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THE HEALTH EFFECTS OF EXPOSURE TO AIRBORNE HAZARDS, INCLUDING TOXIC FUMES FROM BURN PITS

HEARING

BEFORE THE

SUBCOMMITTEE ON
PERSONNEL

OF THE

COMMITTEE ON ARMED SERVICES
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WEDNESDAY, MARCH 16, 2022

UNITED STATES SENATE,
SUBCOMMITTEE PERSONNEL,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The Committee met, pursuant to notice, at 3:30 p.m. in room SR–232A, Russell Senate Office Building, Senator Kirsten Gillibrand (Chairman of the Subcommittee) presiding.

Committee Members present: Gillibrand, Warren, Hirono, Tillis, Hawley, and Tuberville.

OPENING STATEMENT OF SENATOR KIRSTEN GILLIBRAND

Senator GILLIBRAND. Good afternoon, everybody. The Personnel Subcommittee meets today to receive testimony on the health effects of exposure to airborne hazards, including toxic fumes from burn pits. Let me start by welcoming Ranking Member Tillis, who will be here very shortly, who has been an excellent partner on this subcommittee over the last several years. Senator Tillis and I have shared a commitment to supporting our servicemembers and providing them with the services, resources, and care that they need.

That commitment extends to our shared drive to address the debilitating and extensive medical issues and disabilities caused by the use of burn pits in recent combat operations. When our servicemembers deploy they expect to face risks, but those risks should not come from the operations of our own bases, and when they do, we must take responsibility. I look forward to continuing to work together on this issue.

I was also glad to hear that President Biden prioritized addressing this cost of war in the State of the Union, and again in Texas last week. He described the clear cause and effect of this crisis saying, "The burn pits that incinerate the waste of war, medical and hazardous material, jet fuel, and so much more were just dug in big pits, not far from where our veterans were sleeping, and when our troops came home, the fittest among them, the greatest fighting force in the history of the world, too many of them were not the same—headaches, numbness, dizziness, cancer." That tells the whole story. Men and women who deployed at the peak of physical fitness are now fighting to survive.

This is a health crisis among our armed services. Most public attention on this issue has been focused on the treatment of veterans

at the Veterans Administration, but these health issues stem from time on Active Duty and can begin presenting while our troops are still serving. The DOD [Department of Defense] has a critical role to play in protecting the health of our current and transitioning servicemembers. That is why today's hearing is so critical. We need to have a better understanding of how toxic exposure has been and is being tracked and documented, and the barriers that have presented that documentation from being done effectively.

Congress has already recognized DOD's responsibility and has passed legislation to require DOD to take appropriate measures, including requiring inclusion of exposure to open burn pits in post-deployment health assessments of servicemembers returning from deployment, recording burn pit registration in electronic health records, and mandatory training for military health care providers on the effects of burn pit exposure.

But we need to go further. We need to build an understanding of the health impacts of toxic exposure and our knowledge of when such exposure is occurring, and we must make that information available to servicemembers, their families, and the medical professionals they rely on in order to properly and adequately care for our troops who have been exposed.

As President Biden said, quote, "We need to know more about which of our veterans may have been exposed to burn pits in the first place or other environmental toxins during their service, and record possible exposure before servicemembers separate from the military," end quote.

Today's witnesses will help provide clarity in both of those areas. Our first panel consists of DOD witnesses who will testify about the health effects of toxic exposure, assessment of health impacts, documentation of potential exposure, and monitoring of exposure. Witnesses on our second panel will share what they have seen or experienced firsthand on this issue and will provide recommendations for ensuring the health and safety of our servicemembers.

Witnesses for our first panel include Dr. Terry M. Rauch, Acting Deputy Assistant Secretary of Defense for Health Readiness Policy and Oversight; Dr. Raul Mirza, Division Chief of Occupational and Environmental Medicine, Clinical Public Health, and Epidemiology, U.S. Army Public Health Center; Colonel Adam J. Newell, Chief of Medical Readiness, Air Force Medical Readiness Agency; and Captain Brian L. Feldman, Commander, Navy and Marine Corps Public Health Center.

I will introduce the second panel after we receive the testimony of the first panel. Again, thank you for being here today, and just for Senator Tillis' benefit, I told him how wonderful you are at the opening of my remarks.

STATEMENT OF SENATOR THOM TILLIS

Senator TILLIS. Could you please repeat that? I am sorry I am running late. I went ahead and voted so I figured we could tag team and not disrupt the hearing. But thank you all for being here. Senator Gillibrand, thank you for holding the hearing and your advocacy of the work that I am well of in veterans' affairs, that we need to continue to work on.

I have worked on this subject for a long time when I first came to the Senate. I was involved with trying to get the presumptions in place for Camp Lejeune, toxic exposures down there. Fortunately, after a lot of back and forth with the Veterans Affairs (VA) we were successful, but we have more work to do.

I am happy that the Veterans Affairs Committee has unanimously reported out a bill on toxic substances. We are going to continue to work in the VA Committee to do right by those who were exposed and who are now in veteran status.

The objective of today's hearing, though—and it is something that I have said on a number of fronts, whether it is traumatic brain injury, low-level concussive events, things that men and women, while they are on Active status, experience that could ultimately result in problems in the long term—I think we have an opportunity here to get ahead of it. Instead of waiting for the next burn pit, or waiting for the next Agent Orange, what more can we do downrange? What more can we do in our military installations to understand the potential risk that we are putting our men and women, potentially putting them in a position to where they too are going to have negative health consequences, either while they are serving or after they transition to veteran status.

So today I look forward to talking with you all about how we can get ahead of the curve, how we can do a better job of tracking potential exposures so that it makes it very easy later on, if we get into a situation. We cannot always, when we are downrange, know what we are going to get exposed to, but once we know it then we should make sure that every single electronic health record of any man or woman who is exposed to it is updated, and maybe we can even anticipate that they are at risk before they ever exhibit the first symptom. That is the end goal, and I am sure that you all, the witnesses, agree that that should be an end goal of everybody.

So I look forward to this testimony today. I look forward to moving up in the cycle, talking with the DOD to figure out what more we can do to actually begin to bend the curve on some of the consequences that we have to deal with, with our men and women in uniform, and with the men and women who have served before.

So thank you all. I look forward to your testimony.

Senator GILLIBRAND. Colonel Newell? Dr. Rauch?

STATEMENT OF TERRY RAUCH, PhD, ACTING DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR HEALTH READINESS POLICY AND OVERSIGHT

Dr. RAUCH. Chairwoman Gillibrand, Ranking Member Tillis, and members of the subcommittee, thank you for inviting the Department to testify for the Senate Armed Services Committee hearing on military exposures of concern, including airborne hazards and open burn pits. I am pleased to represent the Office of the Secretary of Defense and have the opportunity to discuss the Department's actions in addressing airborne contaminants and open burn pits in military options, and the potential health effects to our servicemembers and veterans.

Joining me today and representing their military departments are Colonel Newell from the Air Force, Dr. Mirza from the Army, and Captain Feldman from the Navy.

The Department recognizes the concerns about the potential health impact of burn pits and other airborne exposures. The relationship between burn pit exposure and illness is a topic of active research by the Department, the Veterans Affairs, National Academies of Science, Engineering, and Medicine, and other research institutions. The Department and VA continue to support and fund these research efforts to better understand any health effects that will better inform the health care provided to our servicemembers and veterans.

Health care providers play a critical role in understanding health-related exposures and becoming proficient in assessing patients' exposure concerns. This month, the Department will launch an updated version of its Airborne Hazards and Open Burn Pit Registry Overview course for health care providers. In addition to the training course, an Airborne Exposure Clinical Toolbox is available to our health care providers.

The Department and the VA continue to share education, training, and outreach products to improve exposure-related clinical care. Airborne hazards pose potential acute and chronic health effects during deployment and post-deployment. As such, the Department has enhanced its pre- and post-deployment-related health assessments and the Separation Health Assessment to include more specific occupational and environmental exposure questions, including questions on burn pits and other airborne hazards.

The Department and VA are currently collaborating on multiple efforts, including the development of the first-ever Individual Longitudinal Exposure Record—we call it the ILER—providing exposure summaries by leveraging personnel location, environmental monitoring and health assessment data. The Department is also conducting a comprehensive exposure monitoring capabilities-based assessment aimed at improving individual and area exposure monitoring and record-keeping across the installation, training, and deployed environments.

In closing, the Department remains committed to continually improving our understanding of exposures of concern and potential health effects in order to prevent and mitigate exposures and clinically assess, treat, and care for our servicemembers and veterans.

Madam Chairwoman, that concludes my opening remark, and we stand ready to address your questions.

[The joint prepared statement of Dr. Terry M. Rauch, Dr. Raul Mirza, Colonel Adam J. Newell, and Captain Brian L. Feldman follows:]

JOINT PREPARED STATEMENT BY DR. TERRY M. RAUCH, DR. RAUL MIRZA, COLONEL ADAM J. NEWELL, AND CAPTAIN BRIAN L. FELDMAN

I thank Chair Gillibrand, Ranking Member Tillis and the Members of the Personnel Subcommittee of the Senate Armed Services Committee for the opportunity to participate in today's hearing.

My name is Dr. Anthony Szema, Clinical Associate Professor of Medicine (Divisions of Pulmonary/Critical Care and Allergy/Immunology), and Clinical Associate Professor of Occupational Medicine, Epidemiology and Prevention at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell where I am Director, International Center of Excellence in Deployment Health and Medical Geosciences. At Stony Brook University, as adjunct faculty, I am Research Assistant Professor, Department of Technology and Society, College of Engineering and Applied Sciences.

Between 1998 and 2015 I was Allergy Section Chief, Veterans Affairs Medical Center, Northport, NY. My expertise on this issue stems from the following: my team first reported new onset asthma from Iraq and Afghanistan Deployments among burn pit exposed soldiers in 2007, described deployment related rhinitis in 2008, coined the term Iraq Afghanistan War Lung Injury (IAW–LI) in 2011, based on lung function testing data, developed animal models with burn pit base dust in 2014, tested candidate drugs in mice in 2018, and co-invented new candidate medicines this year.

I agreed to testify because, as a physician, I care about the health and well being of my patients who are our soldiers.

The team in my office sees numerous patients post deployment with a variety of symptoms which include shortness of breath, cough, and chest tightness that is accentuated with exercise. I have diagnosed post burn pit exposed soldiers with asthma, chronic obstructive pulmonary disease, lung fibrosis, carbonaceous lung, constrictive bronchiolitis, titanium lung, bladder cancer as well as pulmonary ossification or bone in the lung. These are previously healthy, non-smoking, fit for deployment soldiers who have newly acquired lung disorders after their tours of duty. In one severe case, for example, my patient with lung fibrosis required two lung transplants and died last December.

As an expert in the field, I have concluded that these lung disorders are directly related to exposure to airborne hazards. These ailments resulted from inhalational exposures to: burn pits, dust storms, improvised explosive devices, as well as blast overpressure from mortar fired rounds.

My conclusions are based on our analyses of lung biopsies containing particles from these soldiers' lungs. These particles were subsequently processed at two different sites with two different types of technical machinery for analysis.

1) Center for Extraplanetary Exploration, Rahman Spectroscopy, Department of Geosciences, Stony Brook University
2) Brookhaven National Laboratory, National Synchrotron Light Source II Beam ID–5.

Analyses from both laboratories conclude that the particles from soldiers' lung biopsies sustained exposure to high combustion temperatures consistent with burning. Chemicals identified included polycyclic aromatic hydrocarbons (PAH), and metals such as titanium and iron. These metals were bound together. These metals were also oxidized—which is evidence they were burned.

As doctors treating these patients, one challenge we face is that there is inadequate screening for those military personnel who are predisposed to lung injury. Lack of screening is a challenge for diagnosing and treating patients for several reasons. First, if individuals are not screened, then they may never get correctly diagnosed. In addition, if they are not screened, and therefore not treated properly, by the time they present to the doctor, the disease is already severe and therefore, more difficult to treat.

The dilemma with military personnel, who typically do not have asthma, since it is an exclusion diagnosis for enlistment, who must pass basic training outdoors, and who must be fit for deployment at Fort Hood prior to deployment, is that they usually do not have pre-deployment pulmonary assessments.

Unlike the Fire Department of New York which requires annual spirometry breathing tests and was able to assess respiratory changes after 9/11, soldiers most often do not have a baseline for comparison other than their 2-mile run time. An otherwise healthy young soldier may be 100 percent or more predicted on spirometry and oxygen consumption from a cardiopulmonary exercise test predeployment. So, reduction to 80 percent predicted post-deployment is a significant decrease even though 80 percent is the cutoff for normal.

Another challenge we face as the doctors treating these servicemembers is the lack of information we receive. Without knowing what they were exposed, or potentially exposed, to, it is hard to prove what caused the ailment. For example, in one recent case last month, a military firefighter, a patient of mine, was unable to get a referral to the East Orange WRIIC. The primary care doctor in the local VA did not believe that the military firefighter's sleep apnea, sinusitis, asthma, and rhinitis were related to deployment, even though he had a positive sleep study during his Active Duty.

Even if it is known that there were toxic materials at a certain site, too often, soldiers visit our academic center without complete documentation of locations of their deployment so their direct exposure cannot be proven. This is especially the case if they were at forward operating bases or places like Camp Stryker whose exact location is not on the map.

I have several recommendations to address these challenges and ensure we are taking care of our servicemembers:

1. Conduct breathing tests before and after deployment.
2. Revamp the DOD method of documenting locations where military personnel served.
3. Utilize newer technology such as wearable particle monitors.

First, by conducting breathing tests before and after deployment for our troops, we can determine if there is a reduction in lung function much earlier than if we wait until disease is severe. In addition, these data will enable better screening protocols to identify ahead of time those soldiers at increased risk.

Second, by revamping the DOD method of documenting locations where military personnel served, we will have a better understanding of what these soldiers were exposed to, and therefore, a better understanding of the cause of the illness as well as how to treat it. For example, it is important for those treating these soldiers to know which regions of the country an individual soldier was in; what types of munitions they were exposed to; what the chemical makeup of these munitions are; how trash was disposed of in that region, including burn pits; what the weather patterns were, i.e., dust storms in that region; whether depleted uranium was used in that region, for example, in armor piercing rounds PGU–14 and tank shells, as well as ship ballast; and whether that soldier used personal protective equipment and what types of PPE they used.

Third, by utilizing newer technology such as wearable particle monitors with GPS [Global Positioning System], we will be able to assess a given soldier's exposure and location. By utilizing this for a contingent of military personnel, the DOD will be better able to move troops to regions of safety away from airborne hazards. If exposure does happen, it will also provide critical information for treatment.

Our research team applied for a Congressionally Directed Medical Research Program (CDMRP) grant, got a great score, but was told there are insufficient DOD funds for the grant. We proposed to build on a beeper sized belt mounted device which measures particle counts, sarin and other toxic gas exposure, and gunshot sounds. Wearable tech is a mature enough field such that the industry should be able to respond to the needs of the DOD.

These recommendations will ease the burden on both soldiers and physicians when those soldiers seek medical care. My recommendations do not prevent exposure but they do allow us to provide data so we can intercede early with diagnosis and initiation of treatment; by doing so, then we may see the overall cost of medical care go down and, more importantly, more lives being saved.

We know that screening and monitoring programs have been extremely effective in preserving the health of those exposed to the World Trade Center disaster which is an analogous plume with JP–8 in burn pits. It is our sacred duty as Americans to protect the health of all the brave women and men who sacrifice their lives for our freedom.

Senator GILLIBRAND. Thank you, so much, Dr. Rauch.

Dr. Rauch, what does DOD do in the field to track toxic exposure for individual servicemembers, and are there any innovative ways the Department is working to do so?

Dr. RAUCH. Thank you for the question. I will start off and my colleagues can provide any more detail.

It primarily starts, if we are talking about the deployed environment, it primarily starts onsite with our preventive medicine teams that are collecting environmental data, whether it be airborne data, soil data, water data. All of that data that is being collected—and it does, obviously, include data that is generated from military operations, to include burn pits, where there are—that data is collected by our preventive medicine units. It is captured in a large database called DOEHRS [Defense Occupational and Environmental Health Readiness System—Industrial Hygiene], and specific to DOEHRS, it is called DOEHRS–IH. IH stands for "industrial hygiene." That database will then become available to then feed into the ILER, which is the longitudinal exposure record, and in addition, the ILER will not only scrape environmental health assessment data from DOEHRS, it will also scrape data from personnel location. So you can match the individual servicemember and his or her location to the environmental health data that is

being captured in DOEHRS, and then ILER will present that data in what we call a joint longitudinal viewer and summarize that data for the health care professional. So he or she will be able to see where that servicemember was, at any point in time, what they were exposed to, and be able to——

Senator GILLIBRAND. What is the time point this data starts, data going back to what point in time?

Dr. RAUCH. Well, preventive medicine units are part of the deployed force, and so they could be doing their environmental health basis on a weekly basis, they could be hanging air monitor——

Senator GILLIBRAND. But when did you start collecting this data?

Dr. RAUCH. When I was on Active Duty in 1999, we were collecting it in Bosnia and Kosovo, so it has been a while.

Senator GILLIBRAND. Great. Now you mentioned also—so you have it back to 1999, at least, and you said there are active burn pits today that you are monitoring. Where are those burn pits located?

Dr. RAUCH. It is my understanding that there are active burn pits in the CENTCOM area of operations. I can get with CENTCOM and we can provide more detailed information.

Senator GILLIBRAND. Yes, please. Because I understood that the DOD now, as a matter of policy, has determined that they will no longer use burn pits as a way to dispose of waste. So if that is not the case I just need to know that, and second, I would like to know all existing burn pits that members of the military are being exposed to today, because that would be of great concern.

Dr. RAUCH. I will get with CENTCOM. I will provide that information. By policy, by DOD directive, we only will use burn pits when it is a military operational necessity. Everything else, the COCOM, the way he or she manages that waste, will not be managed by open burn pits.

[The information referred to follows:].

Mr. RAUCH. Syria, Yemen, Iraq, Egypt, and Chad.

Senator GILLIBRAND. So have they determined that all past burn pits of the last 20 years were operationally necessary?

Dr. RAUCH. Can you repeat that question?

Senator GILLIBRAND. Have they already determined that the hundreds of burn pits that were used in the past were all operationally necessary?

Dr. RAUCH. Burn pits that were used in the past were used because when you establish a base camp in an immature theater, and each servicemember in the deployed force is generating 10 pounds or more of waste every day, and you have 300 to 3,000, that is a lot of daily waste, and we have to manage it somehow. In an immature theater, before you can install incinerators or contract to have it removed, burn pits were used.

Senator GILLIBRAND. Understood, and then my final question, which I think you answered, but what is the process that is currently being used by DOD and each of your services to determine whether a servicemember returning from deployment has been exposed to toxic fumes from burn pits during his deployment, and how and where is that information recorded, and who is given access to that information? Is it shared with the VA? I think you an-

swered that question in the beginning. Could you just restate the answer?

Dr. RAUCH. Yeah. So there a number of ways that it is captured. We have a pre-deployment assessment and a post-deployment assessment, and that includes questions on airborne hazards, location exposure. In addition, we have the separation assessment, which also includes similar questions on health hazards and airborne contamination and location, and the separation assessment is sent to the VA with the servicemember. In addition, all of that is captured in databases that is captured under ILER.

Senator GILLIBRAND. You believe that this data has been captured to at least since 1999?

Dr. RAUCH. The airborne monitoring that I am talking about, that we did at Camp Bondsteel and other areas of Kosovo were stationary air monitors. We did not have the current systems and databases that we have today. I mean, we were writing it down on paper and pencil, the data, back then. Now it is all captured electronically.

Senator GILLIBRAND. So can you provide for the committee what years you have environmental data for air quality in different deployments around the globe?

Dr. RAUCH. Sure. Of course.

Senator GILLIBRAND. Thank you.

Dr. RAUCH. It would go back before 1999.

Senator GILLIBRAND. It would?

Dr. RAUCH. Oh yes.

Senator GILLIBRAND. Okay. So that is excellent.

Dr. RAUCH. I mean, we were doing it in the first Gulf War.

Senator GILLIBRAND. So we can get that information. So if we wanted to know air quality at K2 we could get air quality from K2?

Dr. RAUCH. If I can get air quality at K2, I should be able to, yes.

[The information referred to follows:].

Mr. RAUCH. In DOEHRS, deployment air quality data exists from 1996-present for certain locations/operations. Outside of DOEHRS we should have at least hard copy data from Kuwait in the early 90's (Oil Well Fires).

Senator GILLIBRAND. Okay. So that is kind of information we need, because we know where there were open burn pits from testimony of our servicemembers, and if we can get air quality from those locations it will make their ability for the DOD to fully understand that exposure did take place, because we have that data. Thank you.

Dr. RAUCH. I understand.

Senator GILLIBRAND. Thank you.

Senator TILLIS. Thank you, Chairman. Thank you all for being here. I wanted to go back. You were saying, in 1999, I am sure that sensors have changed dramatically since then. So give me an idea now about the training for preventative medicine personnel about the nature of the sensors, whether or not we are considering—I know these are area sensors, probably—but what is the state of the art or the state of thinking in the DOD for wearable sensors, those sorts of things, so that we can track it down to the potential exposures of an individual in a situation?

