couldn't handle the requirement. So she volunteered for many non-profit Military organizations, to give back as much of her free time in appreciation of their sacrifices. She volunteered to be her husband's unit Family Readiness Group leader. She developed a working relationship with the unit's Chain of Command in garrison and downrange, as well as a loving, supportive relationship with the soldiers and their families. She made it her mission to support the soldiers and their missions and helps guide their families through their military experience, to include consecutive deployments and Duty Station moves, even after her husband retired from Military Service.

Her career involvement with the Military didn't stop, after becoming a military widow. She still had soldiers and Veterans to support, as well as their families. She serves on several non-profit organizations assisting Veterans reintegrating into Civilian life after the Military, as well as promoting their mental & physical health, despite their exposures. Her life's mission is to carry on her husband, SFC Frederick T Slape's caring and compassion for his fellow soldiers in need and to do whatever possible so that soldiers or widows do not have to endure the same struggles and tragedies that she found herself involved in, so abruptly and unprepared for.

Will Wisner, Program Manager

William is a Senior Director at CCS Fundraising, a strategic fundraising firm that partners with nonprofits for transformational change. Prior to joining CCS, William served as the Veteran Fellow for Mission Leadership at the Sergeant Thomas Joseph Sullivan Center, a nonprofit organization dedicated to the issue of toxic exposure illnesses in Iraq and Afghanistan veterans. William holds a M.A. in Nonprofit Management from Washington University in Saint Louis.

William was a Staff Sergeant in the United States Army and is a veteran of Operation Iraqi Freedom having served as Cavalry Scout in the 3rd Squadron of the 1st Cavalry Regiment, 3rd Heavy Combat Brigade, 3rd Infantry Division.

Daniella Molina, Director of Community Development

Daniella Molina currently serves as the volunteer Director of Community Development with Burn Pits360 Veterans Organization. Outside of her volunteer services Daniella is a full-time caregiver, mother of two, and student. She is currently pursuing a degree in Psychology: Military Resilience through Liberty University. Upon graduation, she plans to assist active/veteran service members and their families through the challenges associated with life after war. Daniella is the wife of retired Army veteran, Jonathan Ray Molina.

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APPENDIX D: Burn Pits photos (upon request)

(Ret. CPT. Le Roy Torres & his sons Kenneth and Christopher)
(Brian Alvarado & his daughter Rihanna)
(Ret. SSG Will Thompson, double lung transplant recipient)
Fallen Heroes
Major Kevin Wilkins

United States Government Accountability Office (GAO)

WASTE MANAGEMENT

DoD Needs to Fully Assess the Health Risks of Burn Pits

Statement for the Record by Cary Russell, Director, Defense Capabilities and Management

Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee,

I am pleased to submit this statement on our September 2016 report covering the Department of Defense's use of burn pits.[1] Since the initiation of military operations in Afghanistan in 2001 and Iraq in 2003, the Department of Defense (DoD) has employed several methods to dispose of the waste that U.S. forces have generated in both countries. In general, the methods employed have been left to the discretion of base commanders and include the use of incinerators, landfills, and open-air burn pits on or near military bases. According to DoD officials, when making these decisions base commanders may take into consideration a number of factors, including the local security situation, the number of personnel on the installation, and the amount and type of waste generated by those personnel. As one of the options available, burn pits help base commanders manage waste, but they also produce smoke and harmful emissions that military and other health professionals believe may result in acute and chronic health effects for those exposed to the emissions.

My statement today focuses on the extent to which DoD has assessed any health risks of burn pit use. This statement is based on our September 2016 report. That work was conducted in response to section 313 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (NDAA for Fiscal Year 2015).[2] Specifically, we assessed the methodology DoD used in conducting a review of the compliance of the military departments and combatant commands with DoD Instruction 4715.19, Use of Open-Air Burn Pits in Contingency

[1] GAO, Waste Management: DoD Has Generally Addressed Legislative Requirements on the Use of Burn Pits but Needs to Fully Assess Health Effects, GAO–16–781 (Washington, D.C.: Sept. 26, 2016).
[2] Pub. L. No. 113–291, § 313 (2014).

Operations,[3] and the adequacy of the subsequent report DoD sent to the defense committees containing the results of its review.[4]

To evaluate the extent to which DoD has assessed any health effects of burn pit use, we reviewed relevant health assessments on the effects of burn pits, including a 2011 report by the Institute of Medicine that was contracted by the Department of Veterans Affairs, as well as prior related reports by GAO and the Special Inspector General for Afghanistan Reconstruction. We also interviewed officials from U.S. Central Command (CENTCOM), U.S. Army Central Command, U.S. Air Force Central Command, Department of Veterans Affairs, and Institute of Medicine to discuss any effects of exposures to burn pit emissions, among other things. Additionally, we obtained an update from DoD in May 2018 on actions taken regarding our findings and recommendations from our September 2016 report.

We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Burn pits-shallow excavations or surface features with berms used to conduct open-air burning-were often chosen as a method of waste disposal during recent contingency operations in the CENTCOM area of responsibility, which extends from the Middle East to Central Asia and includes Iraq and Afghanistan. In 2010, we reported that there were 251 active burns pits in Afghanistan and 22 in Iraq.[5] However, in 2016, we reported that the use of burn pits in the CENTCOM area of responsibility had declined since that time. As of June 2016, DoD officials told us that there were no military-operated burn pits in Afghanistan and only one in Iraq. According to DoD officials, the decline in the number of burn pits from 2010 to 2016 could be attributed to such factors as (1) using contractors for waste disposal and (2) increased use of waste management alternatives such as landfills and incinerators. However, DoD officials acknowledged that burn pits were being used to dispose of waste in other locations that are not military-operated. Specifically, these officials noted instances in which local contractors had been contracted to haul away waste and subsequently disposed of the waste in a burn pit located in close proximity to the installation. In such instances, officials stated that they requested that the contractors relocate the burn pit. According to a DoD official, as of May 2018 there are two active burn pits in the CENTCOM area of responsibility.

Although burn pits help base commanders to manage waste, they also produce smoke and emissions that military and other health professionals believe may result in acute and chronic health effects for those exposed. We previously reported that some veterans returning from the Iraq and Afghanistan conflicts have reported pulmonary and respiratory ailments, among other health concerns, that they attributed to burn pit emissions.[6] Numerous veterans have also filed lawsuits against a DoD contractor alleging that the contractor mismanaged burn pit operations at several installations in both Iraq and Afghanistan, resulting in exposure to harmful smoke that caused these adverse health effects. We also previously reported on the difficulty of establishing a correlation between occupational and environmental exposures and health issues.[7] For example, in 2012 we reported that establishing causation between an exposure and an adverse health condition can be difficult for several reasons, including that for many environmental exposures, there is a latency period-the time period between initial exposure to a contaminant and the date on which an adverse health condition is diagnosed.[8] When there is a long latency period between an environmental exposure and an adverse health condition, choosing between multiple causes of exposure may be difficult. In addition, in 2015 we reported that the Army had recently published a study that evaluated associations be-

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[3] DoD Instruction 4715.19, Use of Open-Air Burn Pits in Contingency Operations (Feb. 15, 2011) (incorporating change 3, July 3, 2014). The instruction was updated on Oct. 6, 2017.

[4] Department of Defense, Report on Prohibition of the Disposal of Covered Waste in Open-Air Burn Pits (March 2016).

[5] GAO, Afghanistan and Iraq: DoD Should Improve Adherence to Its Guidance to Open Pit Burning and Solid Waste Management, GAO–11–63 (Washington, D.C.: Oct. 15, 2010).

[6] GAO–11–63.

[7] GAO, Defense Health Care: DoD Needs to Clarify Policies Related to Occupational and Environmental Health Surveillance and Monitor Risk Mitigation Activities, GAO–15–487 (Washington, D.C.: May 22, 2015).

[8] GAO, Defense Infrastructure: DoD Can Improve Its Response to Environmental Exposures on Military Installations, GAO–12–412 (Washington, D.C.: May 1, 2012).

tween deployment to Iraq and Kuwait and the development of respiratory conditions post-deployment.[9] However, the study was unable to identify a causal link between exposures to burn pits and respiratory conditions.

DoD Had Not Fully Assessed the Health Risks of Burn Pits

In our 2016 report, we found that the effects from exposing individuals to burn pit emissions were not well understood, and DoD had not fully assessed these health risks. Under DoD Instruction 6055.01, DoD Safety and Occupational Health (SOH) Program, it is DoD policy to apply risk-management strategies to eliminate occupational injury or illness and loss of mission capability or resources. DoD Instruction 6055.01 also instructs all DoD components to establish procedures to ensure that risk-acceptance decisions were documented, archived, and reevaluated on a recurring basis.[10] Furthermore, DoD Instruction 6055.05, Occupational and Environmental Health (OEH), requires that hazards be identified and risk evaluated as early as possible, including the consideration of exposure patterns, duration, and rates.[11] Notwithstanding this guidance, which applies to burn pit emissions among other health hazards, DoD had not fully assessed the health risks of use of burn pits according to DoD officials.

According to DoD officials, DoD's ability to assess these risks was limited by a lack of adequate information on (1) the levels of exposure to burn pit emissions and (2) the health impacts these exposures had on individuals. With respect to information on exposure levels, DoD had not collected data from emissions or monitored exposures from burn pits as required by its own guidance. DoD Instruction 4715.19 requires that plans for the use of open-air burn pits include ensuring the area was monitored by qualified force health protection personnel for unacceptable exposures, and CENTCOM Regulation 200–2, CENTCOM Contingency Environmental Standards, requires steps to be taken to sample or monitor burn pit emissions.[12] However, DoD officials stated that there were no processes in place to specifically monitor burn pit emissions for the purposes of correlating potential exposures. They attributed this to a lack of singular exposure to the burn pit emissions, or emissions from any other individual item; instead, monitoring was done for the totality of air pollutants from all sources at the point of population exposure. As we reported in September 2016, given the potential use of burn pits near installations and their potential use in future contingency operations, establishing processes to monitor burn pit emissions for unacceptable exposures would better position DoD and combatant commanders to collect data that could help assess exposure to risks.

In the absence of the collection of data to examine the effects of burn pit exposure on servicemembers, the Department of Veterans Affairs in 2014 created the airborne hazards and open-air burn pit registry,[13] which allows eligible individuals to self-report exposures to airborne hazards (such as smoke from burn pits, oil-well fires, or pollution during deployment), as well as other exposures and health concerns.[14] The registry helps to monitor health conditions affecting veterans and servicemembers, and to collect data that would assist in improving programs to help those with deployment exposure concerns.

With respect to the information on the health effects from exposure to burn pit emissions, DoD officials stated that there were short-term effects from being exposed to toxins from the burning of waste, such as eye irritation and burning, coughing and throat irritation, breathing difficulties, and skin itching and rashes. However, the officials also stated that DoD did not have enough data to confirm whether direct exposure to burn pits caused long-term health issues. Although DoD and the Department of Veterans Affairs had commissioned studies to enhance their understanding of airborne hazards, including burn pit emissions, the then-current lack of data on emissions specific to burn pits limited DoD's ability to fully assess

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[9] GAO–15–487 and Abraham et al., "A Retrospective Cohort Study of Military Deployment and Postdeployment Medical Encounters for Respiratory Conditions," Military Medicine, vol. 179 (2014): 540–546.

[10] DoD Instruction 6055.01, DoD Safety and Occupational Health (SOH) Program (Oct. 14, 2014).

[11] DoD Instruction 6055.05, Occupational and Environmental Health (OEH) (Nov. 11, 2008). This instruction was updated on November 21, 2017.

[12] CENTCOM Regulation 200–2, CENTCOM Contingency Environmental Standards (Sept. 15, 2014).

[13] This registry was created in response to the Dignified Burial and Other Veterans' Benefits Improvement Act of 2012, Pub. L. No. 112–260, § 201 (2013).

[14] Eligible individuals include servicemembers or veterans who served in Iraq, Afghanistan, or Djibouti on or after September 11, 2001, or the Southwest Asia theater of operations on or after August 2, 1990 (e.g., the Persian Gulf War).

potential health impacts on servicemembers and other base personnel, such as contractors.