Dr. RAUCH. Thank you, Senator. I will start that answer off and then I am going to defer to my colleagues to add a little bit more detail from their perspective.

We are very interested in wearables. The reason is because our emphasis, our focus really needs to be on individual exposure monitoring. The things that I was talking about before, the data that we are capturing out of the environment——

Senator TILLIS. More macro level?

Dr. RAUCH. There you go, and so, you know, you are going to have 100 or 30 or more individuals, and that data is very difficult to pinpoint exactly what an individual was exposed to. You know, there is kind of an old saying in science, "It all matters to dose response," and if we cannot figure out what the dose of the exposure was, and what they were exposed to, then it is very difficult to capture their response.

I will defer to my colleagues on their preventative medicine units and how they train, and the technology that they use. Captain?

Captain FELDMAN. Thank you, Senator. A couple of different things from Navy Medicine. We are very proud of our forward-deployed preventive medicine units. They are agile, expeditionary teams that have quite a robust capability. So for example, they have got portable sampling devices that are now part of a tri-service, standardized program. They support all services. In fact, they have been deployed with the Army mostly, including currently. But those devices can conduct a pretty comprehensive evaluation of soil, air, water, water vapor, at an individual, portable level device having a static sensor. So that is a robust capability that is really cutting edge.

With regard to wearables, one unique thing that Navy Medicine is doing with research and development, we have got some very robust submarine atmospheric monitoring, quite a robust and safe program, and Research and Development (R&D) is looking at silicone bands, wearables, that you can get individual level exposure data on a submarine.

In addition to that, our research labs in Dayton have an Environmental Health Directorate that are looking at biomarkers and other correlates, translating from animal models, that will help us in the future get down to individual-level exposure.

Senator TILLIS. Colonel, do you have anything to add?

Colonel NEWELL. Thank you, Senator. For the Department of the Air Force it is very similar. We are looking into wearables. We have not instituted them yet but there are in development.

Senator TILLIS. Dr. Mirza?

Dr. MIRZA. Sir, thank you for the opportunity. Myself, like my colleagues, we are also very interested in wearable technology. I think it is also important to underscore that the Army preventative medicine detachments are quite skilled and equipped to conduct the ambient samplings that they do as part of missions when they are forward deployed. Certainly air quality is not the exclusive issue of concern as well as other environmental issues, such as vector-borne diseases, pest control management, communicable diseases, and they are equipped and trained in that respect with environmental engineers, scientists, and also complementary clinical staff and public health and preventive medicine that are able to

provide adjunctive and consultive support on-site, and not only within the PM community but also for all providers that are downrange.

It is a pretty synchronized and robust capability that the Army provides in a contingency operation to assess exposures and respond to them.

Senator TILLIS. You know, I think one of the reasons why we should focus so much on wearables is we get an atomic view of exposures, and then hopefully, as a part of the process that is being captured in the electronic health record of the individual servicemember and ultimately being transferred to the electronic health record for the veteran, now that we have a joint office for the Center implementation for the VA electronic health record.

I think it is going to be very important to have a seamless transition, and then hopefully we get to a point, if you are able to capture enough data, to where we can apply predictive analytics to maybe identify an exposure long before any symptoms have manifested themselves.

Dr. Rauch, did you have something to add?

Dr. RAUCH. Well, I would also add, Senator, that in addition to wearables we need to understand more about how the individual responds to environmental exposures. What risks do they bring, other backgrounds, lifestyle factors such as, are you smoking a pack a day, you know, before you deployed, other lifestyle factors, or even what genetic background individuals bring. We need to understand those because they are going to have an impact, and the science is not there yet but we are pursuing it.

Senator TILLIS. [Presiding.] Thank you. Senator Hawley.

Senator HAWLEY. Thank you, Senator Tillis. Dr. Rauch, if I could just start with you. You testified in your written testimony that since 2001, over 4 million now veterans as well as DOD civilians and DOD contractors deployed to the Southwest Asia theater of operations. How many of these individuals would have been exposed to airborne hazards, including toxic exposures from burn pits? Do you know? In that time frame.

Dr. RAUCH. Well, I cannot imagine that—all of them should have been exposed to some types of airborne hazards if they were deployed in various base camps and environments in Southwest Asia, because Southwest Asia, just the military operational environment—vehicles, burn pits, everything else, to include sandstorms created a lot of potential for airborne hazards. If you are there, you are exposed to it.

Senator HAWLEY. What is DOD's estimate for the number of individuals who would qualify for the presumption of service-related connection, given how many individuals were exposed, and so on?

Dr. RAUCH. I have got to take that for the record. I will get you as much detail as I can, but I cannot get that to you off the top of my head, Senator.

[The information referred to follows:].

Mr. RAUCH. Thus far, VA has established three presumptions for asthma, rhinitis, and sinusitis related to fine particulate matter, along with nine rare respiratory cancers. At present it is unknown how many individuals (veterans) would qualify for one of these presumptions. Additional analysis in coordination with the VA is required to provide an answer to the question.

Senator HAWLEY. That is fine. We will take it for the record and I will look forward to your answer.

What was the practice of burn pits in other theaters during this period of time, from 2001 forward? Do you know, Dr. Rauch, aside, that is, Southwest Asia?

Dr. RAUCH. What other burn pits in other combatant commands?

Senator HAWLEY. Mm-hmm.

Dr. RAUCH. I will take it for the record. Most of them should have been in the CENTCOM AOR [area of responsibility], though.

[The information referred to follows:].

Mr. RAUCH. Since 2001, burn pits were predominately used in Southwest Asia, Afghanistan, and Africa (specifically Egypt, Chad, and Djibouti). DOEHRS includes an environmental report indicating a burn pit operated by Philippine forces in the vicinity of where United States Force were stationed during Operation Enduring Freedom.

Senator HAWLEY. Okay. So if they are in the CENTCOM AOR then they are in this same region that we have been talking about, roughly.

Tell me about DOD's collection of this data. I mean, we are dealing with servicemembers' exposure to toxins, burn pit toxins, other airbornes. It seems like we have very limited data for a lot of this. Why is that? Why is it the DOD has not collected this kind of data for so long? Can you give me any insight?

Dr. RAUCH. Well, I think we have always improved on the extent of the data and the technologies that we collect the data with, and we continue to improve. I mean, we collect a lot of environmental health assessment data, you know, the number of compounds and the number of airborne compounds, particulate matter, compounds that are in the motor pool over there, the compounds in the soil that get aerosolized as a result of operations. A lot of that is collected, and it goes into a database that we call DOEHRS, and DOEHRS is a large database that can then feed into ILER, which is what I was talking about, which is Individual Longitudinal Exposure Record, that pinpoints the location of the servicemember with all of that environmental data. Therefore, the health care provider can take a look and get kind of a summary of where the servicemember was, what the environmental hazards were in that area, and can best form a treatment regime for that servicemember.

Senator HAWLEY. What about data available for assessing the linkages between exposure that we have been talking about, to airborne toxins, including particularly from burn pits, and certain kinds of illnesses? What has DOD been doing to improve data collection on that score, and data analysis?

Dr. RAUCH. Well, so it is a part of the data that we already collect, by preventive medicine units, and store in our databases. But linking those exposures to illnesses has been somewhat challenging. A couple of years ago, the National Academy of Sciences said that there is consistent data from exposures in Southwest Asia to our deployed force and illnesses such as persistent cough, asthma, and a few other respiratory disorders.

More data is needed, and more specific data linking individuals to certain airborne hazards and their health outcomes is needed to be able to expand that list.

Senator HAWLEY. I will circle back to you on the questions for the record. I will probably have a few more as well. Thank you, Mr. Chairman.

Senator TILLIS. Just a couple of follow-ups. Senator Gillibrand went to vote. She is probably waiting on the second vote to be called. I am kind of curious about when ILER will be fully interoperable with DOD electronic health record and the VA's electronic health record. What is the timeline?

Dr. RAUCH. Yeah, the timeline for full capability is 2023, but it is capable now but a little bit less limited.

Senator TILLIS. With the DOD electronic health record, because I guess the VA electronic health record is in a multiyear implementation, so that would probably have to track along with their ultimate build-out?

Dr. RAUCH. That is my understanding.

Senator TILLIS. Okay. Tell me a little bit about DOD-funded research on taking the information that we have about potentially toxic exposures and making certain presumptions about how that exposure could have caused a bad outcome for a servicemember, so-called presumptions.

Dr. RAUCH. Sure. So with regard to human studies, most of the human studies, human research that we sponsor, and continue to sponsor, really compares a group of deployers to a control group of non-deployers, to take a look at location, environmental health assessments, what were the threats over there, and then look at the differences in terms of the incidence of health outcomes between the deployed force in that area and the control or non-deployers.

In addition to that, we also have experiments. We have animal experiments at the Air Force, at Wright Patt, up at the 711th, which are looking at exposure to experimental animals of different airborne hazards, to include compounds that you would see in burn pits and also airborne sand and dust that you would see in that deployed environment, and looking at the health effects, health outcomes in experimental animals.

Those are just a few. If my colleagues want to add anything, please do.

Senator TILLIS. Captain?

Captain FELDMAN. Thank you, Senator. I am aware of a lot of work by the Navy Medical Research Command and the Naval Health Research Center, which is based in San Diego. They have got, in addition to collaborating with the VA on these studies they have got a Millennium Cohort, which is a powerful source of an extremely large population that is allowing them to explore all of these questions. I will defer to my colleagues before getting into specifics. Thank you.

Colonel NEWELL. We already—thank you, Senator—we already know that there are a lot of medical symptoms and diseases that are associated with open burn pits and other airborne toxins, but it is difficult to find a direct link to those at this time. But there are many studies that are underway that are looking into that, and hopefully in the future we will be able to link that.

I think the important thing with the ILER is the ILER captures the data, it links it to the individual, and it also capture data from when the individual returns from deployment, and asks them spe-

cifically if they have any symptoms or have any concerns with airborne hazards or chemicals. If they answer that to the affirmative there is always a provider that is going to talk to them one-on-one and address that with them.

They also have a post-deployment health assessment that occurs 90 to 180 days after they get back, and it is the same questions. They ask them, do you have any symptoms or any concerns you have with airborne hazards and chemicals, and once again, if those are answered in the affirmative then the provider gets with them and they talk to them.

Again, during the preventative health assessment that specifically goes into those questions again, and this is something that every member of the Department of Air Force gets annually. They ask the same questions and they also go into the Open Burn Pit Registry. They courage all members to register for that if they have been in a deployed area with an open burn pit. Even if they do not have any symptoms or any concerns they are encouraged to go ahead and register for that, and once again, a provider will reach back and talk with them and go over any questions or concerns that they might have.

Senator TILLIS. Dr. Mirza?

Dr. MIRZA. Thank you, Senator. In our organization, at the Army Public Health Center, we have engaged in several epidemiological studies, and in those studies we essentially use deployment history as a proxy for exposures. Of course, that can include exposures to burn pits but also to the poor air quality conditions within the area of operations. We also take that information and we look at the health status of those individuals before they deployed and after they deployed, to make determinations about whether or not associations existed for particular respiratory disorders of interest.

What we have found is that these epidemiological studies are not always very conclusive, and a lot of that has to do with limitations of the study, because we do not necessarily have individualized exposure information tied to individuals and their health outcomes. That is significant limitation.

But what we do have the strongest evidence to suggest is that respiratory symptoms are present in many deployers into the CENTCOM area of operations, as a function of the air quality issues that are there. So their symptoms are like shortness of breath, cough, phlegm production, decrements in their ability to successfully pass their physical performance tests, and things of that nature. So we have that information.

Other studies have been conducted looking at deployers themselves, and looking at them prospectively, how they have been managed clinically and what conditions they have suffered as a consequence of their deployment, particularly looking at respiratory conditions. A small study that was conducted looked at those particular deployers and determined about half of those individuals did not have necessarily diagnosable respiratory conditions per se, despite the fact that they had symptoms that they complained about, but the other half seemed to have symptoms consistent with asthma and hyperreactivity of the airway and such.

So the bottom line is there has been a lot of studying occurring about deployers and their respiratory health and the potential as-

sociations that exist with their deployment, but based on limitations on exposure data it is very difficult to make strong conclusions about the source of exposure and those health outcomes.

Senator TILLIS. Thank you.

Senator GILLIBRAND. [Presiding.] The Department's prepared statement for this hearing states that peer-reviewed published research documents that military personnel deployed to Iraq and Afghanistan appeared to experience elevated rates of acute upper respiratory symptoms during deployment and may be at greater risk for post-deployment respiratory symptoms and respiratory illnesses. Dr. Mirza, Dr. Newell, and Dr. Feldman, please describe what your service does to ensure that servicemembers concerned about potential health effects of exposure to airborne hazards receive appropriate health care, and is this care documented in their health records, and will this information be available to the VA when the servicemember leaves service and receives care through the VA?

Colonel NEWELL. Senator, thank you for that question. I will walk you through essentially a process that we undertake. First, when individuals are in a deployed environment and they are suffering with any respiratory illness—let me take a step back—any illness or any symptoms, we have medical personnel, we have medical centers that are deployed, or MTFs that are deployed there with the personnel to respond to those concerns. Those get documented and are available throughout the course of that servicemember's service treatment record, to be looked at prospectively.

When these individuals redeploy, they come back home, they undergo post-deployment health assessment, and there are essentially two parts to that. One is a screening questionnaire, in which these individuals self-report concerns about their health, their respiratory symptoms, and other organ-associated symptomatology of interest, and we also ask about their concerns about environmental exposures, a whole scope of exposures, not necessarily airborne but chemical and so on.

Once they complete that self-assessment these individuals then are evaluated by a provider and they are given that option for a focused medical evaluation, based on any concerns that they have advocated for on that self-assessment.

Routinely, we conduct periodic health assessments. This has a couple of purposes. The first is to assure that individuals are assessed annually, that they maintain the medical standards and a certain level of physical fitness to be able to do their job. The second is to also identify any health outcomes or health issues of personal concern that need to be evaluated and managed further, either by a primary care provider or a specialist that is going to be referred in for their care. But also as a function of that periodic health assessment, it is an additional opportunity to ascertain any personal concerns that individual may have about exposures within the environment in which they operate, soldier, or deployed to.

You know, essentially there are three main points of care, in my view, in which these individuals are evaluated, is downrange if they are experiencing symptoms, it is when they return home, as a function of the post-deployment health assessment process, and

it is also at least annually, on a periodic basis, when they are going through a period health assessment.

Captain FELDMAN. [Off microphone]—but that information comes back as the deployers come home, with both their pre- and post-deployment surveys and periodic health assessments and there are specific questions that are verbally reviewed on this questionnaire to ensure that dialogue happens with the clinician. If you know you were exposed to a location it is in the registry. If those clinicians do not have the expertise in their primary care [inaudible] environmental health specialists, industrial health hygiene specialists who consult with those clinicians are available. In addition to that [inaudible] are another layer of consultative expertise for those specific questions that, when a patient comes to a clinic visit and has that concern, those are resources that [inaudible] that individual patient.

Senator GILLIBRAND. Thank you, and Colonel Newell.

Colonel NEWELL. Thank you, Senator. I agree with my colleagues. I will just add on that the ILER does report those specific questions that we ask about airborne hazards, and so it pulls that. So not only are you looking at the occupational environmental health risk assessments of when the member was downrange, multiple times, and you are reviewing those exposures, it is taking those little bits of questions that the member has answered regarding airborne hazards from the post-deployment health assessment and the periodic health assessment.

We also have a new separation health assessment that has been under development for the last year. It should be released this fall. It also goes into detail about airborne hazards and chemicals of that nature, and that will also be documented.

Senator GILLIBRAND. Thank you. Any further questions?

Senator TILLIS. Just one. I just want to echo Senator Gillibrand, or re-emphasize Senator Gillibrand on current active burn pits. Some of the process that led to these being operationally necessary I think would be very helpful for the committee.

Thank you for being here.

Senator GILLIBRAND. Thank you very much for your testimony. I welcome the second panel to come up. Thank you very much.

[Pause.]

Senator GILLIBRAND. I now welcome the second panel, Dr. Anthony M. Szema, Director, International Center of Excellence in Deployment Health and Medical Geosciences, Northwell Health Foundation; Mr. Tom Porter, Executive Vice President for Government Affairs, Iraq and Afghanistan Veterans of America; Mrs. Rosie Torres, Executive Director, Burn Pits 360; and Mr. Steven Patterson, Former Environmental Science Officer, Combined Joint Task Force, 101 Headquarters, Afghanistan, from 2008 to 2009.

Thank you so much, and each of you can give you opening statements. Dr. Szema, you can go first.

STATEMENT OF ANTHONY SZEMA, MEDICARE, DIRECTOR, INTERNATIONAL CENTER OF EXCELLENCE IN DEPLOYMENT HEALTH AND GEOSCIENCES, NORTHWELL HEALTH FOUNDATION

Dr. SZEMA. Thank you, Chair Gillibrand, Ranking Member Tillis, members of the Personnel Subcommittee of the Senate Armed Services Committee for the opportunity to participate in today's hearing.

Between 1998 and 2015, I was Allergy Section Chief, Veterans Affairs Medical Center, Northport, New York, and my expertise on this issue stems from the following. My team first reported new-onset asthma among soldiers to Iraq and Afghanistan with exposure to burn pits in 2007. We described deployment-related rhinitis in 2008; coined the term Iraq Afghanistan War Lung Injury, IAW–LI, in 2011, based on lung function testing data; developed animal models with burn pit-based dust in 2014; tested candidate drugs in these mice in 2018; and co-invented new candidate medicines this year.

I am testifying because as a physician I care about the health and well-being of my patients who are our soldiers. The team in my office sees numerous patients post-deployment with a variety of symptoms, which include shortness of breath, cough, and chest pain which is accentuated with exercise. I have diagnosed post-burn pit-exposed soldiers with asthma, non-smoking-related accelerated COPD, constrictive bronchiolitis, carbonaceous burned lung, titanium lung, lung fibrosis, bladder cancer, and pulmonary ossification, or bone in the lung. In one severe case, for example, one of my patients with lung fibrosis underwent two lung transplants. He just died in December.

As an expert in the field I have concluded that these lung disorders are directly related to exposure to airborne hazards, including burn pits, dust storms, improvised explosive devices, and blast-over pressure from mortar-fired rounds.

As doctors treating these patients, one challenge we face is that there is inadequate screening of these military personnel, who are predisposed to lung injury. Lack of screening means they never get diagnosed, they get diagnosed late, or they get diagnosed when it is irreversible.

The dilemma with military personnel who typically do not have asthma, who pass basic training outdoors, whose masks must be fit for deployment at Fort Hood, is that they do not have pre-deployment pulmonary assessments, unlike the Fire Department of New York, which was able to determine lung function reduction after 9/11. An otherwise healthy soldier who has 100 predicted pre-deployment who goes down to 80 percent has a significant decrease.

Another challenge we face is that doctors treating these servicemembers is a lack of information we receive. Without knowing what they are exposed to or potentially exposed to it is hard to prove what caused the ailment. For example, last month one patient of mine was denied a consult to the East Orange War-Related Illness and Injury Center because the local VA doctor said he did not believe that that military firefighter's sleep apnea, sinusitis, asthma, and rhinitis were related to deployment, even though he had a positive sleep study during Active service.

Even if it is known that there are toxic materials at certain sites, often soldiers visit our academic center without complete documentation of locations of their deployment, so their direct exposure cannot be proven. This is especially the case if they were at forward operating bases like Camp Stryker, whose exact location is not on the map.

I have several recommendations to address these challenges and ensure we are taking care of our servicemembers. One, conduct breathing tests before and after deployment. Two, revamp the DOD method of documenting locations where military personnel serve. Three, utilize newer technology such as wearable particle monitors.

First, by conducting tests before and after deployment we can determine if there is a reduction in lung function much earlier than if we wait. In addition, these data will better enable screening protocols to identify who are soldiers at risk.

Second, by revamping the DOD method of documenting locations where military personnel service we will have a better understanding of what they are exposed to, a better understanding of the illness and how to treat it.

Third, by utilizing newer technology such as wearable particle monitors with GPS, we will be able to assess a given soldier's exposure and location. By utilizing this for a contingent of military personnel, the DOD will be better able to move troops to regions of safety, away from airborne hazards. If exposure does happen, it would also provide critical information for treatment.

We know that screening and monitoring programs have been extremely effective for those victims of the World Trade Center disaster post-9/11, and this is an analogous exposure with JP–8 and burn pits. It is our sacred duty to care for the women and men who sacrifice their lives for our freedom.

[The prepared statement of Dr. Anthony Szema follows:]

PREPARED STATEMENT BY DR. ANTHONY SZEMA

I thank Chair Gillibrand, Ranking Member Tillis and the members of the Personnel Subcommittee of the Senate Armed Services Committee for the opportunity to participate in today's hearing.

My name is Dr. Anthony Szema, Clinical Associate Professor of Medicine (Divisions of Pulmonary/Critical Care and Allergy/Immunology), and Clinical Associate Professor of Occupational Medicine, Epidemiology and Prevention at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell where I am Director, International Center of Excellence in Deployment Health and Medical Geosciences. At Stony Brook University, as adjunct faculty, I am Research Assistant Professor, Department of Technology and Society, College of Engineering and Applied Sciences.

Between 1998 and 2015 I was Allergy Section Chief, Veterans Affairs Medical Center, Northport, NY. My expertise on this issue stems from the following: my team first reported new onset asthma from Iraq and Afghanistan Deployments among burn pit exposed soldiers in 2007, described deployment related rhinitis in 2008, coined the term Iraq Afghanistan War Lung Injury (IAW–LI) in 2011, based on lung function testing data, developed animal models with burn pit base dust in 2014, tested candidate drugs in mice in 2018, and co-invented new candidate medicines this year.

I agreed to testify because, as a physician, I care about the health and well being of my patients who are our soldiers.

The team in my office sees numerous patients post deployment with a variety of symptoms which include shortness of breath, cough, and chest tightness that is accentuated with exercise. I have diagnosed post burn pit exposed soldiers with asthma, chronic obstructive pulmonary disease, lung fibrosis, carbonaceous lung, constrictive bronchiolitis, titanium lung, bladder cancer as well as pulmonary ossification or bone in the lung. These are previously healthy, non-smoking, fit for deploy-

ment soldiers who have newly acquired lung disorders after their tours of duty. In one severe case, for example, my patient with lung fibrosis required two lung transplants and died last December.

As an expert in the field, I have concluded that these lung disorders are directly related to exposure to airborne hazards. These ailments resulted from inhalational exposures to: burn pits, dust storms, improvised explosive devices, as well as blast overpressure from mortar fired rounds.

My conclusions are based on our analyses of lung biopsies containing particles from these soldiers' lungs. These particles were subsequently processed at two different sites with two different types of technical machinery for analysis.

1) Center for Extraplanetary Exploration, Rahman Spectroscopy, Department of Geosciences, Stony Brook University
2) Brookhaven National Laboratory, National Synchrotron Light Source II Beam ID–5.

Analyses from both laboratories conclude that the particles from soldiers' lung biopsies sustained exposure to high combustion temperatures consistent with burning. Chemicals identified included polycyclic aromatic hydrocarbons (PAH), and metals such as titanium and iron. These metals were bound together. These metals were also oxidized—which is evidence they were burned.

As doctors treating these patients, one challenge we face is that there is inadequate screening for those military personnel who are predisposed to lung injury. Lack of screening is a challenge for diagnosing and treating patients for several reasons. First, if individuals are not screened, then they may never get correctly diagnosed. In addition, if they are not screened, and therefore not treated properly, by the time they present to the doctor, the disease is already severe and therefore, more difficult to treat.

The dilemma with military personnel, who typically do not have asthma, since it is an exclusion diagnosis for enlistment, who must pass basic training outdoors, and who must be fit for deployment at Fort Hood prior to deployment, is that they usually do not have pre-deployment pulmonary assessments.

Unlike the Fire Department of New York which requires annual spirometry breathing tests and was able to assess respiratory changes after 9/11, soldiers most often do not have a baseline for comparison other than their 2-mile run time. An otherwise healthy young soldier may be 100 percent or more predicted on spirometry and oxygen consumption from a cardiopulmonary exercise test predeployment. So, reduction to 80 percent predicted post-deployment is a significant decrease even though 80 percent is the cutoff for normal.

Another challenge we face as the doctors treating these servicemembers is the lack of information we receive. Without knowing what they were exposed, or potentially exposed, to, it is hard to prove what caused the ailment. For example, in one recent case last month, a military firefighter, a patient of mine, was unable to get a referral to the East Orange WRIIC. The primary care doctor in the local VA did not believe that the military firefighter's sleep apnea, sinusitis, asthma, and rhinitis were related to deployment, even though he had a positive sleep study during his Active Duty.

Even if it is known that there were toxic materials at a certain site, too often, soldiers visit our academic center without complete documentation of locations of their deployment so their direct exposure cannot be proven. This is especially the case if they were at forward operating bases or places like Camp Stryker whose exact location is not on the map.

I have several recommendations to address these challenges and ensure we are taking care of our servicemembers:

1. Conduct breathing tests before and after deployment.
2. Revamp the DOD method of documenting locations where military personnel served.
3. Utilize newer technology such as wearable particle monitors.

First, by conducting breathing tests before and after deployment for our troops, we can determine if there is a reduction in lung function much earlier than if we wait until disease is severe. In addition, these data will enable better screening protocols to identify ahead of time those soldiers at increased risk.

Second, by revamping the DOD method of documenting locations where military personnel served, we will have a better understanding of what these soldiers were exposed to, and therefore, a better understanding of the cause of the illness as well as how to treat it. For example, it is important for those treating these soldiers to know which regions of the country an individual soldier was in; what types of munitions they were exposed to; what the chemical makeup of these munitions are; how trash was disposed of in that region, including burn pits; what the weather patterns were, i.e., dust storms in that region; whether depleted uranium was used in that

region, for example, in armor piercing rounds PGU–14 and tank shells, as well as ship ballast; and whether that soldier used personal protective equipment and what types of PPE they used.

Third, by utilizing newer technology such as wearable particle monitors with GPS, we will be able to assess a given soldier's exposure and location. By utilizing this for a contingent of military personnel, the DOD will be better able to move troops to regions of safety away from airborne hazards. If exposure does happen, it will also provide critical information for treatment.

Our research team applied for a Congressionally Directed Medical Research Program (CDMRP) grant, got a great score, but was told there are insufficient DOD funds for the grant. We proposed to build on a beeper sized belt mounted device which measures particle counts, sarin and other toxic gas exposure, and gunshot sounds. Wearable tech is a mature enough field such that the industry should be able to respond to the needs of the DOD.

These recommendations will ease the burden on both soldiers and physicians when those soldiers seek medical care. My recommendations do not prevent exposure but they do allow us to provide data so we can intercede early with diagnosis and initiation of treatment; by doing so, then we may see the overall cost of medical care go down and, more importantly, more lives being saved.

We know that screening and monitoring programs have been extremely effective in preserving the health of those exposed to the World Trade Center disaster which is an analogous plume with JP–8 in burn pits. It is our sacred duty as Americans to protect the health of all the brave women and men who sacrifice their lives for our freedom.

Senator GILLIBRAND. Thank you, Dr. Szema. Mr. Porter?

STATEMENT OF TOM PORTER, EXECUTIVE VICE PRESIDENT, GOVERNMENT AFFAIRS, IRAQ AND AFGHANISTAN VETERANS OF AMERICA

Mr. PORTER. Thank you for having us here, Senator Gillibrand and Senator Tillis. I appreciate everything you are doing on this issue.

I would like to introduce my daughter, 13-year-old daughter here, Elizabeth Porter. She is playing hooky from school today, so hopefully she gets something out of this.

On a more serious note, I want to take this opportunity to say that my thoughts and prayers are with Dr. Kate Hendricks Thomas, advocate on this issue. She is going through a very particularly tough time with regard to her burn pit-related illness.

So I am here not only as an IAVA advocate but as one who was exposed to a variety of airborne toxins from burn pits and other sources while I was deployed. Before I went downrange I had completely healthy lungs. Shortly after I arrived in Kabul, in 2010, where the air was particularly bad, my lungs had a severe reaction and became infected. It was controlled with medication, but I was diagnosed with asthma as soon as I got back home a year later. But I have to still take the medications to keep breathing.

Exposure to burn pits used by military to destroy medical and human waste, chemicals, petroleum, other trash, it has been widespread. We have talked about this a lot here already. It is not just burn pits. You could learn a lot from those who have served in Kabul, for example. It is an enormous city without a modern sewage system. Many who served there are suffering the impacts from breathing airborne feces for extended periods of time, and there are also burn pits there, at many of the bases in that city alone.

At every location where U.S. and coalition military were stationed there were many port-o-johns. It was somebody's job to pull out that metal bin from the port-o-john every day, douse it with jet

fuel, and burn it down to a brick, and that is how you get rid of the port-o-john waste. It is somebody's job to do that, and I do not need to describe it, but it is a particularly nasty job.

The military and veteran community know all too well how detrimental these toxic exposures can be. I will refer to our new Member Survey that is just out this month, for 2022. We survey our members. Eighty-two percent of our members say they experienced toxic exposures during their service. Of those, 90 percent say they have or may have symptoms as a result. Of the 82 percent who were exposed, just 53 percent said they had their exposures documented in their DOD Periodic Health Assessments, so just 53 percent.

This data shows the enormous percentage of those who are suffering service-related exposures, especially considering the estimate the VA has of as many as 3.5 million that could have been exposed.

When IAVA saw similar data in a previous Member Survey we conceived of and worked hard to pass the Burn Pits Accountability Act that was passed in 2020, within the NDAA. The law required servicemembers to be evaluated for exposures during routine health exams. Servicemembers were required to be enrolled in the Burn Pit Registry, unless they opt out, if they suffered exposures or if they were stationed near a burn pit.

Seventy-six percent of IAVA members were aware of the registry but only 59 percent are registered in it. DOD must maximize its efforts to ensure all who are eligible get enrolled, not just informed of it, as the law requires. It requires them to be enrolled in the registry, and that is the intent behind the law in the first place, and we know this because we worked to develop the bill and passed it.

IAVA would like DOD to confirm if the letter and intent of the Burn Pits Accountability Act is being executed, including whether servicemembers are actually being required to enroll in the registry, or simply being advised of its existence.

We heard a lot of talk already today about the ILER database. That is really critical, we believe. That would help inform servicemembers, veterans, and the medical providers of the exposures by your location and the time you were deployed. I think we heard that it was supposed to be operational in 2023, September of 2023 is what I understand. We supported legislation that required that veterans have access to their ILER database online. So hopefully that stays on track for implementation by September 2023, and we would like your assistance to try to ensure that that happens.

There has also been some talk in the news about the Red Hill fuel storage facility in Hawaii. This is another toxic exposure, so it is not all burn pits. We want to make sure that the DOD documents those exposures to not only the servicemembers that are serving there now but have been dislocated, but then also those that have been impacted over the life of the fuel storage facility. That is important. How are they going to be doing that?

Serving in the military is tough on one's body. I do not think that is surprising to anybody here. Although not specific to toxic exposures, a significant indicator of IAVA members' health, when asked in our Member Survey how they would rate their overall health before joining the military, 91 percent rated their health as excellent

or good. When asked how they rated their heath after they left the military, just 33 percent said it was excellent or good.

The military service can be hard and cause adverse health impacts. It is not a surprise. But those who may want to encourage their sons and daughters to enter the military except that if one does suffer injuries our government will care for them when they come home. Failure to care for the many who suffered toxic exposures many diminish the value of military service in the public's eyes, and by refusing to satisfy our obligations to them we communicate to current and future servicemembers that we do not actually have their backs.

So on behalf of the 3.5 million servicemembers and veterans who may have suffered toxic exposures I implore you to ensure that DOD follows recently enacted laws meant to increase transparency and information-sharing with those who have suffered exposures and to spare no effort in not only anticipating new hazards our personnel may encounter but advise them of their known risks ahead of time so they and medical professionals are better equipped to address emergent health impacts.

Again, thank you very much for having me today, and I am happy to answer any questions.

[The prepared statement of Mr. Tom Porter follows:]

PREPARED STATEMENT BY MR. TOM PORTER

Chair Gillibrand, Ranking Member Tillis, and Members of the Subcommittee, thank you for having me here today to talk about the most widespread health impact suffered by the post-9/11 generation.

On behalf of Iraq and Afghanistan Veterans of America (IAVA) and our more than 425,000 members, thank you for the opportunity to share our views, data, and experiences on the matter of burn pits and other toxic exposures, what many are saying is the "Agent Orange" of our generation.

I am here not only as an IAVA advocate for post-9/11 veterans, but as one who was exposed to a variety of airborne toxins from burn pits and other sources at many locations when I was deployed to during the Global War on Terror in Afghanistan and the Middle East between 2007 and 2014.

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.

It is not just 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 in Kandahar.

You could also learn from the many who have served in Kabul—an enormous city without a modern sewer system. Many of our veterans who served there are suffering the impacts from breathing airborne feces for extended periods of time. There have been burn pits at the numerous previous bases there as well.

At every location where U.S. and coalition military were stationed, there were many many port-o-johns. The waste from all those toilets had to be disposed of on a regular basis. It was someone's job to routinely pull out the metal bin of waste, douse it with jet fuel, and burn it down. Of course, we cannot forget the omnipresent diesel generators to power our operations wherever we have been deployed that emitted black smoke around the clock. These presented another constant airborne assault on the health of our servicemembers.

The military and veterans community knows all too well how detrimental all these toxic exposures and environmental hazards can be, and the associated health

impacts. As an example, IAVA's 2022 Member Survey of our mostly-post-9/11 veterans and Active Duty personnel, being released this month, show the following:

Eighty-two percent of our members surveyed across all services, with slightly more in the Army and Marine Corps, say they experienced toxic exposures during their service. Of those, 90 percent say they have or may have symptoms resulting from their exposures. Also of the 82 percent who were exposed, just 53 percent said they had their exposures documented in their DOD Periodic Health Assessment.

This aforementioned data shows the enormous percentage of those who are suffering service-related exposures, especially when referenced in the context of the VA estimate of 3.5 million it says may have experienced exposures.

When IAVA saw similar data in a previous Member Survey, we conceived of and worked hard to pass the Burn Pits Accountability Act (BPAA) sponsored by Sens. Amy Klobuchar and Dan Sullivan, which was signed into law as part of the 2020 NDAA. The BPAA language in Section 704 required servicemembers to be evaluated for exposure to toxic airborne chemicals during routine health exams and directs the DOD to record and share whether servicemembers were based or stationed near an open burn pit, including any information recorded as part of the Airborne Hazards and Open Burn Pit Registry, the Periodic Health Assessment (PHAs), Separation History and Physical Examination (SHPEs), and Post-Deployment Health Assessment (PDHAs). Members were also required to be enrolled in the Burn Pit Registry, unless they choose to opt out, if they were exposed to toxic airborne chemicals or stationed near an open burn pit.

Seventy-six percent of IAVA members are aware of the Burn Pit Registry, but only 59 percent are registered, according to our Member Survey. DOD must maximize its efforts to ensure all who are eligible and are willing to enroll, get enrolled.

IAVA would like this Committee to confirm with DOD if the letter and intent of the BPAA is being executed, including whether servicemembers are actually being required to enroll in the Registry (unless they opt out) or are simply being advised of the existence of the Registry.

An important next step forward for servicemembers and veterans who have been exposed is the joint VA–DOD development of the Individual Longitudinal Exposure Record (ILER) database. The ILER will record potential and known exposures throughout a servicemember's time in uniform in order to provide DOD and VA clinicians, claims adjudicators, and benefits advisors actionable data needed to improve the care provided to servicemembers and veterans. Data from those receiving treatment for illnesses through DOD and VA should be fed back into the ILER, ultimately increasing VA's ability to develop a presumptive illness database of evolving illnesses.

If this system is done right, it will provide servicemembers and veterans significant transparency into their exposures that many have been saying has been lacking by DOD and VA. However, while this system has tremendous potential in allowing servicemembers, veterans, and their medical providers access to critical exposure information, ILER is not available currently to servicemembers and veterans.

IAVA supported language included in the Mac Thornberry NDAA for Fiscal Year 2021 that required the VA Secretary to "provide to a veteran read-only access to the documents of the veteran contained in the [ILER] in a printable format through a portal accessible through [a VA website]." The VA–DOD Joint Executive Committee has said in its 2019 Annual Report that the ILER achieved initial operating capabilities on September 30, 2019 and that it will achieve full operating capabilities by September 2023.

IAVA asks that this Committee confirm with DOD that the ILER is indeed operationally capable and accessible for servicemembers and veterans on schedule for use in 2023.

As we recently learned, Defense Secretary Austin announced on March 7 that he decided to defuel and permanently close the Red Hill bulk fuel storage facility in Hawaii. The Secretary committed to environmental remediation of the location, and he also addressed the associated workforce and their families, recognizing that their health, lives and livelihoods have been impacted and that "We owe you the very best health care we can provide, answers to your many questions, and clean, safe drinking water . . . " and a "return to normal." IAVA would like to know specifically how they are tracking the effects on the people who have suffered exposures. Not just the ones who live there now, or that have been evacuated, but those who have been affected over the life of the impacts by the facility. Will these exposures be included in the servicemembers' health records that will be transferred to the VA when they leave service? IAVA would have similar concerns with how DOD is tracking the health effects in military personnel and their families who were exposed at any DOD facility or military base.

Serving in the military is an honorable calling, but it is tough on one's body.

Although not specific to toxic exposures, a significant indicator of IAVA members' health, when asked in our Member Survey how they would rate their overall health before joining the military, 91 percent rated their health excellent (65 percent) or good (26 percent). When asked how they rated their health after they left the military, just 33 percent said it was excellent (6 percent) or good (27 percent).

This is probably not a surprise to many, that military service can be hard and cause adverse health impacts, and those joining the military likely understand that too. But our servicemembers, recruits, and parents who may want to encourage their sons and daughters to enter service expect that if one does suffer injuries, our government will properly care for them when they come home.

Failure to care for the many thousands who suffered military toxic exposures may diminish the value of military service in the public's eyes. By refusing to satisfy our obligations to them we communicate to current and future servicemembers that we do not actually have their backs.

So, on behalf of the 3.5 million servicemembers and veterans who were exposed to burn pits and other airborne hazards, I implore you to ensure that DOD follows recently enacted laws meant to increase transparency and information sharing with those who have suffered exposures, and to spare no effort in not only anticipating new hazards our personnel may encounter, but advise them of their known risks ahead of time so they and medical professionals are better equipped to address emergent health impacts.

Again, thank you for allowing me to present testimony to this Committee on behalf of IAVA.

Biography of Tom Porter

Tom Porter joined IAVA in 2015 and now leads IAVA's Washington, DC government relations team in advocating for our Nation's veterans. He has led successful campaigns to protect military and veterans education benefits, combat suicide, address military toxic exposures like from burn pits, and fill gaps in care for women veterans. Also a media spokesman for IAVA, he has contributed to CNN, Fox News, NBC, ABC, PBS, NPR, BBC (and local affiliates), Wall Street Journal, Washington Post, POLITICO, and many others.

Prior to joining IAVA, Porter was Vice President at the energy firm Morgan Meguire since 2004, representing energy utilities nationwide. He was successful in achieving goals on behalf of a nationwide client base through aggressive and bi-partisan advocacy before Congress and federal agencies. He also served more than eight years on the staff of three senior Members of Congress. Porter is a U.S. Navy Captain with Reserve and Active service since 1996, including deployments to Afghanistan and the Middle East.

Senator GILLIBRAND. Thank you. Mrs. Torres?

STATEMENT OF ROSIE TORRES, EXECUTIVE DIRECTOR, BURN PITS 360

Mrs. TORRES. Thank you, Chairwoman Gillibrand, Ranking Member Tillis, and members of the subcommittee for today's hearing and for this opportunity to testify.

It seems like yesterday when some Members of Congress believed that the health risks of toxic exposures and burn pits were based on anecdotal evidence. While we have data today that shows otherwise, I am here to tell you personally about the stories of the men and women who bravely defended our country, exposed to toxic chemicals that for many cost them their life.

My story begins with my husband, Retired Captain, Le Roy Torres, who served as a Texas State Trooper for 14 years and as a soldier for 23 years before being medically retired. He deployed to Balad, Iraq, from 2007 to 2008, where he was exposed to the largest burn pit within the Operation Iraqi Freedom theater of operations, which was the size of approximately a football field. He lived and worked next to the toxic plume of black smoke that infiltrated where they lived, ate, and slept.

He returned home from war to face a health care system that failed him, and an employer too afraid to understand an uncommon

war injury, resulting in termination of his law enforcement career. As a result of these injustices, Le Roy attempted to end his life in 2016.

Since returning from Iraq he has had over 400 medical visits, until he was finally diagnosed with autoimmune disease, toxic brain injury, and constrictive bronchiolitis following a lung biopsy at Vanderbilt University. The VA and DOD refused to recognize or diagnose these environmental injuries, often misdiagnosing them as psychosomatic or dismissing them as compensation-driven care-seeking. The more veterans we talk to, the more we heard about stories like Le Roy's. This is why, 12 years ago, Le Roy and I co-founded Burn Pits 360, a nonprofit that advocates for veterans, servicemembers, and families of the fallen affected by toxic exposures.

We created a health registry of about 10,000 participants to track their exposures, diseases, and deaths, working with doctors like Dr. Szema. We then joined in Washington and gathered with other families to pass the Airborne Hazards Open Burn Pit Registry Act of 2013.