For example, in a 2011 study that was contracted by the Department of Veterans Affairs, the Institute of Medicine stated that it was unable to determine whether long-term health effects are likely to result from burn pit exposure due to inadequate evidence of an association.[15] While the study did not determine a linkage to long-term health effects, because of the lack of data, it did not discredit the relationship either. Rather, it outlined a methodology of how to collect the necessary data to determine the effects of the exposure. Specifically, the 2011 study outlined the feasibility and design issues for an epidemiologic study-that is, a study of the distribution and determinants of diseases and injuries in human populations-of veterans exposed to burn pit emissions. Further, the 2011 study reported that there were a variety of methods for collecting exposure information, but the most desirable was to measure exposures quantitatively at the individual level. Individual exposure measurements could be obtained through personal monitoring data or biomonitoring.[16] However, if individual monitoring data were not available, and they rarely are, individual exposure data might also be estimated from modeling of exposures, self-reported surveys, interviews, job exposure matrixes, and environmental monitoring. Further, to determine the incidence of chronic disease, the study stated that servicemembers must be tracked from their time of deployment, over many years.

While the Institute of Medicine outlined a methodology of how to conduct an epidemiologic study, DoD had not taken steps to conduct this type of research study, specifically one that focused on the direct, individual exposure to burn pit emissions and the possible long-term health effects of such exposure. Instead, some officials commented that there were no long-term health effects linked to the exposures of burn pits because the 2011 study did not acknowledge any. Conversely, Veterans Affairs officials stated that a study aimed at establishing health effect linkages could be enabled by the data in its airborne hazards and open-air burn pit registry, which collects self-reported information on servicemembers' deployment location and exposure.

In response to a mandate contained in section 201 of Public Law 112–260, the Department of Veterans Affairs entered into an agreement with the National Academies of Sciences, Engineering, and Medicine to convene a committee to provide recommendations on collecting, maintaining, and monitoring information through the registry. The committee assessed the effectiveness of the Department of Veterans Affairs' information gathering efforts and provided recommendations for addressing the future medical needs of the affected groups. The study was conducted in two phases. Phase 1 was a review of the data collection methods and outcomes, as well as an analysis of the self-reported veteran experience data gathered in the registry. Phase 2 was focused on the assessment of the effectiveness of the actions taken by the Department of Veterans Affairs and DoD and provided recommendations for improving the methods enacted. The committee released its final report in February 2017.[17] As we reported in September 2016, considering the results of this review as well as the methodology of the 2011 Institute of Medicine study as part of an examination of the relationship between direct, individual exposure to burn pit emissions and long-term health effects could better position DoD to fully assess those health risks.

In our September 2016 report we recommended that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics[18] to:

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[15] Institute of Medicine for the Department of Veterans Affairs, Long-Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan (Washington, D.C.: The National Academies Press, 2011).

[16] Biomonitoring assesses an individual's exposure to environmental agents by measuring the concentrations of the agents in biological samples, usually blood or urine but possibly adipose tissue, hair, or nails. The biomarker can be the external substance itself (for example, lead) or a metabolite of the external substance processed by the body (for example, cotinine, a metabolite of nicotine) and it indicates the absorbed dose or allows an estimate of the target-tissue dose for the time of exposure.

[17] Since the committee's report was released after the release of our September 2016 report we did not evaluate it. See National Academies of Sciences, Engineering and Medicine, Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry (Washington, D.C.: The National Academies Press, 2017).

[18] Effective February 1, 2018, the National Defense Authorization Act for Fiscal Year 2017 provided for the restructuring of the Under Secretary of Defense for Acquisition, Technology, and Logistics. Pub. L. No. 114–328, § 901 (2016) (codified at 10 U.S.C. §§ 133a and 133b). The position has been divided into the Under Secretary of Defense for Research and Engineering and the Under Secretary of Defense for Acquisition and Sustainment.

- take steps to ensure CENTCOM and other geographic combatant commands, as appropriate, establish processes to consistently monitor burn pit emissions for unacceptable exposures; and
- in coordination with the Secretary of Veterans Affairs, specifically examine the relationship between direct, individual, burn pit exposure and potential long-term health-related issues. As part of that examination, consider the results of the National Academies of Sciences, Engineering, and Medicine's report on the Department of Veteran Affairs registry and the methodology outlined in the 2011 Institute of Medicine study that suggests the need to evaluate the health status of service members from their time of deployment over many years to determine their incidence of chronic disease, with particular attention to the collection of data at the individual level, including the means by which that data is obtained.

DoD concurred with the first recommendation, stating that the department will ensure that geographic combatant commands establish and employ processes to consistently monitor burn pit emissions for unacceptable exposures at the point of exposure and if necessary at individual sources. In a May 2018 status update regarding this recommendation, DoD stated that it will be updating applicable department policy and procedures, its tactics techniques and procedures manual, and guidance for sampling and analysis plans to improve monitoring of burn pit emissions and other airborne hazard emissions. Specifically, DoD stated it will update DoD Instruction 6490.03, Deployment Health; that the update will provide revised procedures on deployment health activities required before, during, and after deployments, including Occupational and Environmental Health Site Assessments; and that it estimates this will be completed by the 4th quarter of fiscal year 2018. In addition, the department stated it will update its Occupational and Environmental Health Site Assessments tactics, techniques, and procedures manual and update guidance for sampling and analysis plans and that the updates will provide revised tactics, techniques, and procedures that will improve the quality of health risk assessment. The department expects this to be completed by the 1st quarter of fiscal year 2019. GAO believes that upon completion of these actions, DoD will have met the intent of this recommendation.

With respect to our recommendation to sponsor research, in coordination with the Secretary of Veterans Affairs, to specifically examine the relationship between burn pit exposure and potential health-related issues, DoD partially concurred, stating that a considerable volume of research studies had already been completed, were ongoing, or were planned in collaboration with the Department of Veterans Affairs and other research entities to improve the understanding of burn pit and other ambient exposures to potential long-term health outcomes and that the studies, where applicable, consider and incorporate the methodology outlined in the 2011 Institute of Medicine study. In a May 2018 status update regarding this recommendation, the department stated that DoD and the Department of Veterans Affairs continue to collaborate with each other and other entities on research activities that address burn pit and other airborne exposures, and potential long-term health outcomes. Specifically, the department cited a DoD/Veterans Affairs Airborne Hazards Symposium held in May 2017; an update to the Veterans Affairs/DoD Deployment Health Working Group "Airborne Hazards Joint Action Plan" to be completed by the 3rd quarter of fiscal year 2018; and the completion of research to examine airborne hazard exposures and potential health-related issues. GAO believes that to the extent that continued studies consider and incorporate the methodology outlined the 2011 Institute of Medicine study, where appropriate, DoD will have met the intent of this recommendation.

Chairman Dunn, Ranking Member Brownley, and Members of the Subcommittee, this concludes my statement for the record.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this statement, please contact Cary Russell, Director, Defense Capabilities and Management, at 202–512–5431 or russellc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this statement include Guy LoFaro (Assistant Director), Lorraine Ettaro, Shahrzad Nikoo, Jennifer Spence, and Matthew Young.

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James-Christian Blockwood, Managing Director, spel@gao.gov, (202) 512–4707, U.S. Government Accountability Office, 441 G Street NW, Room 7814, Washington, DC 20548

Victor J. Dzau, MD

President, National Academy of Medicine, on behalf of The National Academies of Sciences, Engineering, and Medicine

Dear Chairman Roe:

Thank you for your invitation to submit a statement for the record on scientific research regarding the potential long-term health effects of burn pit exposure among veterans and, in particular, the use and effectiveness of the Airborne Hazards and Open Burn Pit (AH&OBP) registry that Congress mandated that VA create in 2013.

As you know, The National Academies of Sciences, Engineering, and Medicine released the report Assessment of the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry on February 28, 2017. The report was written by a committee of experts assembled by the National Academies in response to a re-

quest by the US Department of Veterans Affairs (VA), who were fulfilling a provision of Public Law 112–260, Section 201 mandating a study. VA sponsored the effort but, other than defining its statement of task at the beginning of the study, had no influence on the content of the report.

The report offered several observations concerning how the AH&OBP Registry questionnaire collects information and recommended changes intended to improve and streamline it. It noted, though, that registries like the AH&OBP that rely on voluntary involvement and self-reported information on exposures and health outcomes are not suitable for assessing the health effects of exposure due to respondents' selective participation, inaccurate recall, or inadvertent or intentional under- or overestimation. Such registries are thus an intrinsically poor source of information on exposures, health outcomes, and possible associations among these events. The report also concluded that, given these inherent weaknesses, the best use of the AH&OBP Registry is as a means for the eligible population to document their concerns of health problems that may have resulted from their service, bring those concerns to the attention of VA and their health care providers, and supply VA with a roster of people who are interested in burn pit exposure issues.

I have attached a summary of the report for your reference. The entire document may be downloaded in PDF format without cost by anyone via links available at the following URL: https://www.nap.edu/catalog/23677/assessment-of-the-department-of-veterans-affairs-airborne-hazards-and-open-burn-pit-registry

The National Academies would be pleased to answer questions the Subcommittee may have concerning this work and assist in any other ways requested.

Victor J. Dzau, M.D.

President, National Academy of Medicine

VETERAN WARRIORS

Chairman Dunn, Ranking Member Brownley, and members of this Panel, Veteran Warriors expresses their gratitude for the opportunity to offer our views on the potential health effects of exposure to burn pits (operated in combat areas of operation).

There is currently legislation pending that would provide the Department of Veterans Affairs (VA) with the impetus and budget to institute a "Center of Excellence"; in order to research what, if any harm is done to those service members who are exposed to toxic chemicals that are emitted from open-air burning of trash.

That particular legislation will only succeed in solidifying what the "burn pits" have already been deemed; that being "this war's Agent Orange". The term is not used lightly; rather it is in reference to the over thirty years it took the Department to lawfully acknowledge the effects of "Agent Orange" had on service members.

What many legislators, veterans and citizens are not aware of is that the Department of Veterans Affairs already has a substantial and specific policy in place regarding providing medical care and rating claims; for those veterans who have been exposed to burn pits. That policy; "Training Letter 10–03" (Environmental Hazards in Iraq, Afghanistan, and Other Military Installations); was issued throughout the VA on April 26, 2010. The only part of that policy that most do recognize is the "Camp Lejeune Water Contamination" section; (which is AFTER the burn pit policy section).

Since that policy was issued; thousands of veterans have succumbed to burn pit related diseases. Just as many if not more, are dying. Yet, the VA continues to deny benefits and medical care for the predominance of those veterans who report illnesses associated with burn pit exposure. As of May 1, 2018; there are 141,246 veterans registered on the Burn Pit Registry.

The VA established the Burn Pit Registry on April 25, 2014. Unfortunately, the Registry questions were so poorly designed as to leave the resulting data useless. Veterans who succumbed to their injuries before the Registry was initiated; are banned from being registered. Most VA providers have no knowledge of it or its use. None of the providers can "see" the veteran's answers. VA rating examiners cannot see them either; leaving the veteran with no recourse to be properly rated for their burn pit exposures.

In February 2017, The National Academies of Sciences, Engineering, and Medicine, published their congressionally mandated study of the VA's Burn Pit Registry. While the study results are lengthy and offer other-use possibilities for the data collected; the most notable of the comments are as follows:

"While registries that rely on voluntary participation and self-reported information are a common means of collecting data on large populations, they are an intrinsically poor source of information on exposures, health outcomes, and possible associations among these events. Even under the best of circumstances, there are substantial limits to the accuracy of the data and-when the respondents constitute only a small, unrepresentative fraction of the eligible population-the generalizability of analyses made with them as well.

These weaknesses are apparent in the Airborne Hazards and Open Burn Pit (AH&OBP) Registry questionnaire and in the data collected in the registry's first 13 months. The weaknesses have been exacerbated by a series of flaws in the structure and operation of the questionnaire and in the questions that are asked and the way they are asked. The AH&OBP Registry questionnaire is flawed in that it;

- inappropriately uses questions that were validated for and meant to be administered by other survey means such as a face-to-face or computer-assisted phone interview;
- asks questions that may be confusing for respondents because they are ambiguous or otherwise poorly written;
- elicits information on topics such as hobbies and places of childhood residence that do not yield information that could be productively used in any analysis that would be appropriate to undertake using registry data;
- fails to ask questions (regarding non-burn-pit trash burning, for example) that could yield information related to relevant exposures;
- does not take full advantage of its Web-based format to streamline and focus questions based on previous responses;
- does not permit answers to be supplemented or updated later in time; and
- requires respondents to complete a sometimes lengthy set of repetitive questions regarding deployments before addressing core issues such as health, increasing the possibility of response fatigue."