We have been too far too many funerals and counseled countless wives, husbands, and children left alone by our government's failure to treat our Nation's veterans. Burn Pits 360 has persevered through the years, despite the indifference of the VA, DOD, and Congress. Instead of providing them with treatment, early cancer diagnostics, and benefits, our government spent the last years telling veterans there is no evidence that inhaling toxic black smoke causes respiratory illnesses and cancer that their stories are anecdotes and not data, and that treating them is too costly. I cannot help but wonder what is the cost of their lives and sacrifice?

So now more than ever we need to pass legislation that addresses presumption. The time is well past due for the President, the Department of Defense, Veteran Affairs to acknowledge these injuries and disease as a direct result of armed conflict or caused by an instrumentality of war. We are asking for the Department of Defense and Veteran Affairs to honor these injuries with compassionate common sense. This is an invitation to begin the healing process for these families who have lost loved ones to illness or death following the environmental hardships of war.

Yet Le Roy's story is not the only one. Sergeant Thomas Joseph Sullivan served with the United States Marines in Iraq. He suffered from intestinal ulcerations and bleeding, hypertension, respiratory disease, asthma, and liver disorder. Tom died in 2009 at 30 years old.

Will Thompson served with the United States Army for 23 years and was deployed twice to Iraq. His doctors treated his cough as allergies. He was later diagnosed with pneumonia, treated with antibiotics, and sent home. Eventually he was diagnosed with pulmonary fibrosis. After a lung biopsy he was informed that he had titanium, magnesium, iron, and silica in his lungs. Will underwent two transplants and passed away this December at 50 years old.

Lieutenant Colonel Dan Brewer, CENTCOM Environmental Officer, deployed to Afghanistan and warned his supervisors about the health effects of the black fumes caused by burning of waste and plastic at night.

Lastly, Isiah James served with the United States Army, deployed to Iraq 2006 to 2008, 2008 to 2009, in Afghanistan, 2010 to 2011. Isiah says this. He is now suffering from lung disease and is on supplemental oxygen. He says, "It is my hope you not only listen to the testimony but to hear it, to feel it, to understand it, and most importantly, to act on it. History is the ultimate judge, and we in this country have not always done best by those who send in our stead. I believe it was Churchill who said, 'Never has so much been owed to so few, by so many.' How will you be judged and how will America and the American people pay their debt?"

[The prepared statement of Mrs. Rosie Torres follows:]

PREPARED STATEMENT BY MRS. ROSIE TORRES

Thank you, Chair Gillibrand, Ranking Member Tillis and Members of the Subcommittee for today's hearing and for this opportunity to testify.

INTRODUCTION

My husband Ret. Captain Le Roy Torres served as a State Trooper for 14 years before being discharged from State Service as a solider for 23 years before being medically retired. He deployed to Balad, Iraq from 2007 to 2008 where he was exposed to the largest burn pit within the Operation Iraqi Freedom (OIF) theatre of operations. As a husband, a father, grandfather and a first responder, he has been deprived of his dignity, honor and health. He returned home from war to face a health care system that failed him and an employer too afraid to understand an uncommon war injury resulting in termination of his law enforcement Career. As a result of this injustice Le Roy's USERRA case will be heard before the United States Supreme Court next week on March 29, 2022. This is just one example of the bureaucratic inertia our former and current military members are facing.

Since returning from Iraq he has had over 400 medical visits. In November 2010 he was diagnosed with a debilitating lung disease constrictive bronchiolitis following a lung biopsy at Vanderbilt University. His doctors also diagnosed him with toxic brain injury due to exposure to toxins, likely resulting from exposure to burn pits exposures in Iraq. For years The VA and DOD have refused to recognize or diagnose these environmental injuries, often misdiagnosing them as psychosomatic or dismissing them as "compensation driven care seeking."

For the past 12 years, Burn Pits 360, which Le Roy and I cofounded, has been at the forefront of this issue, advocating for the families and those battling life threatening illnesses. We established an independent health registry tracking the illnesses and deaths for present and former members of the United States military services, particularly those with environmental and occupational illnesses. As families we feel left behind without the support of a grateful Nation. We have had to fight for that support everyday of our lives, while dealing with illness or death of a loved one. We are asking for DOD and VA to honor these injuries with compassionate common sense. This is an invitation to begin the healing process for these families who have lost loved ones to illness or death following the environmental hardships of war.

Burn Pits 360 is a 501(c)(3) non-profit veterans organization is headquartered in Robstown, Texas with the mission to advocate for veterans, servicemembers, and families of the fallen affected by deployment-related toxic exposures. Burn Pits 360 owns and manages a health registry of about 10,000 participants that serves as a national model.

Our impact includes the legislation creating the Airborne Hazards and Open Burn Pit Registry (AHOBPR) signed into law in 2013 (P.L. 112–260). The law also directed a longitudinal burn pits exposure study to be jointly conducted by the U.S. Department of Veteran Affairs (VA) and Department of Defense (DOD). We participated in the open comment period for registry revisions submitted the VA Office of Public Health (OPH), resulting in the addition of constrictive bronchiolitis to the registry. We have presented our registry data to the National Academy of Science committee created under the 2013 legislation, and we have presented statements to the Defense Health Board and have participated in every VA/DOD AHOBPR Burn Pit Symposium. Most recently our efforts were successful in the passage of the Honoring Our Pact Act legislation now making it's way over to the Senate.

The time is well past due for the President, Departments of Defense and Veterans Affairs to acknowledge these injuries and disease as a direct result of Armed conflict or caused by an instrumentality of war.

Burn Pits Health Consequences and Impact

Numerous military bases in the Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF) theatres of operation produced several tons to several hundred tons 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, body parts, expired pharmaceutical drugs, chemicals from paint and solvents, unexploded ordinance, petroleum, and according to some reports, nuclear and biological waste.

Additionally, some of the burn pits were reportedly built on top of soil contaminated by chemical war agents. Due to the unacceptable risk posed by these burn pits to our servicemembers, their use was eventually mostly banned, except under narrow circumstances, in 2010. Tens of thousands of servicemembers have been exposed to toxic chemicals and micro fine, highly respirable and dangerous particulate matter 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 described the impact of burn pits and their health effect in a November 2014 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."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."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." [1]

The wars in Iraq and Afghanistan exposed United States 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. [2] Servicemembers with new-onset, post-deployment respiratory symptoms from these hazards are being labeled as having Iraq/Afghanistan War-Lung Injury (IAW–LI). [3]

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 pulmonary diseases, rare forms of cancer, and many unexplained diseases and symptoms.
- The VA's national registry, though it contains over 260,000 registrants, fails to account for the true impact of burn pits exposure by underperforming participation rates, failing to track comorbid conditions that develop following initial registration, and failing to allow for the entry of cause of death information.
- It is a national failure to adequately prevent, diagnose, treat, and compensate burn pits-exposed Active Duty troops and veterans.

There are a number of crucial issues related to burn pit exposure and IAW–LI that we strongly believe this Committee should investigate and which require the focused attention of the DOD.

The current lack of clear understanding of the health impacts of theses exposure should not circumvent our national obligation to assist every affected military servicemember and veteran. In particular, we would highlight the following important focus areas:

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

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[1] 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*

[2] 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*

[3] 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 percent2F1557988315619005*

2. Improving VA compensation claims for burn pit Active servicemembers, including establishing presumption of service-connection for debilitating symptoms and diseases that have been linked to burn pit exposure;
3. Conducting more and better research into the health consequences of burn pits and to develop effective treatments for them;
4. Establishing evidence-based clinical practice guidelines with effective screening and treatment protocols for physicians caring for veterans exposed to burn pits, and a specialized care program for IAW–LI and comorbid conditions;
5. Disability needs to be based on injury or disease as a direct result of Armed Conflict or caused by an instrumentality of war.
6. Adopt Force Protective Measures, Institute measures to equip personnel deployed to high risk areas with masks or other devices to protect against toxic airborne exposures.
7. Improving collection of servicemembers health records of exposure.

Testimonies

CPT (Ret.) Le Roy Torres, Co-founder, Burn Pits 360 Veterans Organization.

"Many servicemembers have returned from the Iraq and Afghanistan wars with a multitude of illnesses that are invisible and are associated with burn pit exposure and may remain dormant for years. As our motto says, "the war that followed us home" has become a reality and dreadful journey for many veterans. I for one, these invisible wounds from toxic exposure have taken a toll on my health and cost me my military and civilian career as a Texas state trooper. As citizen-soldiers, we deserve to keep our jobs when we return from serving our Nation overseas if we return with limitations. We honored our oath to this Nation; We should not have to bear the burden alone due to exposure to an instrumentality of war."

Sergeant Thomas Joseph Sullivan, U.S. Marine, Tom died 2009, 30 yrs old

Tom went to Iraq in top health, assigned to an elite Force Reconnaissance unit. He reported on his post deployment health form that among other things he was exposed to ever present dust, fumes from local chemical plants and burning feces and that while deployed he experienced rectal bleeding and congestion. After he returned his medical problems multiplied in number and severity and included intestinal ulcerations and bleeding, hypertension, respiratory diseases, sleep apnea and asthma and a liver disorder. He suffered from extreme and diffuse pain and swelling.

Tom had what the military medical system sometimes refers to as chronic multisymptom illness, and sometimes as medically unexplained symptoms (MUPS). His health declined despite several months of treatment. At this critical juncture, he asked for a fresh, multi-disciplinary reassessment. He was sent to a clinic that specializes in MUPS and was offered only a program of exercise that was precluded by his pain and psychological counseling. Six months later he died. Tom's principal physician later told us he had believed Tom had a somatoform disorder (i.e., psychological illnesses).1 The Virginia Medical Examiner's autopsy report found previously undetected heart damage that was designated as a contributing cause of his death. It also found that the combination of prescribed medications (including one after Tom died, his widow and I requested physician emails discussing the somatoform disorder which had been withheld from Tom's health records. Walter Reed Army Medical Hospital denied the request: No written record of the emails had been retained and they had been deleted from the computer system, and it would cost $500,000 to search digital records to retrieve them.

At the time Tom was deployed and upon his return the military medical system was aware of environmental health hazards in theater and the symptoms and illnesses they might produce. If warnings were issued to our troops before, during or after deployment, I have seen no record of them. The airborne hazards from dust and fumes could have been mitigated to a large extent by issuing simple N395 dust masks that can be purchased in bulk for a couple of dollars. Indeed, recommendations had been made to the military to take such measures, but were ignored.

Despite Tom's failing health and his exposure history, his physicians did not tell him that many airborne troops at Fort Campbell who had served in Iraq and Afghanistan had been diagnosed with a rare lung disease; or that particulate matter to which he was exposed in Iraq far exceeded USG standards and was carrying toxic metals, bacteria, viruses and fungi, including toxins found naturally, plus those added by USG burn pits and local industrial pollution. He was basically treated at though he never had left the United States, rather than as a person who might be suffering from a toxic wound received in a war zone.

The symptoms Tom exhibited, as did those by the Airborne soldiers at Ft. Campbell, and many thousands more who have served in Iraq and Afghanistan, are con-

sistent with toxic exposure of one or more kinds. Yet, Tom's health care was apparently not informed by the body of knowledge available to the military medicine at the time. Apparently baffled by his symptoms, medical judgment defaulted to the notion that they were psychosomatic. This is the same discredited explanation that had previously been ascribed to Gulf War Illnesses.

William Thompson, SSG, U.S. Army (Ret.) Will Passed away 12/2021

My name is retired SSG William Thompson. I served 23 years, 3 months and 11 days in the United States Army and WVARNG. I have deployed twice with the WVARNG to Iraq. During my last deployment, I was stationed at Camp Stryker at the Victory complex. My symptoms of frequent coughing started around September of 2009 while in Iraq, in which my doctors and PA's treated me for what they thought were allergies. I returned to Fort Stewart, GA and after I mentioned to the doctors, I was having frequent cough, they did a CXR that revealed bilateral pneumonia. They treated me with antibiotics and sent me home to WV to follow up with my PCP in one week. After a week, I followed up with my PCP Dr. Remines, and he discovered after more testing that I had pulmonary fibrosis with nodules and stated that my lungs looked like an "80-year-old coal miners' lungs". He referred me to Walter Reed Army medical center pulmonary department where I was treated by Dr. Jacob Collins for 6 months. He admitted me to the Warrior Transition unit at Walter Reed and after 6 months of testing which included an open lung biopsy, I was informed that I had titanium, magnesium and iron in addition to silica in my lungs. They diagnosed me with Hypersensitivity Pneumonitis and Pulmonary Fibrosis. I gained 60 lbs. from the high amounts of steroids I was on daily. Because my lung disease was chronic, I was referred to Inova Fairfax Hospital by Walter Reed and was told I would most likely need a lung transplant in the future. I have been seen by Inova Fairfax Hospital Lung Transplant Clinic from February 2011 to the present time.

During that time, I have been on oxygen as high as 10 liters continuously. On June 6, 2012, I received a double lung transplant, after 2 months of follow ups, I was able to return home to start pulmonary rehab. The first year was a good year. I took all precautions and followed all the orders that were instructed by my doctors. Despite this, over the next 3 years, I went through periods of lung rejection and infections and decreased oxygen levels. I was back on oxygen again. On March 9, 2016, I underwent another double lung transplant. Lung transplants unfortunately are more susceptible to complications than other organ transplants since the lungs are exposed to everything from the environment.

My life and my family's life have changed since I returned home in 2010. I have to wear a mask in highly populated areas. I know wearing a mask is typical these days, but I have been wearing one since 2012.
It's hard to hang out with my kids only to tell them "I can't do that".
"Dad, let's go skiing" . . . sorry kids, I can't' do that
"Dad let's go swimming" . . . sorry kids, I can't do that
"Dad, can you give me a piggyback ride?" Sorry Ava, I can't do that "Dad, let's go fishing" Sorry Ethan, I can't do that because of the bacteria on fish "Dad let's go to the beach" Sorry kids, I can't do that because of the bacteria in the water and the sun with my transplant medications makes me more prone to skin cancers.

Speaking of skin cancers, I am currently battling Trigeminal Neuralgia after having a skin cancer removed from my left cheek that aggravated my trigeminal nerve. This is a very painful, debilitating condition that is also known as the "suicide disease" and is known to be one of the most painful disorders known to medicine. It causes sudden, shock -like pain in my face that lasts from minutes to hours at a time. Because of this disorder, I have added numerous medications to my previously very large daily pill regimen.

I don't feel like a man because my wife has had to take that role from me. There are so many things that I can no longer do.

I am a warrior of the United States of America. I gave my lungs for my country. The toxins in the air from burn pits and the dust in Iraq has changed my life. I am glad to be alive and home when so many did not make it home. My illness and injuries are different. I have heard so many times from the VA "we don't know how to treat you", or "you don't qualify or fit into our parameters for benefits". I have been denied TSGLI because the army does not think having a lung transplant is a "traumatic event". Luckily, we found the group, Semper Fi fund/America's fund who works with veterans and provided the funds to make my bathroom ADA accessible. Since then, the VA has helped me with one housing HISA grant, but only after being denied several times. My injuries are illnesses are different from other more common injuries from Iraq and because of that it took the VA 3 years to provide me with an air purifier in my home to keep my home free of allergens and

dust. They also denied help in removing carpet in my home that was instructed by my doctors, so we had to pay for this ourselves. We have also taken out a loan to build a workout area in my home where I can work out and continue my pulmonary rehab during times of my illness or times when cold or flu season is at its peak. Although, I was 100 percent service connected through the Army and VA, I don't qualify to receive my retirement until age 60 because my injuries were not "combat related". I may not live to be age 60—I turn 50 this year.

Every day for me is a battle I continue to fight. I still have to battle infections and try to keep my body healthy from lung rejection. I still have to fight secondary problems related to my transplant. Hopefully, after hearing my story, it will bring awareness for not only me but others who are battling the same or similar injuries related to burn pit exposures from Iraq or Afghanistan. Thank you allowing me to share my story.

Testimony from LTC Dan Brewer, CENTCOM, CCJ4–E
CENTCOM Environmental Officer

At approximately 1745 hours, 30 September 09, LTC Daniel Brewer, CENTCOM CCJ4–Environmental Officer (deployed forward to Afghanistan), Mr. William Porter, Afghanistan Environmental Manger for RC-East (Bagram), and Katherine "Kat" Blesi, Afghan Engineer District Realty Specialist for RC-East (Bagram) noticed a very large column of black smoke covering the sky when coming out of the North DEFC. We immediately proceeded to investigate, driving toward the source of the plume. As we got closer, we found the smoke to be coming from the Bagram Solid Waste (SW) yard. When we got within a mile of the yard, we could also see a huge fire burning.

After arriving at the SW yard we were met by Mr. William Powell, KBR General Foreman for Solid Waste, and one of his assistants (name) who told us they burn "on the hill" every night about this time. When asked what they were burning Mr. Powell said it was items they were told to burn (by the military) because they were sensitive items and could not be recycled. I asked him who from the military told him to burn those "sensitive items" and asked him what those items were.". Mr. Powell couldn't answer either question, but said it was a lot of plastic. I asked him why they were burning them at night, and he said they couldn't burn during the day because of the "birds". I told him it was wrong to be burning those items due to the health risks it was causing.

Statement from Geoff Dardia, Special Forces, Task Force Dagger

Consider areas that Special Operations deploy to that are not common knowledge and the fact that medical providers are not aware of the amount of toxins SOF soldiers are exposed to from ammunition and explosives both deployed and in the garrison environment. There is no type of screening process in place to check servicemembers post deployment. Special operations soldiers shoot more ammunition in one day than an entire infantry brigade shoots in an entire year. The volume of exposure in SOF areas are not being tracked.

Isiah James,
Senior Communications and Policy Director, The Black Veterans Project.
Advocate, Burn Pits 360.

To the distinguished Members of this Committee, thank you for taking the time to address this most pressing and critical of issues laid out before you today. Many of you may have members of your family that have served and surely you have numerous constituents who have worn the uniform. Knowing that I, have the utmost confidence that my words here today will not fall on deaf ears.

As our Nation, and the world moreover is glued to our tv's looking at the horrors of war as the now ravage Europe, I want you to think about that knowing that American service men and woman had to endure these trials and tribulations for some twenty years. Thousands of young men and woman came back home missing limbs, ravaged with the wounds and scars of battle and they were given the best care America could muster. Yet those who came back home with the invisible wounds, those wounds sitting there, waiting like a chemical time-bomb primed to detonate months and years after they doffed their uniform; I'm of course referring to the tens of thousands of servicemembers exposed to toxic but pits.

Today you are going to hear gut-wrenching testimony from subject matter experts of the effects of such exposure. It is my hope you not only listen to the testimony but to hear it. To feel it. To understand it, and most importantly to act on it. History is the ultimate judge and we in this country have not always done best by those who we send in our stead. I believe it was Churchill who said: never has so much been owed to so few, by so many.

How will you be judge and how will America and the American people pay their debt.

Senator GILLIBRAND. Thank you. Mr. Patterson?

STATEMENT OF STEVEN PATTERSON, FORMER ENVIRONMENTAL SCIENCE OFFICER, COMBINED JOINT TASK FORCE 101 HEADQUARTERS, AFGHANISTAN, 2008–2009

Mr. PATTERSON. Senators, thank you for this opportunity. I am Steven Patterson, a retired environmental science and engineering officer. This falls into the larger preventive medicine community that was mentioned earlier.

I am here today to assist you with your understand of burn pits, environmental health exposures, and how those were documented. Primarily, I can speak to the time of 2008 to 2009, when I was a senior environmental science officer for Combined Joint Task Force 101 while it was the headquarters for Afghanistan. In this position, I traveled the Nation extensively and saw most of the locations where U.S. Forces were deployed. My job was to conserve the fighting force and identify environmental health exposures.

The deployed environment is very challenging, and it is very difficult to document a person's exposure in such a setting. The equipment to identify and quantify exposures is often lacking as are trained personnel, especially in remote locations. This is made more difficult as we often have exposures which one would not anticipate, as well as the challenge of accurately placing a certain person in a location at a given time. This is made worse when attempting to look back 10 or 20 years as camp names often changed and the personnel system does not operate down to the person.

Almost all of the locations I visited had burn pits operating at that time, and few, if any, separated their waste before burning it, so many contained pressure treated lumber, galvanized metal, significant quantities of plastics, and lithium batteries. These were not pits, but simply low-lying areas where the waste was thrown and burned. Typically, they smoldered a great deal which is important as the combustion is not complete, more toxic compounds may form, and these toxins will not be lifted away so stay in or near the air around the camp.

Most of these burn pits were within the perimeter fence for security reasons, or very close to the perimeter if outside of the camp. Most of the small camps had few, if any, air samples taken at them due to limited personnel, equipment, transportation challenges, and time.

We had roughly 20 people to attempt to document the environmental exposures of over 37,000 people spread over an area roughly the size of Texas. However, I do not think that more environmental health people are the ideal solution.

The limited environmental health data, mostly air samples with some soil and water samples, cannot be linked to a person but only to a location, and even if the person can confirm that they were at that location it does not mean that they had that exposure. Their exposures could have been much worse or much better than that sample indicated.

The DOD has this responsibility and must address it as industry likely will not do so as they do not face these particular challenges.

We have struggled in this space since Desert Storm, and we must look at different options moving forward. We must leverage technology and address policy issues to fix these gaps.