For over a decade, both the Department of Defense (DoD) and Department of Veterans Affairs (VA); have relied on their own internal research facilities and staff; who at the direction of their respective leadership; have denied that there is any correlation between service members and contractors contracting rare and inexplicable (through genetics or by other know impetus) diseases and the use of open-air burn pits as a method of waste disposal in combat zones.

Both entities continue to deny the existence of any "valid" research which proves the direct causal links between open-air burning and over 141,000* (This number is taken from the VA's "Burn Pit Registry". It is not inclusive of all exposed and does not account for those who have succumbed to their diseases; as they are banned from being registered) service-members who are sick and in many cases dying. These agencies' refusal to publically acknowledge these causal links has had a direct impact on the service members receiving medical care and specific benefits that they would otherwise be entitled to under U.S. laws and regulations.

For decades, the United States government (USG) has created and enforced specific laws to protect human life and the environment; with regard to burning of household trash, chemical, medical, manufacturing and even military waste. There has been literally hundreds of thousands of man-hours spent researching the effects on humans, animals and the environment when trash is burned in open-air pits.

Inside the U.S. borders, it is illegal (under numerous federal and state statutes) to burn a wide variety of items in open-air burn pits. Yet, as the conflicts in the Middle East have worn on; the use of open-air burn pits not only was permitted, but it was openly sanctioned as "necessary".

Each and every item burned in these pits emits a chemical or group of chemicals. Each of these chemicals has been studied by thousands of researchers around the world. The consistency in the results of that research is what the USG has used repeatedly to create and enforce laws about open-air burning of trash, inside our borders; yet the DoD and VA still refuse care and benefits to tens of thousands of service members on the basis of their myopic and pigeon-hole research base.

The irony and insult to each service member is obvious and overt. The DoD has lengthy and specific regulations regarding burning such items as any piece of military equipment painted with CARC paint. As all military equipment is painted with CARC paint, it is a logical conclusion that no military equipment or part of such equipment be burned in an open-air pit. Yet the DoD has sanctioned the burning of all manner of military equipment painted with CARC paint for the entire duration of the Middle East conflict.

1. https://phc.amedd.army.mil/PHC%20Resource%20Library/CARC—Paint—37–011–0313.pdf

2. https://phc.amedd.army.mil/PHC%20Resource%20Library/TG144—NOV2012.pdf

The VA also has a public policy about veterans who have been exposed to burning CARC paint and acknowledges that this paint contains toxic chemicals that can be harmful to humans.

1. https://www.publichealth.va.gov/exposures/carc-paint/index.asp

"Health problems associated with CARC paint:

Paint fumes present the most potential risk to users especially when CARC is spray painted, rather than applied with a brush or roller.

CARC paint contains several chemical compounds that can be hazardous when inhaled or exposed to the skin:

- Isocyanyte (HDI)—Highly irritating to skin and respiratory system. High concentrations can cause: itching and reddening of skin; burning sensation in throat and nose and watering of the eyes; and cough, shortness of breath, pain during respiration, increased sputum production, and chest tightness.
- Solvents—Inhaling high concentrations can cause coughing, shortness of breath, watery eyes, and respiratory problems, including asthma
- Toluene diisocyanate (TDI)—High levels released during the drying process can cause kidney damage."

CARC paint is only one specific known chemical compound that has been routinely burned in open-air pits. There are literally thousands more.

On April 26, 2010; the VA issued the "Environmental Training Letter" to all VA facilities nationwide. It is a policy document which clearly directs all rating examiners and clinical providers on specific chemicals known to be found in the open-air burn pits and how to rate and treat veterans who claim exposures.

http://archive.sgtsullivancenter.org/wp-content/uploads/2014/11/Training-Letter-10–03–OIF—OEF–Exposures.pdf

Most are familiar with parts of this document; as it has supported the legislation surrounding the Camp Lejeune Water Contamination presumption of exposure that the VA has granted to those who served on that base.

The existence of this "Training Letter" provides yet another layer of evidence that the VA is aware of the toxins veterans' who served near open-air burn pits were exposed to and continues to defy even its own edicts. Under this policy, the VA has granted "Presumptive Status" to those exposed to contaminated water at Camp Lejeune (only); even though this very policy encompasses the burn pits in Iraq, Afghanistan and Djibouti; as well as water contamination at Camp Lejeune and Atsugi, Japan.

As nearly all trash burned releases toxic chemicals and the USG has regulated this for decades; there is no excuse why it should even be an option, let alone continue.

Those doing so are subject to fines and criminal sanctions inside the U.S. borders. Those service members exposed to these chemicals should not be denied access to any medical care or benefits when the hazards are well known to the USG.

The Center for Disease Control (CDC) lists all of the chemicals found in the Middle East conflict areas, in their top three-hundred (in ranking of most dangerous); https://www.atsdr.cdc.gov/spl/previous/07list.html

As a nation, forcing our service members to fight or die waiting for rightfully earned benefits and services; solely based on two agencies refusal to acknowledge peer accepted science; should be a source of shame. To continue to behave as if these veterans are fabricating their injuries is tantamount to denying their service.

Veteran Warriors has drafted legislation that will actually provide relief to the tens of thousands of veterans who are contracted illnesses associated with exposure to toxic chemicals in combat zones. The draft of the text follows this statement.

Whistleblowers of America (WoA)

Statement of Ms. Jacqueline Garrick, LCSW–C

Dear Chairman Dunn and Ranking Member Brownley;

Whistleblowers of America (WoA) is submitting this statement because we are concerned about the Department of Veterans Affairs (VA) lack of a consistent process to handle the toxic exposures, illnesses, and presumptions related to burn bits as the Gulf War continues. We have heard from numerous veterans—Vietnam to Gulf War to Iraq and Afghanistan (OIF/OEF) who feel that their concerns have been

too long ignored while they get sick and their claims are denied. Furthermore, WoA also sees the fraud, waste and abuse of ignoring the Veterans Disability Benefits Commission (VDBC) recommendations [1] made over a decade ago and VA ineffectiveness in implementing research because of it. The VA has had the authority to create presumptions since 1921 and has done so only 150 times. However, this piecemeal approach to disability presumption decision-making has been laborious and insufficient for almost a century. Too many veterans have died while waiting. Congress should end this dysfunction before 2021.

The VA has confirmed that burn pits have been in existence since 1990, but we must do more than simply store veterans in a registry while they get sick and die. In the documentary Delay, Deny, Hope You Die: How America Poisoned its Soldiers, [2] veterans describe the expansive environmental contaminations that they endured while the government neglected its responsibility to protect them. Among those who the film follows is former Marine, Brian Alvarado, who at 70 pounds is unable to speak because of his Squamous Cell Carcinoma that he and his family attribute to his burn pit exposures yet unrecognized by VA as related to his exposures. In 2016, Ben Krause [3] wrote about the death of a 36 year-old Minnesota Air National Guard mother who died of Pancreatic Cancer after serving next to the 10 acre/100–200 tons a day burn pit on the base in Balad, Iraq. In January 2013, I visited the Bagram Air Force Base in Afghanistan on behalf of the Department of Defense (DoD) and saw the defunct burn bit operation and was truly taken aback by its enormity. Sadly, these stories are not new. In June 2018, The American Legion featured in its magazine, a feature story on Exposed in Service [4] related to Atomic Veterans from 1962 who were dosed with ionizing radiation but are also unable to obtain VA benefits because of the lack of evidence.

It its imperative that Congress fund VA research, plus research done by independent laboratories that can validate VA data on the impact of burn bit exposures as well as comorbid conditions more prevalent among those who have deployed to toxic environments where there is a likelihood of hazardous exposures. VA must have a research strategy that fences these priorities and MUST have a focus to support presumption decisions that can inform Veterans Benefits Administration (VBA) policies. It must also provide the proper management of research funds and oversight of execution.

In prior testimony, WoA, highlight its concerns with previous generations of veterans who have been suffered toxic exposures and environmental hazards. We outlined:

Agent Orange: A primary source of concern for veterans that have contacted WoA has been related to toxic exposures and environmental hazards. There are still so many Vietnam-era Veterans with Agent Orange related issues that have not been appropriately recognized because of the shortfalls in the research. For example, eye cancers are a continuous issue that lack research support. VA continues to deny claims for disability benefits, which in turn blocks veteran from accessing care. As the Vietnam generation ages and has more complex needs for care, the arguments over probable correlations need to be resolved before there is no one left for the science to help.

Gulf War Illness: Although it has been more than 25 years since the US invaded Iraq, the mysteries of Gulf War Illnesses haunt veterans while perplexing VA. A July 2017 GAO report concluded that VA is still inappropriately denying veterans claims. It found an 80 percent denial rate, which is three times greater than any other type of claim denials. Plus, it also took VA longer to adjudicate these benefits. This delay means that sick veterans are not fully eligible for VA health care. VA has promised better training and to develop a new plan for research.

Fort McClellan: The VDBC included these predominately female service members in its recommendations. Over 10 years later, the American Legion is still reporting on the "unknown toxic legacy" of Anniston and has a resolution that requires a toxic substance national research center, comprehensive examinations for

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[1] VDBC. (2007) Honoring the call to duty: veterans' disability benefits in the 21st century. Department of Veterans Affairs, Washington, DC. Chapter 5.

[2] Lovett, G. (2017) Morningstar Media.

[3] Krause, B. 36-year old mother possibly the newest burn pit victim. DisabledVeterans.org, June 21, 2016

[4] Olsen, K. Exposure wars: the long, connected and continuing fight for accountability. June 2018. Pgs. 34–40

environmental exposures, and improvement in these rules.[5] (This is consistent with the VDBC findings.)

Camp LeJeune: Due to the water contamination at the Marine Corps Base, Camp LeJeune, NC, increased reports of cancers in veterans and their families have been document over the last several decades related to the cleaning solvents in the water.

Burn Pit Exposures: Similar to previous generations of veterans, those who have served in Afghanistan and Iraq since 9/11 were exposed to a concoction of burning substances on military installations that has caused them to raise health concerns from cancers to respiratory and gastrointestinal disorders. Although VA denies conclusive research for these conditions and does not have a presumption for burn pits, it has established a registry. However, this is an area yet again that the VDBC recommendation could be informative and assistive to veterans' wellness if implemented. A registry alone assists no one.

VDBC Recommendations for Reconsideration:

The VDBC conducted its work over a three-year period and reported its findings and 113 recommendations in October 2007. It was a Federal Advisory Committee established by President George W. Bush and its 13 commissioners were selected on a bipartisan basis. Presumption was a major issue that it tackled. The VDBC enlisted the subject matter assistance of the then Institute of Medicine (IOM) for its reliable and valid scientific approach. To meet the requirements outlined by VDBC, IOM established a committee that held meetings, reviewed research and other literature, and rendered its own report.[6] The IOM recommendations were incorporated into the VDBC Final Report after a full period of vetting and commentary by the community. In sum, the VDBC recommended:

1. Congress should create a formal advisory committee on disability related questions requiring scientific review

2. Congress should authorize a permanent independent Scientific Review Board (SRB) with a well-defined process using evaluation criteria

3. VA should develop and publish a formal process for disabling presumptions that is uniform, transparent, and sets forth all considered evidence.

4. The goal of presumptive disability should be to ensure compensation for veterans whose diseases are caused by military service (this goal is foundational for any related action)

5. The SRB should adapt a standard for "causal effect" based on a more likely than not broad spectrum of evidence that is either Sufficient, Equipoise and above, Equipoise and below, Against.

6. This calculation should include relative risk assessment, epidemiology, animal studies, registries, mechanistic data, predictive algorithms, and interfaces with DoD.