Some possible options to consider:

One, creation of a Joint Program Executive Office in order to focus the research and funding on environmental health surveillance while also providing a central location to hold responsible in the future.

Two, silicone brackets could be provided to servicemembers to track their exposures, as mentioned earlier. These have been shown to capture more than 1,500 different chemical compounds and would allow us to mitigate exposures much sooner while also providing the servicemember with personal exposure data.

Three, research and build a replacement for the silicone bracelet which would provide near real-time information on exposures and dose for a servicemember.

Four, create a repository of frozen soil samples from each deployment location so they may be tested in the future as needed when new concerns are identified.

Five, improve the personnel reporting system so that each individual can be located rather than their unit headquarters which may be hundreds of miles away from them. This will allow for individual exposures to be more accurately documented.

Six, remote sensing should be researched to address gaps in environmental surveillance. This will be key for small teams operating in remote areas or dense urban environments which may never have an environmental health professional visit them.

Seven, further research biomarker monitoring to document exposures a person had during their deployment or over their military career.

Finally, eight, educate leaders on the hazards of toxic exposures and hold them responsible if they needlessly expose their people.

Thank you for your time. I am open to any questions.

[The prepared statement of Mr. Steven Patterson follows:]

PREPARED STATEMENT BY MR. STEVEN PATTERSON

I am Steven Patterson, a retired Army Environmental Science and Engineering officer.

I am here today to assist with your understanding of burn pits, environmental health exposures, and how those were documented. Primarily, I can speak to the time of 2008 to 2009 when I was the senior Environmental Science officer for CJTF–101 while it was the headquarters for Afghanistan. In this position I traveled the Nation extensively and saw most locations where U.S. Forces were deployed. My job was to help conserve the fighting force and identify environmental health exposures.

The deployed environment is very challenging and it is very difficult to document a person's exposure in such a setting. The equipment to identify and quantify exposures is often lacking as are trained personnel, especially in remote locations. This is made more difficult as we often have exposures which one would not anticipate as well as the challenge of accurately placing a certain person in a location at a given time. This is made worse when attempting to look back 10 or 20 years as camp names often changed and the personnel system doesn't operate down to the person.

Almost all of the locations I visited had burn pits operating at that time and few, if any, separated their waste before burning it so many contained pressure treated lumber, galvanized metal, significant quantities of plastics, and lithium batteries. These were not pits, but simply low lying areas where the waste was thrown and burned. Typically, they smoldered a great deal which is important as the combus-

tion is not complete, more toxic compounds may form, and these toxins will not be lifted away so stay in or near the air around the camp.

Many of these burn pits were within the perimeter fence for security reasons, or very close to the perimeter if outside of the camp. Most of the small camps had few, if any, air samples taken at them due to limited personnel, equipment, transportation challenges, and time.

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The DOD has this responsibility and must address it as industry likely will not as they do not face these particular challenges. We have struggled in this space since Desert Storm and we must look at different options moving forward. We must leverage technology and address policy issues to fix these gaps.

Some possible options to consider:

1. Creation of a Joint Program Executive Office in order to focus the research and funding on environmental health surveillance while also providing a central location to hold responsible in the future.
2. Silicone brackets could be provided to servicemembers to track their exposures, these have been shown to capture more than 1,500 different chemicals and would allow us to mitigate exposures much sooner while also providing the servicemember with personal exposure data.
3. Research and build a replacement for the silicone bracelet which would provide near real time information on exposures and dose for a servicemember.
4. Create a repository of frozen soil samples from each deployment location so they can be tested in the future as needed when new concerns are identified.
5. Improve the personnel reporting system so that each individual can be located rather than their unit headquarters which may be 100s of miles away. This will allow for individual exposures to be more accurately documented.
6. Remote sensing should be researched to address gaps in environmental surveillance. This will be key for small teams operating in remote areas or dense urban environments which may never have an environmental health professional visit them.
7. Further research biomarker monitoring to document exposures a person had during a deployment or over their military career.
8. Educate leaders on the hazards of toxic exposures and hold them responsible if they needlessly expose their people.

Senator GILLIBRAND. Thank you. Senator Tillis?

Senator TILLIS. Thank you all for being here. I guess you heard the testimony—I think most of you were in the room—during the first panel. It sounds as if there is consensus on one of the questions that I brought up, on individualized monitoring and sensors. But speaking for Active Duty, Mrs. Torres, I do a lot of work, I serve on the VA Committee. We have got a lot of work to do and we are making progress, and again, I want to give Senator Gillibrand credit for focusing on that issue. We are going to make more progress there. I am sorry for the situation with your husband and for the others that you mentioned.

But with respect to what we need to do better upstream, how would you judge the DOD in making a priority, the priorities that you all have delineated in your opening comments? Where are they falling short?

Mrs. TORRES. My team applied for a congressionally directed medical research program grant, funded by the DOD, recently, months ago. We got a great score. This was a for a monitor the size of a beeper that a soldier could wear, that would not only measure particulate matter but even sarin gas, specifically, and gunshot sounds. Despite a good score they said there are no funds. So I do

not know why they are asking us to apply for grants if there is no money.

Senator TILLIS. Well, that is a question we can get to the bottom of.

Mr. PORTER. Thank you, Senator. One of the biggest things, and I mentioned it in the testimony, but one of the biggest problems is we have experienced a big lack of transparency from Federal agencies on what people were exposed to on their deployments. That is the big thing, and I think the ILER is meant to tackle that. It is just a matter of, is it going to be useful to the servicemember and to the veteran. That is key.

Senator TILLIS. You also mentioned the idea that the registry is available, but I, for one, think that we should be in an opt-out position, that everybody should be registered in the registry, and if they want to explicitly opt out I supposed they should, but we should probably flip the script on that. Would you agree?

Mr. PORTER. Right. The Burn Pit Registry, what the law requires is for them to be entered into it unless they opt not to. So it is not mandatory if you do not want to be in the registry, but the laws that if somebody is exposed or they are stationed next to a burn pit, then they should be entered into the registry.

Mrs. TORRES. I agree. I mean, the Burn Pit Registry still falls short in so many ways. It is basically just self-reported data that you could print out and carry around. But it is important that everyone be a participant of that effort. You know, they do not track mortality, which is, I think, one area that we have talked about for years, Dr. Szema. But I agree, Senator Tillis, that that should be mandated.

Senator TILLIS. Mr. Patterson?

Mr. PATTERSON. Senator, there are so many challenges in this space. The previous individuals talked that so much of it is self-reported. So a 20-year-old individual returns from overseas, and you ask him what happened to him over 15 months. Not to mention the fact that that individual, they are not going to be able to say, "I was exposed to TCE or benzene or toluene." Just, "Some bad stuff happened to me. There was a lot of smoke." They cannot say anything that is going to help that clinician when they end up in the VA system. So so much of what is being done now is just not terribly effective.

Senator TILLIS. That is why I get to the need for us to get down to the atomic level sooner rather than later. That is the only way we are really going to be able to capture it, and then have the level of specificity with respect to the specific exposures. So I agree with you all.

We are coming up on the end of a vote. I thank you all for being here. I also appreciate your opening testimony. There were a lot of priorities put in there, and they will be instructive to me as we move forward. Thank you.

Thank you, Madam Chair.

Senator GILLIBRAND. Thank you. Mrs. Torres, first of all I want to thank you for your advocacy on behalf servicemembers, veterans, and their families who have suffered debilitating injuries and effects of burn pits. What is the top challenge that you hear from sol-

diers when they return from deployment about accessing treatment?

Mrs. TORRES. Well first of all, Senator, thank you for having me. Lots of challenges. That question just brings up so many ideas in my mind of things that we have tracked through our own private registry, and off the top of my head it is access to health care monitoring, specialized health care, both on the DOD and VA side, but primarily DOD. For those Active servicemembers, for those reservists it is a challenge when they do not have trained occupational medicine doctors assessing these underlying issues.

Then secondly is filing for presumption for these illnesses that are underlying. So if you do not have the specialized health care, how can they properly transition them through the compensation and disability process?

Senator GILLIBRAND. Right. Thank you. What information and resources would be most helpful to the servicemembers you work with when they return from deployment to ensure they are getting the screening and treatment they need?

Mrs. TORRES. I think, you know, definitely mandating that the clinicians be trained, and I think Dr. Szema can help me here, but absolutely having every clinician, every nurse trained in the area of airborne hazards, documenting in the record, you know, in the electronic health record on the VA and the DOD side, that they are identified as having undergone some type of exposure.

To say the least, I have had this conversation recently with many people about even just something as small as signage, right? Like during the World Trade Center, there was communication and outreach and signage on "if you are experiencing these issues." People are having to access care through people like Dr. Szema, and they have to fly to New York and fly to Vanderbilt and exhaust their life savings, like our family did. That should not be happening in America, and so we need to start now.

Senator GILLIBRAND. Thank you very much.

Mr. Porter, thank you for sharing the survey results of your members. Why do you think only 59 percent of IAVA members are registered in the Burn Pits Registry? Dr. Rauch testified as to some of the steps the DOD is taking to increase participation in the registry. Have you seen an increase in those registered over the years among your members, and what do you think can be done to better encourage more servicemembers and veterans to participate?

Mr. PORTER. Thank you for the question. This came up when we developed the Burn Pits Accountability Act a few years ago, because if you look on the VA website it has a running total of those that are registered in it. At the time when we looked at it, back in 2017, there were only 140,000 entries in the registry. I think it is probably double that now. I have not looked recently. But it was only 140,000, and that is out of, again, VA's estimate is as many as 3.5 million have been exposed. So for only 140,000, that presented a big challenge.

I think that the main problem with that, the reason for that, is because hardly anybody knows about the registry. So through the passage of that bill we talked about it a lot, and we put out a lot of social media on that, and we have also encouraged the VA to do more about that, to get the word out to veterans that this registry

is here and then why somebody should be in it. You get, I understand, a free health exam if you are in the system. But again, it is not qualifying somebody for presumption. I think there is a misunderstanding there too. Veterans should apply for their disability, and they are getting turned down, about three-quarters of the people that apply.

Senator GILLIBRAND. You testified that if the ILER system is done right servicemembers and veterans will have significant transparency into their exposure. What does "done right" mean to you, and what are the critical components of ILER that must be implemented to make a difference in the care servicemembers and veterans receive?

Mr. PORTER. Well, what "right" looks like is if somebody was deployed to Balad, Iraq, in 2006, then that ILER should be able to give them the data from what they were probably exposed to in 2006 in Balad. Same thing with me. I traveled around Afghanistan all over the place, so it really can't pinpoint to one location. So that just shows how complex it was. So I traveled around the whole country, frequently, so it would be harder for that.

But again, it should specify what you were exposed to during your deployment, during a set period of time.

Senator GILLIBRAND. Now I am going to turn it over to Senator Warren, and she is going to chair the meeting while I go vote.

Senator WARREN. [Presiding.] So thank you. We are tag-teaming here. I voted early so that I could be here while the chairwoman goes to vote. I want to say publicly a big thank you to the chairwoman for holding this hearing. I think it is really important. I think it is important that this committee look at the real costs of war, including where the Department of Defense failed to take steps that were necessary to prevent exposing members of the military to toxic chemicals. I know that many of our witnesses on this panel have been fighting for over a decade for DOD and the VA to recognize how burn pit exposure has had devastating effects on servicemembers' lives.

I know that there is some debate over the data, but it is just common sense that these toxins would cause significant problems to human beings. It is important for DOD to continue to study this issue, to improve our understanding of the science, but we cannot keep waiting for action. We need to take care of our veterans now—not later, now.

I know that the focus of today's hearing is DOD's role in determining eligibility for care, not the VA's, but we also have to consider the toll of this entire process on families. So Mrs. Torres, if you do not mind, I would like to be able to ask you about your experiences. I read your testimony. I understand about how hard you have had to fight, how long you have had to fight to get the care that your husband deserves and that other veterans deserve. So if I can let me just ask you a little bit about how this process makes your family feel.

Mrs. TORRES. Thank you so much for that question. It has been a journey, a hellish journey, of delay and deny, not just for myself, the Torres family, but for thousands, possibly millions of families. I know for my husband, being stripped of his integrity and dignity, you know, losing his job, being on the brink of foreclosure, repos-

session of cars, and you ask yourself, how did we get here and how is this happening in America's backyard, it feels as if the Nation has turned its back when you are attempting to just access care. We attempted to access care from both DOD and VA health care institutions, and throughout those 10 years it was always an excuse of there is no science, there is no proof.

So myself, including, I know, many, many families, maybe to include yours, Tom, is that we have to exhaust our life savings just to access doctors like Dr. Anthony Szema, like Dr. Robert Miller, like the doctors over at National Jewish. Being away from our children that is time lost that will never get back, and so not only does it impact the veteran and spouse but the children.

To this day, to finally see some momentum, as we are seeing now, it really gives us hope.

Senator WARREN. Well I am glad to hear you end that on hope, but when you say you feel as if our government, our country, has turned its back on you and your family and thousands, maybe millions of families in the same position, no veteran should feel that way, and no family of a veteran should feel that way.

You have done a tremendous amount of advocacy related to changing the rules for how veterans must prove they were impacted by burn pits in order to get care. I support you in your work on this. I know it is a hard and lonely journey, but you have done remarkable work here.

So let me see if I can turn this around just a little bit. Mrs. Torres, what would it mean to you and other veterans' families if the rules were changed so that the DOD and the VA believed veterans when they said their health was harmed by burn pits rather than making them jump through so many hoops?

Mrs. TORRES. Well, it would remove the burden of proof of us having to be our own lawyers, our own researchers, our own—all of those things that we have become, right? We have sort of mobilized and congregated online, all sharing that common denominator of delay and deny. So to finally see historic legislation passed so that we do not have to be all those things, so that the Gold Star spouses that call us weekly, expressing how heart-wrenching it is for them to spend the last moments of their loved ones' life gathering buddy statements and evidence when they should be holding the hand and embracing their loved one, it would mean everything to us and to those families that are still struggling to this day, and for those still waiting on an answer from the VA.

Senator WARREN. Well, as I said, I commend you for your advocacy work here. It at least helps us start to move in the right direction. I appreciate that making a change like this is not inexpensive. There is a lot of money at stake here. I also understand it is not all in the jurisdiction of this committee. But it is urgent that we treat families, we treat those who are injured without delay. We cannot allow veterans to wait another minute for health care, and so I hope that the work we do here today will help put more momentum behind change.

You know, this committee regularly advocates for spending on weapons that do not work or weapons that are not needed at all. It is inexcusable to claim that we need to balance the budget on the backs of veterans and their families who have been injured. So

I hope that what comes out of our work today is that we can give a stronger push on that.

If I can, I have got a few more questions here, questions that the chair also wanted me to ask. Mr. Patterson, if I could ask you about the advances in technology that have been made, and can be made to improve the way that troops' toxic exposure can be documented. Could you say a bit about that please?

Mr. PATTERSON. Thank you, Senator. As far as advances since Desert Storm, sadly it has not been very significant. We replaced the miniVOL with another type of particulate matter sampler, but there are still significant challenges. Those samplers simply capture the particulate matter that is in the air, and then you can send it to a lab, and many months later get a report back of what was possibly in that sample.

The downside of that is any volatile organic compounds are not going to be in that sample, because they will have cooked off in the transportation and those months for you to get the sample back. So the progress has been extremely slow and extremely challenging, and I am just looking at my time in from Desert Storm to Afghanistan.

I made some recommendations in my testimony. I believe that the biomarkers have some significant capabilities with them. The silicone bracelets, I think, is an excellent idea, because then we would be able to know much sooner. For instance, in Afghanistan we had formaldehyde-treated lumber from China that we were using to build the small buildings that the soldiers slept in. I had no reason to expect to find formaldehyde in a pristine river valley in Afghanistan. Why is that there? I have no reasons to go look for that.

If we had had those silicone bracelets on those individuals we could have had them back, and there is time to this. But I would have known quickly rather than a year or two later, what is this, and then we could have mitigated it and I could have protected the next group of soldiers that went in there.

The remote sensing that I mentioned, I believe is very key moving forward. If we are going to do dispersed operations with small groups, there is a lot of atmospheric analysis that can be done with satellite imagery. It is a bit of an immature space, but if you are talking special operations units that are very small, they are never going to have a preventive medicine person visit them. So that would give you some idea.

I believe the problem with all of these things is they are not perfect, but they will further the science significantly, and we have been pushing too much for perfect rather than taking some reasonable steps forward.

Senator WARREN. Just so I can get the comparison here, can you say a little bit about when you were in Afghanistan in 2008 and 2009, how was an individual's exposure to a burn pit documented?

Mr. PATTERSON. Senator, some of them were not documented at all, which is a very frustrating point for me. We were operating down in the small FOBs where it might have been a platoon on a FOB, so 50 people, maybe 100 individuals. With a staff of approximately 20 people there was no way that I could get them out there to do that surveillance, which should have been done weekly. Ideal-

ly you want to do it once a week, rotating, so you never repeat it on the same weekday.

So some of those FOBS, I would grab a soil sample, because that was all that I could do. Those air monitors take 24 hours to capture a sample properly. If you just go and take a grab, it could be very high or very low. You need the coverage over 24 hours.

So a lot of them, there is probably little to no data in the DOEHRS system, which was mentioned earlier, to be able to address that soldier's concerns. The larger compounds fared better. But even then, I cannot tell you what I was exposed to in those 13 months, and this was my job. So for an individual who is ignorant of the space and things they are invulnerable, at 20-something, they are not going to have any idea.

Senator WARREN. So let me just ask a follow-on question to that. When servicemembers are headed home, what kind of information were they given about their exposure and what kind of risks they might be facing in the future?

Mr. PATTERSON. It was all self-reporting, that I recall. Sometimes some units would put something in their medical record that said, "You had a burn pit exposure" or "You had a heavy metal exposure from the location that you were in." But that was a unit-by-unit situation. Then as mentioned earlier, they asked this 20-year-old, invincible individuals, "What were you exposed to?" "I'm fine. I don't have any problems," and they move out.

Another concern is then those individuals that never end up going to the VA at all. You did your tour, you were 22 years old and bulletproof, and they never went into the VA system. Then they approach the VA 10 or 20 years later. Now they have that much of a tougher upstream fight, and the FOB, the compound names changed constantly. There are some individuals that probably—you know, that compound no longer existed 5 years later. Quite often they changed every year.

The gentleman talking about being able to link this to an individual's exposure, unless the personnel operating system has changed, that unit identification code links everybody to usually the company level. But if that company operated three sites, with their platoons broken out to those other sites, that data is not accurate for that individual. So there are going to be a lot of challenges, and the further we go back, the more challenges there are going to be with linking people to location to exposure.

Senator WARREN. Thank you. Thank you very much, Mr. Patterson.

Mr. PATTERSON. Thank you, Senator.

Senator WARREN. I am going to yield back to the chair. Thank you very much.

Senator GILLIBRAND. [Presiding.] Thank you all for your testimony today. I think you have really informed the committee what we have to accomplish. I particularly appreciated the specific requests that you have made of this committee, specific changes in the law you would like to see. The benefit of this committee is we are the personnel subcommittee, so we can write these requirements into law for this year's NDAA. So you have given us really good information about where the system is lacking, why it is not getting the data that it needs, how we actually collect the data we

really do need, what is lacking in terms of when our personnel are getting their medical exams, and what the baseline is, and what pre-deployment and post-deployment look like.

I do not know if this was addressed, but did you guys discuss what is the best way to transfer the medical records from Active Duty servicemembers to veteran status? What you would like to see in that transfer of information, and what we might need to create if we do not have it?

Mr. PORTER. Sure, Senator. That should work with the electronic health record reform. So when that looks right, which means a seamless transition from the DOD to the VA, and that that servicemember or veteran can have easy access to that information.

Senator GILLIBRAND. And access to the ILER system.

Mr. PORTER. Yes, ma'am.

Mrs. TORRES. On that point, Senator—sorry, Tom—definitely consider making ILER accessible to the survivors. I had one survivor call me and asking assistance in communicating with VA to access ILER, as she was filing for death benefits, and it was difficult because ILER did not date back to the time that he was in service. So lots of challenges there.

Senator GILLIBRAND. Thank you, and Dr. Szema, you called on DOD to revamp their method of documentation so that medical professionals could have better understanding of their patients' potential exposures. What information would be most helpful to you to have as you screen and treat patients? What obstacles do you face with the patients when you are trying to gather needed information about exposure? Then further, what training do you think should be provided to medical professionals so they can better screen and treat their patients for toxic exposure?

Dr. SZEMA. We would like to know which region in the country an individual soldier was in, and what types of munitions they were exposed to, what the chemical makeup of the munitions were, how trash was disposed of in that region, including burn pits, what was in the trash itself, what the weather patterns were, because of dust storms in the region, whether depleted uranium was used in that region—for example, there are armor-piercing rounds, PGU–14, and tank shells with depleted uranium, as well as even ship ballasts—and whether that soldier used personal protective equipment. All these things are important.

Regarding training, in the VA system most compensation and pension doctors that we have dealt with in the VA are primary care doctors. They are not pulmonologists, and they are unaware of burn pit issues, which actually is flabbergasting at this point in time. But as I mentioned, last month we had a case where somebody could not go to the War-Related Illness and Injury Center, which has been an arbiter and an advocate for us. So they would go to East Orange VA to confirm what we suspected or wanted a second confirmation of, and one stumbling block is the local VAs are using it as a hurdle to not get them benefits.

Senator GILLIBRAND. Do you think the VAs need to have pulmonologists on staff?

Dr. SZEMA. Yes.

Senator GILLIBRAND. Well, thank you for all your recommendations. I think this panel has been extremely effective in laying out

a set of requirements and proposal for how to better address the diseases caused by burn pits and how to document them through Active Duty, so that when these individuals become veteran status they have all the information they need to protect them. Because a lot of these diseases take 5 years, or take 7 years, or take 10 years, depending on the length of the service of the individual. So we need to have that information in place, at the ready, so that when they do go from Active Duty to veteran status it is part of their record.

We are going to leave this record open for a week, so if there is any testimony that you think of that you would like to give, in terms of recommendations, in terms of data, information, anything else that you want us to have, please submit it. We are really grateful for your advocacy and your testimony today. I think it was thorough and extremely helping in our writing our baseline personnel markup.

Thank you very much. Hearing adjourned.

[Whereupon, at 4:41 p.m., the Committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR KIRSTEN GILLIBRAND

INDIVIDUAL LONGITUDINAL EXPOSURE RECORD

1. Senator GILLIBRAND. Dr. Rauch, you testified that the Individual Longitudinal Exposure Record (ILER) will be fully operable in June 2023. As you develop its capabilities, what challenges are you facing in ensuring the information included is comprehensive?

Dr. RAUCH. One of the challenges we are facing with the information in ILER assuring that we have identified and accessed all available exposure monitoring data. Due to the varying austerity of the multiple deployment locations, some of these locations have more environmental data than others and are linked to an exposure pathway. One particular difficulty is that location data are not standardized. Locations are entered into the Defense Occupational and Environmental Health Readiness System—Industrial Hygiene as the name of the military base or geo-coordinates so these need to be validated and quality assurance approved. The data sources from which ILER is consolidating location data do not have a standardized data format. All the information needs to be digested, cross-referenced, and adapted to fit into the ILER data framework so that it can be displayed in the exposure summaries. Additionally, receiving individual deployment location data is critical to linking the servicemember to environmental exposure assessments completed for his/her location.

2. Senator GILLIBRAND. Dr. Rauch, what collection gaps will prevent you from ensuring the data is fully captured?

Dr. RAUCH. Some deployment locations have more environmental data available than others, particularly the larger military bases. Personal, individual exposure monitoring is a collection gap that the ongoing Comprehensive Exposure Monitoring Capabilities Based Assessment is aiming to address. Area monitoring that was conducted at deployment locations may not be associated with an individual, but can be tied to a location, thus extrapolation of the data to all servicemembers at the location is necessary. Declassification of individual deployment location and classified environmental exposure assessments are necessary since ILER is an unclassified information technology system.

3. Senator GILLIBRAND. ly able to access ILER data and when will servicemembers and veterans be able to directly access their data?

Dr. RAUCH. Health care providers, health researchers, and the U.S. Department of Veterans Affairs (VA) claims adjudicators are able to access ILER. Servicemembers and veterans are able to access their respective Individual Exposure Summary through their health care providers during a medical visit. Per statutory requirement, the VA is currently working to provide direct access to veterans

through the "My HealtheVet" Portal in 2023. The Department of Defense (DOD) servicemember direct access is in the planning phase.

INFORMING SERVICEMEMBERS

4. Senator GILLIBRAND. Dr. Rauch, what does the Department of Defense (DOD) tell servicemembers and their families about the risks of toxic exposure when they are deployed?

Dr. RAUCH. Preventive Medicine threat briefings are provided to servicemembers prior to deployment. The threat briefings include information on a wide range of threats, e.g., vector-borne disease, heat and or cold exposures, water quality, and environmental exposures. Additionally, servicemembers and their families have direct access to various DOD-sponsored websites.

5. Senator GILLIBRAND. Dr. Rauch, what assessments are done when servicemembers return from deployment to determine whether there was exposure?

Dr. RAUCH. The post-deployment health assessment is conducted within 30 days of returning from deployment at qualifying locations. A post-deployment health reassessment is also completed within 90 to 180 days of return from deployment. The deployment-related health assessments contain a section for documenting occupational and environmental exposures, including questions on whether the servicemember was stationed at a location where a burn pit was operated. The questions in this section on exposure to open burn pits and other airborne hazards are pursuant to the requirements of Section 704 in the National Defense Authorization Act (NDAA) for Fiscal Year 2020. Pre-and post-deployment blood serum samples are also collected. An extensive periodic health assessment of all servicemembers is conducted every year irrespective of deployment status. There are specific questions about being based or station near open burn pits, exposure to toxic materials, and enrollment in the Airborne Hazards and Open Burn Pit Registry.

DOD'S HEALTH RESPONSE AND TREATMENT OF EXPOSED SERVICEMEMBERS

6. Senator GILLIBRAND. Dr. Rauch, other than recordkeeping, what measures is the Department of Defense currently taking to treat early onset respiratory illnesses in soldiers exposed to burn pits or toxins?

Dr. RAUCH. The DOD is conducting deployment-related health assessments before and after deployment to assess for any exposure concerns or onset of respiratory illness. Once a respiratory concern of illness is identified, an individual is referred to a health care provider for further evaluation and appropriate medical treatment.

7. Senator GILLIBRAND. Dr. Rauch, what measures does the Department of Defense take to detect cancer early when soldiers return from deployment after burn pit or toxic exposure?

Dr. RAUCH. Military personnel have several opportunities to express concerns about the risk of developing cancer with health care providers. Screening for cancer without any risk factors, such as age, family history, or signs or symptoms of cancer, is not recommended by the American Cancer Society. Most cancers take years to decades develop and a screening program immediately after return from deployment would not provide the medical information that a screening program is designed to provide. Health care providers will weigh the concerns of the servicemember with the known risk factors before recommending a cancer screening.

8. Senator GILLIBRAND. Dr. Rauch, does the Department of Defense have the proper technology to diagnose and treat respiratory illnesses and cancers when soldiers return back from deployment where they were exposed to burn pits or other toxins?

Dr. RAUCH. The DOD has trained physicians and other medical providers to either diagnose and treat respiratory illnesses and cancers or provide a referral to a specialist when warranted. The DOD routinely seeks assistance from the wider specialty medical community whenever a case requires more sophisticated technology or treatments than is available at the military treatment facility.

SHARING INFORMATION WITH THE DEPARTMENT OF VETERANS AFFAIRS

9. Senator GILLIBRAND. Dr. Rauch, how does DOD inform the Department of Veterans Affairs (VA) that an Active Duty servicemember has been exposed to airborne hazards, including toxic fumes from burn pits?

Dr. RAUCH. The VA Airborne Hazards and Open Burn Pit Registry (AHOBPR) captures those DOD servicemembers and veterans that that have AHOBPR exposures or concerns of exposures that register. Both DOD and the VA have ongoing outreach and education about the AHOBPR to promote its use. Servicemembers are

encouraged to register if they have any airborne hazards and burn pit concerns which provides the VA visibility of servicemember registrants.

Servicemember's ILER exposure summaries are accessible to VA health care providers, which provide a summary and history of the servicemember's exposures based on their location. If a servicemember is determined to have been exposed to burn pit emissions at a deployed location, a VA health care provider can access the available environmental health data associated with that exposure.

The DOD Separation Health Physical Examination is performed on all servicemembers prior to their separation from military service. The examination includes a section on environmental exposures, including exposures to burn pits. The completed examination is provided to the VA, and thus accessible to a VA health care provider if the separated servicemembers seeks medical care at a VA facility.

TRAINING FOR HEALTH CARE PROVIDERS

10. Senator GILLIBRAND. Dr. Mirza, Colonel Newell, Captain Feldman, in the Fiscal Year 2022 National Defense Authorization Act (NDAA), Congress required DOD to implement mandatory training for all medical providers working under DOD on the potential health effects of burn pits. What type of training do health care providers in each of your Services currently receive regarding potential effects of burn pits?

Dr. MIRZA. The Department of the Army coordinates with the Department of Veteran Affairs on an annual symposium to exchange information and train providers on the health effects of airborne hazards, relevant epidemiological research, the progress of the Airborne Hazards & Open Burn Pit Registry (AHOBPR), and status of the implementation of the Individual Longitudinal Exposure Record. The Army Public Health Center coordinates with the Department of Defense in an ongoing campaign to educate providers and servicemembers on the availability and purpose of the AHOBPR and has established asynchronous online training for providers on the registry available on the platform, Joint Knowledge Online. The Army trains Occupational & Environmental Medicine and Preventive Medicine specialists with the knowledge required to conduct exposure and clinical risk assessments, medically manage acute casualties from hazardous exposures, and conduct prospective surveillance of personnel exposed to occupational and environmental hazards. The Army offers training courses containing education on environmental hazards available to medical providers, environmental engineers, industrial hygienists, preventive medicine technicians, and safety personnel. These courses are available throughout the year and include, Fundamentals of Occupational Medicine, Medical Management of Biological and Chemical Casualties, the Army Public Health Course, and the Military Preventive Medicine Course. Additional tailored training is offered to preventive medicine detachments by the Army Public Health Center before their deployment into a Combatant Command theater. Last, medical school students at the Uniformed Services University of the Health Sciences attend a 5-day field training event that prepares them for providing medical care and responding to environmental exposures in an operational environment.

Colonel NEWELL. See attachments Tab 2 and Tab 3 in the Appendix.

Per direction of acting ASD, Honorable Mullen, AFMRA prepared a NOTAM conveying the information within Tab A. It directed all physicians and privileged providers to accomplish the standardized DHA training module located on JKO titled "Airborne Hazards and Open Burn Pit Registry Overview." The training conveyed information and training for physicians and privileged providers on the health effects of airborne hazards, relevant epidemiological research, the progress of the Airborne Hazards & Open Burn Pit Registry (AHOBPR), and status of the implementation of the Individual Longitudinal Exposure Record.

Captain FELDMAN. Senator Gillibrand, to support our primary care providers, the Navy has a variety of specialized health care staff who are highly-trained and certified to address servicemembers concerns regarding environmental or toxic exposures such as occupational and environmental medicine physicians, occupational health nurses, toxicologists, pulmonologists, family medicine physicians, environmental health officers, preventive medicine physicians, and industrial hygienists. They are well-trained and qualified in comprehensive evaluation and management of occupational and environmental health concerns and are widely available to address any exposure-related medical concerns during appointments scheduled specifically for this purpose at any time, including after deployment. They are trained in the management of acute and chronic medical conditions from hazardous exposures, and conduct surveillance of personnel exposed to occupational and environmental hazards prospectively, to include operational environments. A history of any known

exposure is also a component of certain medical encounters, such as occupational medicine examinations.

Additionally, the Defense Health Agency has developed a comprehensive health care provider focused course on airborne hazards and open burn pits. The Navy coordinates with the Department of Defense in an ongoing campaign to educate providers and servicemembers on the availability and purpose of the Airborne Hazards and Open Burn Pit Registry (AHOBPR) and has established an accredited asynchronous online training for providers on the registry available on the platform, Joint Knowledge Online. The course is titled DHA–US035 Airborne Hazards and Open Burn Pit Registry Overview.

Through the Airborne Hazards and Open Burn Pit Registry, servicemembers and veterans can document their potential exposure to airborne hazards while deployed overseas and are encouraged to participate in a medical evaluation. For more information about the registry, or to view and download materials, go to *https://www.Health.mil/AHBurnPitRegistry.*

Additional training information and resources are available at the following: *https://www.health.mil/Military-Health-TopicsHealth-Readiness/Environmental-Exposures/VA-Airborne-Hazards-and-Open-Burn-Pit-Registry https://www.health.mil/Military-Health-Topics/Health-Readiness/Environmental-Exposures*

11. Senator GILLIBRAND. Dr. Mirza, Colonel Newell, Captain Feldman, are there plans to expand that training, and, if so, what information will be covered?

Dr. MIRZA. The Army Public Health Center collaborates with the Department of Defense to coordinate outreach and education for providers. While existing training and distributable material are made available to all providers, current efforts seek to maximize resources to expand and update training and broaden provider participation. Recent efforts include several tools to expand training and education. These include an updated web-based asynchronous course (including the purpose of the AHOBPR, the registry process, and components of the medical examination), a Health Care Provider Guide about airborne hazards, an online Clinical Toolbox, and a to-be-published Memorandum from the Defense Health Agency Director instructing clinicians in military medical treatment facilities to receive these tools.

Colonel NEWELL. As stated, acting ASD, Honorable Mullen directed that all privileged physicians, nurse practitioners and physician assistants in primary care, aerospace medicine, occupational health and medical readiness must complete course DHA-US035 on JKO and view the Clinical Toolbox by January 31, 2023, and monitor compliance with this requirement. Future training initiatives by the Defense Health Agency (DHA) and Airborne Hazards and Open Burn Pit Registry (AHOBPR) Center for Excellence will be incorporated into annual training requirements within the AFMS.

Captain FELDMAN. Yes, the Defense Health Agency has developed and continues to refine a comprehensive health care provider focused course on airborne hazards and open burn pits. The training is structured to provide background to airborne hazards and open burn pits since the 1990s, an introduction to the Airborne Hazards and Open Burn Pit Registry (AHOBPR), a breakdown to the components of the registry, and a comprehensive overview of the medical examination for those exposed to airborne hazards. The training also provides DOD health care providers a clinical toolbox, resources needed to provide care for those exposed to burn pits and a comprehensive guide to assist servicemembers who have been exposed to burn pits. This course explains the registry's history, eligible deployment dates and locations, and the process servicemembers and veterans follow to participate in the registry. In addition, this course will look at why airborne hazards and open burn pits are of concern and provide references to research on the health effects of these exposures. This course also describes clinical considerations for the optional registry medical evaluation and uses two case studies to enhance learning and interactivity. Upon completing this course, health care providers will be able to better counsel servicemembers about the registry and exposure concerns and conduct the associated medical evaluation. In addition, this course offers numerous resources for providers to download for future reference. This training is currently under review to ensure that it meets quality of care and NDAA requirements. It will be available to all DOD health care providers online through the Joint Knowledge Online learning management platform.

HEALTH EFFECTS OF BURN PITS

12. Senator GILLIBRAND. Dr. Mirza, Colonel Newell, Captain Feldman, in the Fiscal Year 2021 NDAA, the Secretary of Defense was required to provide a briefing to this Committee on DOD's research and studies conducted on the health effects

of burn pits and while it was reported that studies showed consistent evidence of an association between exposure to airborne hazards and chronic respiratory symptoms, there seemed to be a need for more and larger studies to determine more conclusive findings for respiratory and other diseases. What are the Department's plans to fund more research in this area?

Dr. MIRZA. The Army Public Health Center has led and coordinated public health studies with the goal of better understanding servicemembers' health after deployment and exposure to environmental hazards, including burn pits. The Army Public Health Center resources these public health studies from its operating budget via the Defense Health Program authorized by the National Defense Authorization Act. These public health studies include:

a. Army Public Health Center:

Garshick E, Abraham JH, Baird CP, Ciminera P, Downey G, Falvo MJ, Hart JE, Jackson DA, Jerrett M, Kuschner W, Helmer D, Jones KD, Silpa D. Krefft SD, Timothy Mallon T, Miller RF, Morris MJ, Proctor S, Redlich CA, Cecile Rose C, Rull R, Saers J, Schneiderman AI, Smith NL, Yiallouros P, Blanc PD. Respiratory health after military service in Southwest Asia and Afghanistan: An official American Thoracic Society workshop report. Annals of the American Thoracic Society. 16(8):e1-e16. 2019.

Holley AB, Sobieszczyk M, Perkins M, Cohee BM, Costantoth CB, Mabe DL,

Liotta R, Abraham JH, Holley, PR, Sherner J. Lung function abnormalities among servicemembers returning from Iraq or Afghanistan with respiratory complaints. Respiratory Medicine. 118:84–87. 2016.

Falvo MJ, Abraham JH, Osinubi OY, Klein J, Sotolongo A, Ndirangu DS, Patrick-DeLuca LA, Helmer DA. Bronchodilator responsiveness and airflow limitation are associated with deployment length in Iraq and Afghanistan veterans. Journal of Occupational and Environmental Medicine. 58(4):325–8. 2016.

Sharkey JM, Abraham JH, Clark LL, Rohrbeck P, Ludwig SL, Hu Z, Baird, CP. Post-deployment respiratory healthcare encounters following deployment to Kabul, Afghanistan: A retrospective cohort study. Military Medicine. 181(3):265–271. 2016.

Sharkey JM and Abraham JH. Evaluation of post-deployment cancers among active duty military personnel. US Army Medical Department Journal. 68–75. 2015.

Sharkey JM, Harkins DK, Schickedanz TL, Baird CP. Department of Defense Participation in the Department of Veterans Affairs Airborne Hazards and Open Burn Pit Registry: Process, Guidance to Providers, and Communication. The US Army Medical Department Journal. 2014. July–September 2014. 44–50. *http://www.cs.amedd.army.mil/FileDownloadpublic.aspx?docid=e358fb9a-c3f2–41d6–93ef–63d352ef3b82*

Matthews T, Abraham JH, Zacher LL, Morris MJ. The impact of deployment on COPD in active duty military personnel. Military Medicine. 179(11):1273–1278. 2014.

Abraham JH, Clark LL, Sharkey JM, Baird CP. Trends in rates of chronic obstructive conditions among US military personnel. US Army Medical Department Journal. p. 33–43. July, 2014.

Abraham JH, Eick-Cost A, Clark LL, Hu Z, Baird CP, DeFraites R, Tobler SK, Richards, EE, Sharkey JM, Lipnick RJ, Ludwig SL. A retrospective cohort study of military deployment and post-deployment medical encounters for respiratory conditions. Military Medicine. 179(5):540–546. 2014.

Abraham JH, Baird CP. A Case-crossover study of ambient particulate matter and cardiovascular and respiratory medical encounters among United States military personnel deployed to Southwest Asia. Journal of Occupational and Environmental Medicine. 54(6):733–739. 2012.

Rose C, Abraham JH. Harkins D, Miller R, Morris M, Zacher L, Meehan R, Szema A, Tolle J, King M, Jackson D, Lewis J, Stahl A, Lyles MB, Hodgson M, Teichman R, Salihi W, Matwiyoff G, Meeker G, Mormon S, Bird K, Baird C. Overview and recommendations for medical screening and diagnostic evaluation for post-deployment lung disease in returning US warfighters. Journal of Occupational and Environmental Medicine. 54(6):746–751. 2012.

Abraham JH, DeBakey SF, Reid L, Zhou J, Baird CP. Does deployment to Iraq and Afghanistan affect respiratory health of United States military personnel? Journal of Occupational and Environmental Medicine. 54(6):740–745. 2012.

Baird CP, DeBakey SF, Reid L, Hauschild VD, Petruccelli B, Abraham JH. Respiratory health status of U.S. Army personnel potentially exposed to smoke from 2003 Al-Mishraq sulfur plant fire. Journal of Occupational and Environmental Medicine. 54(6):717–723. 2012.

Weese C and Abraham JH. Potential health implications associated with particulate matter exposure in deployed settings in southwest Asia. Inhalation Toxicology. 21(4):291–296. 2009.

Airborne Hazards Related to Deployment. Baird, Coleen P., Harkins, Deanna K., Editors. Borden Institute, Fort Sam Houston, Texas. United States. Department of the Army. Office of the Surgeon General. Textbooks of Military Medicine. 2015. Available at *https://medcoe.army.mil/borden-tb-airborne,* and including:

Abraham JH, Clark L, Schneiderman A. Epidemiology of airborne hazards in the deployed environment. In: Textbooks of Military Medicine: Airborne Hazards Related to Deployment. (Chapter 6) Borden Institute. 2015. Falls Church, VA 2015.

Abraham JH. Defining health outcomes in epidemiologic investigations of populations deployed in support of Operations Iraqi Freedom and Enduring Freedom. In: Textbooks of Military Medicine: Airborne Hazards Related to Deployment. (Chapter 7) Borden Institute. 2015. Falls Church, VA 2015.

Sharkey J, Baird CP, Eick-Cost A, Clark LL, Hu Z, Ludwig S, Abraham JH, Clark L, Schneiderman A. Review of epidemiological analyses of respiratory health outcomes after military deployment to burn pit locations with respect to feasibility and design issues highlighted by the Institute of Medicine. In: Textbooks of Military Medicine: Airborne Hazards Related to Deployment. (Chapter 30) Borden Institute. 2015. Falls Church, VA 2015.

b. Armed Forces Health Surveillance Division et al.

AFHSD, NHRC, APHC. Epidemiological Studies of Health Outcomes among Troops Deployed to Burn Pit Sites, May 2010

Colonel NEWELL. Per USAFSAM, they are not currently engaged in any discussion or research regarding burn pits at this time.