7. When evidence is at Equipoise or Above, an estimate of exposure should be included.

8. The relative risk and exposure prevalence should be used to estimate a service -attributable fraction.

9. Inventory all research related to veteran's health (VA, DoD or the funded)

10. Develop a strategic plan for OIF/OEF veterans research

11. Develop a plan for augmenting research capabilities within VA and DoD to more systematically generate health related evidence.

12. Assess enhancing research by linking VA and DoD health related databases

13. Conduct a critical evaluation of Gulf War (this includes OIF/OEF) tracking and environmental exposure monitoring data to categorize exposures during deployments (with DoD)

14. Establish Registries based on exposures, deployments, and disease

15. Develop an overall integrated (VA/DoD) surveillance plan

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[5] Olsen, K. The long shadow of Ft. McClellan. The American Legion Magazine. March 2018. Pgs. 22–28

[6] IOM. (2008) Improving the presumptive disability decision-making process for veterans. National Academies Press. Washington, DC.

16. Include exposure monitoring in an VA/DoD Electronic Health Record

17. Implement a strategy for immediate and proximate exposure assessment and data collection

18. Interface VA and DoD exposure data systems

19. Mechanism to identify, monitor, track and treat individuals involved in research and other activities that are classified and secret

20. VA should consider environmental issues in a new presumption framework

Given that a decade has passed since the VDBC made these recommendations, Congress should ask the VA to relook at this systematic approach and design a comprehensive way forward for researching presumption related disabling conditions related to environmental hazards and toxic exposures. It should consider the comorbidity of chemical sensitivities and biological agents, especially in relation to neurological and psychological concomitant factors that may take years before onset.

Thank you for this opportunity to express our views on this significant issue impacting thousands of disabled veterans, Service members, and their families. We hope that this Committee will compel VA to act on researching the presumptive conditions related to environmental hazards and toxic exposures.

Jacqueline Garrick is a former Army social work officer who has worked in the Departments of Veterans Affairs and Defense as well as for the House Veterans Affairs Committee. She is a subject matter expert in mental health and program evaluation. She is an advocate for disabled veterans and the use of peer support to improve resilience in traumatized populations. She founded Whistleblowers of America in 2017 based on her experience reporting attempted fraud with DoD Suicide prevention funds.

Whistleblowers of America is a 501C3, EIN 82–3989539. Its mission is to provide peer support to employees and veterans who have reported wrongdoing and experienced retaliation.

Contact:
Jacqueline Garrick
jackie@whistleblowersofamerica.org
202–309–1870

TRAGEDY ASSISTANCE PROGRAM FOR SURVIVORS (TAPS)

VIETNAM VETERANS OF AMERICA (VVA)

WOUNDED WARRIOR PROJECT (WWP)

Thank you, Chairman Dunn, Ranking Member Brownley, and distinguished members of the Health Subcommittee, for allowing us to present this statement for the record on behalf of the service members, veterans, family members, and survivors who have been affected by exposure to burn pits and other war related toxins.

For decades, veterans of overseas conflicts and families of our nation's wounded, ill, injured, and fallen heroes have been advocating to investigate and bring public awareness to the harmful effects of toxic exposures in the military. Wounded Warrior Project (WWP), the Tragedy Assistance Program for Survivors (TAPS), and Vietnam Veterans of America (VVA) have partnered to give momentum to these causes and deliver change. While not the only form of toxic exposure that we or others wish to address, burn pits have become synonymous with our community's interest in acknowledging the harm these exposures have caused and ultimately delivering public policy changes that will ensure longer, healthier lives for the men and women who serve our country.

As individual organizations, VVA, TAPS, and WWP have shared concerns for several years about the emergence of toxic exposure as a common thread among former service members who are sick, dying, or already deceased from uncommon illnesses or unusually early onset of more familiar maladies like cancer. In the past, we have advocated for initiatives such as the creation of the Airborne Hazards and Open Burn Pit Registry in June 2014 and the more recent passage of the Toxic Exposure Research Act of 2016 (P.L. 114–315, §§ 631–34). Given our collective interest in prevention, treatment, and awareness, Wounded Warrior Project decided in October 2017 to coordinate efforts with TAPS and VVA and invested $200,000 in a needs assessment to guide our future advocacy. Wounded Warrior Project remains com-

mitted to continued investments of resources and expanding its partnerships to include others passionate about this important issue.

Since joining together in partnership, we have concentrated our efforts to raise awareness of toxic exposures among and on behalf of Post-9/11 veterans. Our current undertaking is focused on gathering research and data that will help us all better understand the risks and effects of toxic exposure so that we may work to ensure service members, veterans, families, and survivors have access to the care and benefits they need. Thus far, we have built and maintain a database of empirical research on toxic exposures, and with the help of the U.S. Army, enlisted the help of the "Soldier for Life Program" to share toxic exposure information with their network of over a million veterans. We have created a flyer to be distributed nationally to help veterans take the next steps in identifying and being screened for symptoms of toxic exposures; recorded a podcast on toxic exposures among Post-9/11 veterans, and are networking with other toxic exposure awareness groups such as Burn Pits 360 to further share our message. We have lent our support to the work of others, including the effort behind the Burn Pits Accountability Act (H.R. 5671) introduced by Reps. Tulsi Gabbard (HI–02) and Brian Mast (FL–18), and we are working towards delivering an information paper to the Health Subcommittee that provides a full landscape of what our partnership has been able to bring to light over the past several months. More work needs to be done however, and we hope to build upon our momentum in the months ahead.

Burn Pits

In the Post-9/11 era, it is estimated that as many as 3 million American service members may have been exposed to dangerous toxins during their deployments overseas. Potential sources of these exposures include, but are not limited to, depleted uranium used in military armor and munitions, toxins from burning oil refineries/destroyed weapons plants, and more than 260 open-air burn pits used for the disposal of all forms of waste on forward coalition bases around the world.