Captain FELDMAN. Our Naval Medical Research & Development (NMR&D) Enterprise support numerous efforts focused on the potential exposures of Naval Forces to environmental contaminants. While we are dependent on funding from program sponsors to execute our research activities, we have continued to maintain a robust portfolio for decades. Determination of funding amounts and project selection are at the discretion of the program sponsors.

Within the NMR&D Enterprise, the Environmental Health Effects Directorate at Naval Medical Research Unit-Dayton studies the potential health effects related to exposure to chemical stressors (chemicals, fuels, oils, exhaust fumes, particulate matter) and physical stressors (temperature, humidity, pressure, noise). The lab is able to evaluate exposures for virtually any health effect of interest, from memory or performance related-effects to anxiety, immunosuppression or disease susceptibility, to reproductive effects and cancers. The Naval Health Research Center continues to utilize the Millennium Cohort study to identify novel potential risk factors for diseases and examine whether environmental contaminants related military deployments could be associated. Efforts to study environmental contaminants within the Navy are not only on land, the Naval Submarine Medical Research Laboratory studies exposure risks in the submarine atmosphere, to include assessing the use of silicone wristbands as personal environmental exposure monitors. The lab maintains a database of atmospheric constituents in this unique environment to enable long-term analysis of potential effects on submariner health.

QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

RED HILL

13. Senator HIRONO. Dr. Rauch, I am not sure how familiar you are with the ongoing crisis at Red Hill. This massive bulk fuel storage facility has contaminated the Navy's water system—displacing almost 4,000 families since December. As a result, the State of Hawaii has directed the Navy to defuel the tanks, and DOD will be shutting down the facility. It seems like DOD has not learned from its past mistakes. Though not an airborne contamination issue, families who were exposed to petroleum contaminated water must be treated with the same level of care, to include tracking long-term effects, as those exposed to toxins as a result of burn pits. What is DOD doing to prevent these types of environmental tragedies from occurring in the future?

Dr. RAUCH. The DOD conducts extensive routine assessments of all operations to assure required environmental compliance, hazardous material management, and system safety procedures are in place to prevent accidental releases of hazardous substances. Deficiencies identified during the assessments are prioritized for mitigation and repair. Various actions are implemented during the mitigation and repair process to assure individuals are not exposed to any hazardous substances. In addition, we learn from each occurrence to apply lessons and try to proactively prevent them in the future.

14. Senator HIRONO. Dr. Rauch, what has DOD done as far as establishing procedures to help track and address petroleum exposures, and other contaminants, among servicemembers and their families?

Dr. RAUCH. An official record of the potentially exposed population was established as an Incident Report (IR) (# 894583) in the Defense Occupational and Environmental Health Readiness System (DOEHRS). This DOEHRS IR was created to collect names of individuals potentially exposed to contaminated drinking water from the Navy distribution system at Joint Base Pearl Harbor-Hickam. There are currently over 24,000 individuals in the IR. DOEHRS is the DOD system of record for entering, assessing, managing and reporting occupational and environmental exposures for DOD personnel, and has been expanded in this case to include family members as well. The data will be retained in DOEHRS for a minimum of 30 years, and is available for any future action, research or analysis. The DOD public health enterprise intends to use the IR as a roster for assisting in conducting future health surveillance, as indicated.

There has been significant interagency collaboration between Department of the Navy, the Agency for Toxic Substances and Registry (ATSDR) and Hawaii DOH. ATSDR conducted a web-based health survey for Hawaii DOH open to all potentially affected individuals who received water from the Navy water distribution system. The ATSDR survey was completed on 7 Feb 2022. On February 16, 2022 a preliminary presentation of the results of the survey was provided. The survey included 2,314 participants on the Navy water distribution system, 88 percent of whom identified as DOD-affiliated. To date and based on available data, ATSDR has not recommend that Hawaii DOH establish a health registry at this time and recommended a 6-month followup survey with continued collaboration with Hawaii DOH.

15. Senator HIRONO. Dr. Rauch, how will DOD use electronic health records integration, in conjunction with the VA, to ensure that potential exposures are being tracked during service and that that information is going with a servicemember when they transition out, to include retirees who continue to access healthcare via Tricare?

Dr. RAUCH. At full functionality, the ILER will be interoperable with the EHR. Servicemembers' ILER exposure summaries are accessible to VA health care providers, which provide a summary and history of the servicemember's exposures based on their location. If a servicemember is determined to have been exposed to burn pit emissions at a deployed location, a VA healthcare provider can access the available environmental health data associated with that exposure. Additionally, the DOD and VA are working toward an interoperable EHR that will allow a servicemember separating from Service continue to receive continuity of care through the VA.

BURN PIT REGISTRIES

16. Senator HIRONO. Dr. Rauch, what is DOD doing to ensure servicemembers know about the registry and sign up?

Dr. RAUCH. The DOD, in collaboration with the VA, are engaged in an extensive ongoing education and outreach campaign to spread awareness and information about the registry and eligibility. The DOD and VA have reached out to potentially eligible servicemembers directly through physical mailers, social media, and outreach on leave and earnings statements. Servicemembers are made aware of the Registry on the post-deployment and post-deployment health reassessments, as well.

17. Senator HIRONO. Dr. Rauch, how does DOD track exposures for those who don't opt-in?

Dr. RAUCH. It is DOD policy to conduct routine deployment health assessments before, during, and after deployments to track exposures and manage health risks from potentially hazardous occupational or environmental exposures. The health assessments become part of servicemembers' medical record and is available via the servicemember's individual exposures summaries within in ILER. These practices are standard regardless of whether an enrollment status in the AHOBPR.

18. Senator HIRONO. Dr. Rauch, what is DOD's long-term plan to accommodate medical care for those exposures?

Dr. RAUCH. The DOD provides complete medical care for all servicemembers prior to their separation. Retired servicemembers are eligible for continued medical care through the TRICARE benefit. Similarly, the VA provides complete medical care for

eligible servicemembers upon separation. For service-connected medical conditions, the VA will continue to provide medical care.

19. Senator HIRONO. Dr. Rauch, are Tricare providers trained to be attentive to conditions that are associated with burn pit exposure?

Dr. RAUCH. The DOD and VA are providing training to providers on airborne hazards and burn pit exposures.

The DOD and VA will assess opportunities to make this training available to TRICARE providers.

AREAS FOR FUTURE ATTENTION

20. Senator HIRONO. Dr. Szema, Mr. Porter, Mrs. Torres, Mr. Patterson, in your opinion, what other unheard or underfunded military health concerns associated with the work environment need to be identified and addressed?

Dr. SZEMA. There are three themes regarding unexplored, unheard, or underfunded military health concerns associated with the work environment that need to be identified and addressed.

1. Remote Biometric Monitoring
2. Environmental Metrics
3. New candidate drugs

Firstly, as you continue to explore methods of funding in this area, we request that you consider the opportunities that Remote Biometric Monitoring may offer these soldiers. We have been working together for several years with Play-it Health Company in Kansas since 2019 to provide remote monitoring to our patients. We were able to augment care acutely to our patient population during the onset of the COVID pandemic in March 2020 when access to in-person contact was limited; we had significant improvement in outcomes. A manuscript is under review for publication. We have used Bluetooth continuous pulse oximeter ring devices to wear on fingers and have handheld Bluetooth spirometers to measure lung function.

Several years ago, we applied unsuccessfully to the NIH with pulmonologist Elizabeth Tam, MD, at the University of Hawaii, for a grant to do wristband remote monitoring of particulate matter exposure for Hawaiians exposed to wildfires. I was there in Maui on the highway when the fire approached Oprah's house and my family evacuated to Kauai.

Secondly, now with United States soldiers on the eastern European/Ukraine front and the threat of chemical and biological weapons from Russia, and pandemic-related infections worldwide is real, similar monitoring of temperature for fever, oxygen saturation, heart rate, plus additional Environmental Metrics such as particulate matter exposure, sarin gas, and direction of gunshots is critical. I applied for a Congressionally Directed Medical Research Grant with the Cornerstone Research Group (CRG) in Ohio to develop a wearable device on a soldier's belt. It would measure particulate matter concentration exposure, sarin gas levels, and gunshot sounds, We got a good score (outstanding 1.3) but were told that the DOD does not have sufficient funding for burn pits even though the request for applications was for burn pits research. GRANT ID GRANT13460409 CDMRP LOG PR21113.

We are now launching projects to explore remote biometric monitoring in these burn pit victims. We have noted that standard monitoring, which usually involves static measurements at rest in clinics, likely misses significant components of the dysfunction these patients experience. We are working with patients to better document their biometrics with symptoms and activity, to lend more insight into better methods of treatment and rehabilitation.

We believe that providing funding to monitor these patients more closely would be very beneficial and that the findings will also be generalizable to other groups, such as those experiencing Long COVID.

Thirdly, we have already published a mouse model of burn pit lung injury (both Iraq and Afghanistan) and have 9/11 dust to make a model of World Trade Center Lung Injury. We have tested candidate drugs and have coinvented potent New Candidate Drugs. However, the next stage in startup drug development for my company RDS2 Solutions, Inc. (RDS2solutions.com) requires $2.5 million to send these candidate compounds to so-called GMP labs to test in several species of animals for toxicology (safety), pharmacokinetics (time course of drug absorption, distribution, excretion, metabolism) and pharmacodynamics (intensity of drug effect in relation to concentration). Then, a report can be submitted to the FDA for an investigational new drug (IND) to test in humans. This is costly and not funded with academic grants. So, funding from the DOD would allow us to tailor a drug specifically for burn pit and war airborne hazards lung injury.

Mr. PORTER. I don't have any underfunded DOD matters, but I do have top priority VA concerns I am happy to discuss with her staff, but I know that is not within the SASC jurisdiction. If they would like to discuss that I am happy to.

Mr. PATTERSON. Deployed environmental health surveillance, as a whole, is underfunded and under prioritized within the DOD. A review of our progress in this space since Desert Storm shows rather limited advancements when compared to many other areas of military medicine, weapons, or equipment.

Creation of a small, light, wearable sensor for environmental exposures needs funding. The DOD needs to look at new and unique solutions in this space to push the science forward for an individual monitor. Ideally, it would provide near real time information to the individual and/or to senior leaders who can address exposures as needed.

Better, deployable area monitors/sensors also need to be developed. Drone based options for deployment or air droppable units which could be sent in prior to entry of U.S. personnel would also be valuable options.

Remote sensing for environmental exposures needs to be funded so that small teams or unique releases may be tracked in future operations.

The synergistic effects and outcomes of multiple exposures is an area which is not well understood. However, the variables there are significant and the potential combinations would create a very large challenge to evaluate. With 50,000+ toxic industrial chemicals and materials which could be mixed in many ways one can see the challenge there.

This is why I would suggest looking at the biomarkers which are changed during a servicemember's deployment or over their career due to environmental exposures. This could also allow for improved treatment of people if their individual exposure can be defined. It could also allow us to rule out certain exposures which would improve treatment as well as bringing some people peace of mind if they could be shown that suspected exposures did not occur to them.

Allow for easier testing of people who think they have been exposed to certain substances. This could put many people's mind at ease if they are found to have not been exposed and allow for more efficient treatment of people if the testing shows that they did have an exposure.

The combustion products created by the burn pits is not well understood. Some studies have been conducted in this space. However, they were not done as a burn pit in a deployment is actually operated which will impact what is created. A larger concern though is that the studies did not include the lithium batteries, pressure treated lumber (often with arsenic or formaldehyde), galvanized metal, nor the quantities of plastic which were typical.

A study needs to be conducted as to why, in a mature theater of operations, the DOD relied so heavily on bottled water shipped into the theater. This resulted in millions of plastics bottles being burned which added to those potential exposures from the burn pits. A second concern is if the DOD has the ability to provide safe water on the battlefield of the future when logistics may prevent the massive shipment of water onto and around the battlefield. One must be confident that the water they are producing in bulk on a future battlefield isn't creating an environmental exposure for those servicemembers.

Review policy and doctrine and have the risks of environmental exposures included in them as a factor in future decision-making processes.

QUESTIONS SUBMITTED BY SENATOR THOM TILLIS

BURN PITS

21. Senator TILLIS. Dr. Rauch, the VA has estimated that 3.5 million servicemembers have been exposed to toxic materials from burn pits over the past 20 years. Does this number reflect DOD records?

Dr. RAUCH. Yes, approximately 3.5 million servicemembers have been exposed to airborne hazards, specifically fine particulates, which include organic and inorganic dusts, diesel generator and vehicle emissions, automobile and industrial pollutants. A subset of these servicemembers include those exposed to burn pits, which also generate particulates.

22. Senator TILLIS. Dr. Rauch, what are known locations of existing burn pits?

Dr. RAUCH. Syria, Yemen, Iraq, Egypt, and Chad.

23. Senator TILLIS. Dr. Rauch, what are the sizes/dimensions of existing burn pits?

Dr. RAUCH. Currently, the size or dimensions of each burn pit are not available.

24. Senator TILLIS. Dr. Rauch, how many servicemembers are stationed at the locations of the existing burn pits? Please speak to the record keeping and tracking of these servicemembers in proximity to burn pits currently in use.

Dr. RAUCH. As of April 15, 2022, the DOD is aware of seven active burn pits being operated by host nations or allies proximate to where U.S. Forces are stationed. These locations are:

a. Syria (2 locations, approximately 234 and 249 United States Personnel);
   i. 300 and 800 meters away from work/sleep areas
   ii. Periodic occupational and environmental health sampling and assessments are conducted.
b. Yemen (approximately 150 United States personnel);
   i. 3,000 meters away from work/sleep areas
   ii. Occupational and environmental health sampling and assessments are conducted.
c. Iraq (approximately 50 United States personnel);
   i. 3,000 meters away
   ii. Occupational and environmental health sampling and assessments are conducted.
d. Egypt (approximately 93 United States personnel);
   i. 1,000 meters away
   ii. Occupational and environmental health sampling and assessments are conducted.
e. Chad (2 Burn pits; approximately 60 United States personnel)
   i. 1000 meters and 700 meters away from common living spaces
   ii. Occupational and environmental health sampling and assessments are conducted.

25. Senator TILLIS. Dr. Rauch, what are suspected/unconfirmed locations of burn pits? Please speak to the types of waste being disposed of at these burn pits and any mitigation efforts in use to limit exposure and risk to troops in proximity.

Dr. RAUCH.

A. A list of unconfirmed locations is not available.

B. Only non-hazardous and non-infectious solid waste is being disposed and burned in active burn pits

C. Mitigation efforts include moving the pits further away from personnel to 2,000 meters from perimeter of base/camp and prominent down wind direction, conducting quarterly site assessments, establishing personal protective equipment use and training as needed, conducting OEH sampling, limiting burn pit use; replacing the burn pits with dumpsters or incinerators, hauling waste away in place of burning, and assessing health risks.

26. Senator TILLIS. Dr. Rauch, please provide environmental reports associated with the existing burn pit locations, as well as confirmation that the environmental reports have been added to the Individual Longitudinal Exposure Record (ILER) system.

Dr. RAUCH. ILER system provides environmental health risk assessments for populations. The environmental reports (such as OEHSAs, Base Camp Assessments, and various surveys) provide a foundation of information to assist with identification and prioritization of potential health threats to the deployed population. Those potential threats are assessed to generate an estimate of the health risk to the servicemembers. The health risk estimate reports (or health risk assessments (HRAs)) are uploaded into the DOD system of record (DOEHRS), and ILER imports those HRAs. The ILER also pulls the Periodic Occupational and Environmental Monitoring Summaries that are completed periodically to summarize all occupational and environmental health risks to the population at a deployed location.

Health Risk Assessment Reports (HRAs) have been completed for both Syria locations and North Camp, Egypt. Yemen also has an HRA currently in progress. DOD will follow the operations security process required to release HRAs outside of DOD.

27. Senator TILLIS. Dr. Rauch, please provide the Committee with a copy of the pre/post deployment health assessments that are issued to each servicemember.

Dr. RAUCH. Current pre deployment health assessment, post deployment health assessments, post deployment health re-assessments, and periodic health assessment (Page 4) are attached. Please see the appendix for this information.

QUESTIONS SUBMITTED BY SENATOR JOSH HAWLEY

AIRBORNE HAZARDS

28. Senator HAWLEY. Dr. Rauch, what is DOD's estimate for the number of individuals who would qualify for the presumption of service-related connection, given how many individuals were likely exposed since 2001?

Dr. RAUCH. Thus far, VA has established three presumptions for asthma, rhinitis, and sinusitis related to fine particulate matter, along with nine rare respiratory cancers. At present it is unknown how many individuals (veterans) would qualify for one of these presumptions. Additional analysis in coordination with the VA is required to provide an answer to the question.

APPENDIX

Supporting documents for Colonel Newell question #10.

Tab 2:

THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE NAVY (MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE AIR FORCE (MANPOWER AND RESERVE AFFAIRS)
DIRECTOR OF THE JOINT STAFF
DIRECTOR, DEFENSE HEALTH AGENCY

SUBJECT: Airborne Hazards and Open Burn Pit Training for Health Care Providers

Section 725 of the National Defense Authorization Act for Fiscal Year 2022 directs the Secretary of Defense to provide to each medical provider of the Department of Defense mandatory training with respect to the potential health effects of burn pits. This training will help health care providers assess and treat Service members who elect to participate in the optional medical evaluation through the Department of Veterans Affairs (VA) Airborne Hazards and Open Burn Pit Registry, in which eligible Service members and Veterans can document their potential exposure to burn pits and other airborne hazards while deployed overseas.

To meet this requirement, the Defense Health Agency (DHA) launched an enhanced, accredited training course on Joint Knowledge Online (JKO) at: https://jkodirect.jten.mil, DHA-US035, "Airborne Hazards and Open Burn Pit Registry Overview." Health care providers who complete the course will earn 1.0 hours of continuing education (CE) credits while learning about airborne hazards exposures, the health effects of burn pits, the registry, and how to conduct the associated medical evaluation. Additional CE-eligible training modules on deployment-related environmental exposures are offered by VA and can be accessed through the TRAIN learning network. The courses are at: https://www.warrelatedillness.va.gov/WARRELATEDILLNESS/education/provider-training/index.asp.

Health care providers will also refer to the Airborne Hazards and Open Burn Pit Registry Health Care Provider Clinical Toolbox for information about airborne hazard exposures and the evaluation. The most recent version of this document can be downloaded at https://health.mil/Reference-Center/Publications/2022/07/21/AHOBPR-DOD-Health-Care-Provider-Clinical-Toolbox. Additional resources for health care providers as well as Service members, can be viewed and downloaded at any time at Health.mil/AHBurnPitRegistry.

I direct that all privileged physicians, nurse practitioners and physician assistants in primary care, aerospace medicine, occupational health and medical readiness must complete course DHA-US035 on JKO and view the Clinical Toolbox by January 31, 2023, and monitor compliance with this requirement. Military medical treatment facility Directors and local commanders will ensure compliance with this requirement.

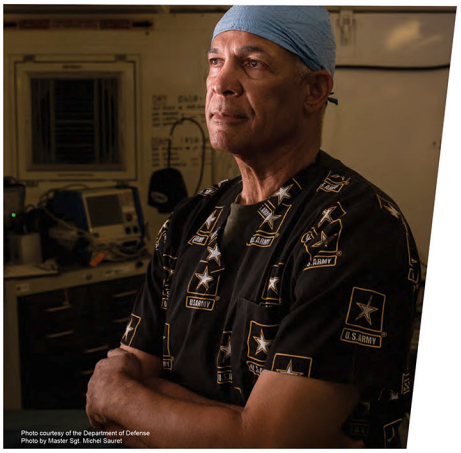
MULLEN.SEILEEN.MARIE.1519853007 Digitally signed by MULLEN.SEILEEN.MARIE.1519853007 Date: 2022.10.28 15:29:40 -04'00'

Seileen Mullen
Acting

Attachments:
As stated

cc:
Surgeon General of the Army
Surgeon General of the Navy
Surgeon General of the Air Force

Tab 3:



Airborne Hazards and
Open Burn Pit Registry

DoD Health Care Provider
CLINICAL TOOLBOX

Updated June 2022

Airborne Hazards and Open Burn Pit Registry | DoD Health Care Provider **CLINICAL TOOLBOX**

Be Prepared to Treat Service Members Exposed to Airborne Hazards, Such as Open Burn Pit Smoke

The Department of Veterans Affairs (VA) developed the Airborne Hazards and Open Burn Pit Registry to enable service members and veterans to document their potential exposure to airborne hazards while deployed overseas and to facilitate a discussion with their provider. This toolbox contains background information on airborne hazards and the registry, guidance for conducting the medical evaluation, and resources for you to review and share with service members and other health care providers.

Overview of Registry

Service members who have been exposed to airborne hazards, such as open burn pit smoke, while serving may be at risk for short- and long-term health issues. After deployment to locations with open burn pits and other pollution sources, service members have returned with a range of mild to serious respiratory illnesses. At this time, there are no biomarkers specific to the environmental exposure-related health concerns of service members who deployed to eligible theaters of operations (listed below).