In its 2011 study on Long-Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan, the Institute of Medicine stated that it was unable to determine whether long-term health effects are likely to result from burn pit exposure due to inadequate evidence of an association. Although the study did not find a causal relationship between burn pits and long-term health issues, it similarly did not conclude that there is no relationship. That said, each of our organizations continue to see anecdotal evidence to the contrary. Accordingly, our organizations collectively agree that public policy moving forward should aspire to:

- Support research on the impact of service members exposed to environmental toxins or hazardous substances, and/or deployment illnesses that may have resulted from their military service (e.g., burn pit exposure in Iraq and Afghanistan and Camp Lejeune contaminated water).
- Ensure health care and benefits are established to appropriately compensate and support service members and veterans, family members, and survivors, particularly those experiencing catastrophic and devastating cancers, diseases, other health conditions, or death as a result of their service.
- Implement the Government Accountability Office's September 2016 Report (GAO–16–781) recommendation for the Department of Defense (DoD) and the Department of Veterans Affairs (VA) to examine the relationship between direct, individual, burn pit exposure and potential long-term health-related issues as well as the Institute of Medicine's 2011 report suggestion to evaluate the health status of service members from their time of deployment over many years.

Beyond Burn Pits

As noted above, burn pits are just one of many ways that veterans were exposed to harmful toxins in service. While any progress to bring redress for the wounded, ill, and injured veterans, their families, and the families of the fallen who were exposed to burn pits would be meaningful, the most lasting impact will be made when we investigate other potential causes of death and disease for which there is already conspicuous correlation. In this context, our organizations are also committed to developing public policies that:

- Seek additional research by DoD and VA on the link between cancers that may be caused by toxic exposures in combat zones.
- Expand the current Burn Pit Registry so that it becomes a Toxic Exposure Registry, and includes exposures to depleted uranium, experimental medications, vaccinations, and aircraft fuels.

- Create an education program for distribution in both DoD and VA for veterans and family members that includes the known symptoms associated with toxic exposures in order to initiate earlier intervention.
- Allow surviving family members who believe that their service member/veteran may have died from a toxic exposure to add their names to the Toxic Exposure Registry.
- Encourage the VA to work with the Army Public Health Center to summarize and identify common risks using their Periodic Occupational and Environmental Monitoring Summary (POEMS).

Additionally, while we know this committee only has jurisdiction over VA, we realize there is much to do by DoD. We would like Congress to require DoD to assess and research the diseases and illnesses resulting from toxic exposures by our Post-9/11 veterans in order to help ensure longer, healthier lives for the men and women who serve our country. Eventually, we would like to make sure that all exposures would be delineated so that none are overlooked or fall through loopholes. We would also like to see the list expanded to include depleted uranium, radiation exposures, infectious diseases, and occupational materials. We would hope that identifying each exposure is a step in the right direction.

Lastly, we would like to see an evaluation of all duty locations in which a member served, not just those with open air burn pits, to ascertain the full measure of a service member's toxic exposures. The recently released DoD report from March 2018, Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), outlines the full magnitude of the presence of PFOS and PFOA in drinking water and groundwater on our military bases and identifies 401 active and Base Closure and Realignment installations in the United States with at least one area where there was a known or suspected release of perfluorinated compounds. This exposure should not be overlooked.

Final Remarks

In conclusion, we sincerely appreciate the Health Subcommittee's commitment to assessing the potential health effects of burn pits. While our organizations have found compelling evidence in the anecdotal stories of death, early onset of disease, and lingering health ailments that are difficult to attribute to other potential causes, we understand that progress takes time. We are grateful that today's hearing will contribute to a greater understanding and increased information sharing related to burn pit exposure and the potential effects of such exposures on America's heroes and their families.

In the future, we are eager to see the Health Subcommittee expand the aperture further to include other toxic exposures including depleted uranium, radiation exposures, infectious diseases, and occupational materials. We are confident that the TAPS, VVA, and WWP partnership—along with any others who may join or who share our interest in raising awareness and driving change in this area—can provide thoughtful, constructive, and informative assistance in Congress' future efforts, and we look forward to continued engagement with the Health Subcommittee on burn pits and other toxic exposures as we seek to support service members, veterans, family members, and survivors whose lives have been touched by exposure to burn pits.

Our Organizations

The **Tragedy Assistance Program for Survivors (TAPS)** is the national organization providing compassionate care for the families of America's fallen military heroes. TAPS provides peer-based emotional support, grief and trauma resources, grief seminars and retreats for adults, Good Grief Camps for children, case work assistance, connections to community-based care, and a 24/7 resource and information helpline for all who have been affected by a death in the Armed Forces. Services are provided to families at no cost to them. We do all of this without financial support from the Department of Defense; TAPS is funded by the generosity of the American people.

TAPS was founded in 1994 by Bonnie Carroll following the death of her husband in a military plane crash in Alaska in 1992. Since then, TAPS has offered comfort and care to more than 75,000 bereaved surviving family members. TAPS currently receives no government grants or funding.

The national organization **Vietnam Veterans of America (VVA)** is a Congressionally chartered non-profit veterans' service organization whose founding principle is: "Never again will one generation of veterans abandon another." VVA promotes and supports the full range of issues important to Vietnam veterans, to create a new identity for this generation of veterans, and to change public perception of Vietnam

veterans. VVA knows what returning veterans face as we have been through it before. We know that, despite all the rhetoric, returning veterans will face major health problems and as such, VVA has a well-known history of dealing with the health effects of toxic exposures during military service.

In the 1970's, established veterans groups had failed to prioritize issues of concern to Vietnam veterans. Thus VVA came into existence at that time out of a clear necessity to advocate for and provide support to veterans in need. VVA will be here for as long as it takes to make sure that those who serve our country receive the care and respect they have earned.

VVA is not currently in receipt of any federal grant or contract, other than the routine allocation of office space and associated resources in VA Regional Offices for outreach and direct services through its Veterans Benefits Program (Service Representatives). This is also true of the previous two fiscal years.

Wounded Warrior Project (WWP) is transforming the way America's injured veterans are empowered, employed, and engaged in our communities. Since 2003 we've been tireless advocates for our Nation's finest, improving the lives of over half a million warriors and their families.

Warriors never pay a penny for our programs-because they paid their dues on the battlefield. Our free services in mental health, career counseling, and long-term rehabilitative care change lives. WWP is committed to helping injured veterans achieve their highest ambition. When they're ready to start their next mission, we stand ready to serve.

WWP is humbled to be recognized as a charity with great impact, operating with efficiency, transparency, and accountability. We are an accredited charity with the Better Business Bureau (BBB), top rated by Charity Navigator, and hold a GuideStar Platinum rating. WWP has not received any federal grants or funding.