In June 2014, VA launched the Airborne Hazards and Open Burn Pit Registry in response to concerns that veterans were experiencing a range of respiratory illnesses possibly associated with exposure to burn pits while serving overseas. The registry allows eligible service members and veterans to document their exposures (such as smoke from burn pits, oil well fires, or pollution) during deployment, as well as health concerns, through an online questionnaire.

The registry is completely voluntary and does not affect access to VA health care or compensation benefits. Upon completion of the questionnaire, registry participants are encouraged to schedule a medical evaluation to review their responses and health concerns with a medical provider.

Background of Airborne Hazards and Open Burn Pits

The use of open burn pits was a common practice to dispose of solid waste at military sites outside of the U.S. such as in Iraq and Afghanistan. Material burned may have included hazardous waste, medical waste, tires, petroleum products, and plastics, as well as substances known to generate carcinogens and other harmful substances through the combustion process. In addition, elevated levels of particulate matter, including dust from the desert and from industrial activities and other man-made sources, contributed to poor air quality in many locations.

In September 2020, the National Academies of Science, Engineering, and Medicine (NASEM) published a report evaluating scientific evidence on 27 different respiratory health outcomes. NASEM found there was limited or suggestive evidence of an association between airborne hazard exposure and respiratory symptoms (chronic cough, shortness of breath, and wheezing). The report noted there was inadequate evidence of an association between airborne hazard exposure and the remaining 26 health outcomes. The Department of Defense (DoD) and VA continue to support and fund research studies to determine the short- and long-term health effects of airborne hazards.

Eligibility

Service members who served in the Southwest Asia theater of operations or Egypt on or after August 2, 1990, or in Afghanistan, Djibouti, Syria, or Uzbekistan on or after September 11, 2001, are eligible to sign up. These regions include the following countries, bodies of water, and the airspace above these locations: Afghanistan, Bahrain, Djibouti, Egypt, Gulf of Aden, Gulf of Oman, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Uzbekistan, and the waters of the Arabian Sea, Persian Gulf, and the Red Sea.

Conducting the Medical Evaluation

As required by law, DoD will provide service members with a free, optional medical exam upon request. Active duty service members, including activated Reserve and Guard, are encouraged to contact their local military hospital or clinic to schedule an exam. Army National Guard, Air National Guard, and Reserve members, whether discharged or still serving, can schedule an exam through VA. Veterans and inactive/separated National Guard members and Reservists who indicated an interest in the evaluation will be contacted directly by VA; these registrants may also proactively contact their local VA Environmental Health Coordinator to schedule an exam.

If the service member is receiving the medical exam after signing up for the registry online, they are encouraged to bring a copy of their completed questionnaire. Providers can also access a copy of their patient's completed questionnaire through the Individual Longitudinal Exposure Record (ILER) or Defense Occupational and Environmental Health Readiness System (DOEHRS).

Providers should start by reviewing the service member's questionnaire and discussing their medical history with an emphasis on occupational/environmental exposures. Providers should assess the intensity and specific focus of concern of the individual, bearing in mind that patients seeking medical attention may have a variety of symptoms and exposure concerns.

The provider should discuss and document the service member's exposures in as much detail as possible. Questions to ask include, but are not limited to:

- What type of pollution were you exposed to during deployment (for example, off-base pollution such as factories, cars, burning trash, or dust; or on-base pollution such as burning fuel or burn pits)?
- How many hours per day were you exposed?
- How many days, months, or years were you exposed?
- What airborne pollutants have you been exposed to outside of deployment?

Providers should rely on their own evidence-based knowledge, expertise, and skills to guide a patient-centered evaluation and treat their symptoms according to clinical best practices. If clinically indicated, providers may:

- Perform a physical exam, with focus and extent determined by symptoms and/or health concerns
- Order a chest radiograph and spirometry as baseline studies and further diagnostics based on clinical symptoms
- Refer the service member with chronic symptoms to specialists (such as internal medicine, pulmonology, and/or occupational medicine) for further evaluation
- Consider referral for enrollment in ongoing research studies at Brooke Army Medical Center Pulmonary

Upon completing the exam, providers should document the encounter in the electronic health record; no additional forms are required. Providers should record the following diagnostic codes:

- In the Armed Forces Health Longitudinal Technology Application (AHLTA), use both of the following International Classification of Disease (ICD)-10 codes: Z91.82 (personal history of military deployment) and X08.8 (exposure to other specified, smoke, fire)
- In Military Health System (MHS) GENESIS, use both of the following Systemized Nomenclature of Medicine-Clinical Terms (SNOMED-CT) codes: 3042585015 (history of military deployment) and 165638013 (exposure to environmental pollution, occupational)
- Any additional applicable diagnostic or symptom codes

Clinical Considerations

While there is no single approach to evaluating patients with dyspnea and normal spirometry, Appendix C of the Borden Institute book on Airborne Hazards Related to Deployment proposes the following evaluation framework. Considerations should be given to establishing the presence or absence of airway hyperactivity and upper airway disorders as well as ruling out parenchymal lung disease.

Potential Evaluation of Patients with Chronic Symptoms

Proposed Test	Considerations
Spirometry Post-BD	Review spirometry for reduction in forced expiratory volume in one second (FEV1); 12% increase in post-bronchodilator (post-BD) diagnostic of airway hyperactivity (AHR)
Spirometry w/symptoms	Intermittent nature of asthma may require repeat spirometry when patients are symptomatic
Chest Radiograph	Will be normal in most patients; helpful to eliminate pulmonary infiltrates, effusions, or mediastinal disease
Complete Blood Count	Rule out anemia, especially in females
Inspiratory FVL	Review the inspiratory flow volume loop (FVL) on all spirometry exams for truncation or flattening
Exercise Laryngoscopy	Presence of abnormal FVL or history of inspiratory wheezing or noisy breathing; diagnostic for vocal cord dysfunction
Bronchoprovocation Testing	With normal spirometry, important to rule out underlying airway reactivity such as exercise-induced bronchospasm (EIB)
Methacholine	Most common test used for AHR with good negative predictive value; diagnostic for EIB with associated exercise symptoms
Eucapnic Hyperventilation	Equivalent to methacholine for diagnosing AHR, but requires 15% decrease in FEV1
Exercise Spirometry	Poor predictability compared to other methods and may not reproduce symptoms in laboratory setting
Impulse Oscillometry	Newer modality that measures airway resistance and may identify AHR based on reduction in post-BD values
High Resolution CT	May identify subclinical lung disease, airway trapping or bronchiectasis; low diagnostic yield in this population
Cardiopulmonary Exercise Testing	Primarily used to assess patient's ability to exercise and measure VO2 max; given limited reference values and low suspicion for cardiac disease, may not identify specific cause
Allergy Evaluation	Consideration for allergy testing in patient with other atopic symptoms such as atopic dermatitis, allergic rhinitis
Cardiology Evaluation	Very low likelihood of cardiac disease in a younger population; referral should be based on physical exam findings
Electrocardiogram	Numerous nonspecific changes found in younger population and rarely diagnostic
Echocardiogram	Numerous nonspecific changes found in younger population and rarely diagnostic

Schematic of DoD Medical Follow-Up

An active duty service member, including an activated Reserve and Guard member, becomes aware of the registry through their health care provider or via outreach efforts such as direct mail communications, social media content, events/briefings, or Health.mil/AHBurnPitRegistry.

The service member accesses the Airborne Hazards and Open Burn Pit Registry at https://veteran.mobilehealth.va.gov/AHBurnPitRegistry and successfully completes the online questionnaire.

The service member requests a medical exam at their local military hospital or clinic to specifically address "health concerns related to the Airborne Hazards and Open Burn Pit Registry exposures."*

The service member brings a copy of their completed questionnaire to the medical exam.

During the service member's medical exam, the health care provider:

- Determines the patient's concern or chief complaint
- Reviews questionnaire responses with the service member, and documents pertinent positives in the medical record
- Takes a medical history with an emphasis on occupational/ environmental exposures, especially airborne hazards and smoking history

If clinically indicated, the health care provider may:

- Perform a physical exam, with focus and extent determined by symptoms and/or health concerns
- Order a chest radiograph, spirometry, and/or further diagnostics based on clinical symptoms
- Refer the service member to a pulmonary specialist for further evaluation

Upon completion of the medical exam, the health care provider:

- Fully documents the encounter and any referrals in the service member's medical record
- Uses the following diagnostic codes and any other applicable diagnostic or symptom codes related to the visit:
  - In the AHLTA, use both of the following ICD-10 codes:
    - Z91.82 (personal history of military deployment)
    - X08.8 (exposure to other specified, smoke, fire)
  - In MHS GENESIS, use both of the following SNOMED-CT codes:
    - 3042585015 (history of military deployment)
    - 165638013 (exposure to environmental pollution, occupational)

**Retirees and inactive National Guard and Reserve Component members (separated or still serving) can schedule an exam through VA.*

Provider Resources

This section contains resources DoD providers can review to learn more about the Airborne Hazards and Open Burn Pit Registry and pass along to colleagues or patients. Click links to download materials or to view more information and visit Health.mil/AHBurnPitRegistry for DoD's latest outreach and education materials.

Materials for Providers:

- Printable Wallet Card (DoD)
- Clinician's Guide to Airborne Hazards (VA)
- Airborne Hazards and Open Burn Pit Registry Overview PowerPoint Presentation (VA/Army Public Health Center [APHC])
- Airborne Hazards Registry Initial In-Person Evaluation: A Guide for Veterans and Providers (VA)
- Airborne Hazards Fact Sheet for Providers (VA)
- Airborne Hazards and Open Burn Pit Registry Fact Sheet (VA)
- Frequently Asked Questions about Burn Pit Exposures Fact Sheet (APHC)
- Burn Pit: Airborne Hazards and Open Burn Pit Registry Poster (APHC)
- Burn Pit: Airborne Hazards and Open Burn Pit Registry Tip Card (APHC)
- Airborne Hazards and Open Burn Pit Registry Pre-Participation Fact Sheet (VA)
- Summary of Evidence Statement: Chronic Respiratory Conditions and Military Deployment Fact Sheet (APHC)

Websites:

- Airborne Hazards and Open Burn Pit Registry (VA)
- MHS: Airborne Hazards and Open Burn Pit Registry (MHS)
- WRIISC: Introduction to Airborne Hazards for Providers (VA)
- Directory of Environmental Health Coordinators (VA)

Videos:

- VA Airborne Hazards and Open Burn Pit Registry for Veterans and Service Members (APHC)
- Airborne Hazards and Open Burn Pit Registry (VA)
- The Airborne Hazards and Open Burn Pit Registry - Participation Benefits (VA)

Training

Log in to Joint Knowledge Online (JKO) at https://jkodirect.jten.mil to search for and complete the training course titled DHA-US035 Airborne Hazards and Open Burn Pit Registry Overview. This course is eligible for Continuing Medical Education credit.

Clinical Reports and Further Reading

Download or explore the following resources to learn more about open burn pits, exposures, and airborne hazards, as well as the Airborne Hazards and Open Burn Pit Registry.

Reports and General Information:

- Respiratory Health Effects of Airborne Hazards Exposures in the Southwest Asia Theater of Military Operations (NASEM, 2020)
- Open Burn Pit Report to Congress (DoD, April 2019)
- Self-Reported Health Information from the Airborne Hazards and Open Burn Pit Registry (VA, December 2018)
- DoD Needs to Fully Assess the Health Risks of Burn Pits (Government Accountability Office, June 2018)
- Assessment of VA Airborne Hazards and Open Burn Pit Registry (NASEM, 2017)
- Airborne Hazards Related to Deployment (Office of Surgeon General, Borden Institute, 2015)
- DoD Instruction 4715.19, Use of Open-Air Burn Pits in Contingency Operations (DoD, March 2014)
- Long-Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan (Institute of Medicine [now NASEM], 2011)

Airborne Hazards and Particulate Matter Research:

- A Case-Crossover Study of Ambient Particulate Matter and Cardiovascular and Respiratory Medical Encounters Among US Military Personnel Deployed to Southwest Asia (APHC, June 2012)
- Integrated Science Assessment for Particulate Matter (U.S. Environmental Protection Agency, December 2009)
- The Periodic Occupational and Environmental Monitoring Summary (APHC, September 2009)
- Particulate Matter (PM) Air Pollution Exposures during Military Deployments (APHC)
- Health Implications of Deployment Exposures: Diesel and JP-8 Engine Exhaust (APHC)
- Documentation of Deployment Exposures and the Periodic Occupational Environmental Monitoring Summary (POEMS) Information for Preventive Medicine Personnel (APHC)

Reports on Clinical Concerns Related to Airborne Hazard Exposures:

- Clinical Evaluation of Deployed Military Personnel with Chronic Respiratory Symptoms: Study of Active Duty Military for Pulmonary Disease Related to Environmental Deployment Exposures (STAMPEDE III) (Chest, June 2020)
- Study of Active Duty Military Personnel for Environmental Deployment Exposures: Pre- and Post- Deployment Spirometry (STAMPEDE II) (Respiratory Care, May 2019)
- Histological Diagnoses of Military Personnel Undergoing Lung Biopsy After Deployment to Southwest Asia (Lung, August 2017)
- The Impact of Combat Deployment on Asthma Diagnosis and Severity (Journal of Asthma, May 2015)
- Study of Active Duty Military for Pulmonary Disease Related to Environmental Deployment Exposures (STAMPEDE) (American Journal of Respiratory and Critical Care Medicine, July 2014)
- Evaluation of Deployment Related Respiratory Symptoms (Federal Practitioner, March 2014)
- Burn Pits: Trash and Human Waste Exposures (VA, November 2013)
- Diagnosis and Management of Chronic Lung Disease in Deployed Military Personnel (Therapeutic Advances in Respiratory Disease, August 2013)
- Occupational Causes of Constrictive Bronchiolitis (Current Opinion in Allergy and Clinical Immunology, April 2013)
- Risk Communication in Deployment-Related Exposure Concerns (Journal of Occupational and Environmental Medicine, August 2012)
- Overview and Recommendations for Medical Screening and Diagnostic Evaluation for Post Deployment Lung Disease in Returning U.S. Warfighters (Journal of Occupational and Environmental Medicine, June 2012)
- Chronic Respiratory Conditions and Military Deployment (APHC, July 2011)
- Constrictive Bronchiolitis in Soldiers Returning from Iraq and Afghanistan (New England Journal of Medicine, July 2011)
- New-onset Asthma Among Soldiers Serving in Iraq and Afghanistan (Allergy & Asthma Proceedings, September 2010)

- Acute Eosinophilic Pneumonia (AEP) and New Onset Smoking (APHC, January 2010)
- Newly Reported Respiratory Symptoms and Conditions Among Military Personnel Deployed to Iraq and Afghanistan: A Prospective Population-Based Study (American Journal of Epidemiology, December 2009)
- Acute Eosinophilic Pneumonia Among US Military Personnel Deployed in or near Iraq (Journal of the American Medical Association, December 2004)

Location-Specific Assessments and Reports

- Qarmat Ali Water Treatment Plant Sodium Dichromate Incident Status Update: May 2020 (APHC, May 2020)
- Health Assessment of 2003 Al Mishraq Sulfur Fire Incident (APHC, June 2012)
- Joint Base Balad Burn Pit (APHC)
- Bagram Theater Internment Facility (APHC)
- Medical Assessment of Air Quality at Narhwan Brick Factory and FOB Hammer in Iraq (APHC)

Screening for Exposures Through Health Assessments

DoD is adding questions related to airborne hazards and open burn pit exposures to the periodic, separation, and deployment related health assessment forms. If an evaluation establishes that the service member was stationed at a location with an open burn pit or exposed to toxic airborne chemicals or contaminants, the FY20 National Defense Authorization Act states that the service member shall enroll in the Airborne Hazards and Open Burn Pit Registry, unless they elect not to enroll.

If you conduct these assessments, please encourage eligible service members to sign up for the registry at https://veteran.mobilehealth.va.gov/AHBurnPitRegistry or to visit http://health.mil/AHBurnPitRegistry for more information. Their participation supports ongoing VA research and informs future decisions around airborne hazards to keep service members and veterans healthy and safe.

Supporting documents for Dr. Rauch question #27.

This form must be completed electronically. Handwritten forms will not be accepted.

3. For each condition, are you currently on any profile or limited duty *(LIMDU)* for that condition?

HEALTH CONDITION	NO	YES
Chest pain *(angina)*	☐	☐
Congestive Heart Failure	☐	☐
Abnormal heart beat *(arrhythmia)*	☐	☐
High blood pressure	☐	☐
Asthma	☐	☐
Wheezing, shortness of breath, or difficulty breathing *(other than asthma)*	☐	☐
Other lung problems *(for example: Chronic Obstructive Pulmonary Disease (COPD), chronic bronchitis, pneumonia, emphysema)*	☐	☐
Tuberculosis	☐	☐
Cancer or history of cancer	☐	☐
New skin condition	☐	☐
Diabetes	☐	☐
Recurring muscle, joint, or low back pain	☐	☐
Change in your vision	☐	☐
Recurring headaches/migraines	☐	☐
Head injury/concussion/Traumatic Brain Injury *(TBI)*	☐	☐
Periods of dizziness, fainting, or loss of consciousness	☐	☐
Neurological problems *(for example: stroke, seizures)*	☐	☐
Persistent or recurring noises in your head or ears *(for example: ringing, buzzing, humming)*	☐	☐
Change in your hearing that impacts duty performance	☐	☐
High or bad cholesterol	☐	☐
Stomach problems *(for example: ulcer, reflux)*	☐	☐
Kidney problems *(for example: stones, infection)*	☐	☐
Liver problems *(for example: hepatitis, cirrhosis)*	☐	☐
Blood problems *(for example: hemophilia, sickle cell disease)*	☐	☐
Immune system problems *(for example: HIV, chemotherapy, radiation)*	☐	☐
Tooth or gum problems/pain	☐	☐

4. Have you been based or stationed at a location where an open burn pit was used?
- ☐ Yes
- ☐ No
- ☐ Not sure

5. Have you been exposed to toxic airborne chemicals or other airborne contaminants?
- ☐ Yes
- ☐ No *(Skip to 8)*
- ☐ Not sure

6. (If "Yes" or "Not Sure" marked in 4 or 5) Are you enrolled in the Airborne Hazards and Open Burn Pit Registry?
- ☐ Yes *(Skip to 8)*
- ☐ No *(Continue)*

7. If you are eligible, do you elect to enroll in the Airborne Hazards and Open Burn Pit Registry?
- ☐ Yes
- ☐ No/Not eligible

8. Have you had any surgery since your last PHA?
- ☐ Yes *(Continue)*
- ☐ No *(Skip to 10.a.)*

This form must be completed electronically. Handwritten forms will not be accepted.

PRE-DEPLOYMENT HEALTH ASSESSMENT

PRIVACY ACT STATEMENT

This statement serves to inform you of the purpose for collecting the personal information required by the DD Form 2795, Pre-Deployment Health Assessment, and how it will be used.

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDD 1404.10, DoD Civilian Expeditionary Workforce; DoDD 6490.02E, Comprehensive Health Surveillance; and E.O. 9397 (SSN), as amended.

PURPOSE: To collect information on your physical and mental health status prior to a deployment in a combat, contingency, or other operation outside of the United States, and to assist health care providers in administering present or future care.

ROUTINE USES: Use and disclosure of your records outside of DoD may occur in accordance with the DoD Blanket Routine Uses published at http://dpcld.defense.gov/Privacy/SORNsIndex/BlanketRoutineUses.aspx, and as permitted by the Privacy Act of 1974, as amended (5 U.S.C. 552a(b)). Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD. Permitted uses and disclosures of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. However, if you choose not to provide the requested information comprehensive health care services may not be possible or administrative delays may occur. Care will not be denied.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when you will deploy. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** _____

Provide your 10-digit DoD ID number located on the back of your CAC _____

Today's Date (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*) _____ **Gender** O Male O Female

Service Branch	**Component**	**Pay Grade**		
O Air Force	O Active Duty	O E1	O O1	O W1
O Army	O National Guard	O E2	O O2	O W2
O Navy	O Reserves	O E3	O O3	O W3
O Marine Corps	O Civilian Government Employee	O E4	O O4	O W4
O Coast Guard		O E5	O O5	O W5
O Civilian Expeditionary Workforce (CEW)		O E6	O O6	
O USPHS		O E7	O O7	O Other (List): _____
O Other Defense Agency List: _____		O E8	O O8	
		O E9	O O9	
			O O10	

Unit Name: _____ **Duty Station/Location:** _____

Current contact information:
Phone:_____
Cell:_____
DSN: _____
Email: _____
Address: _____

Point of contact who can always reach you:
Name:_____
Phone:_____
Email:_____
Address: _____

Estimated date of upcoming deployment (*dd/mmm/yyyy*) _____
List country you are deploying to (if known): _____
Name of operation (if known): _____
Total number of deployments in the PAST 5 YEARS: O None O 1 O 2 O 3 O 4 O 5 or more
(if previous question was answered as one or more)
Primary country of last deployment:_____
Date departed theater/deployment location (*dd/mmm/yyyy*): _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

1. **Overall, how would you rate your health during the PAST MONTH?**
   ○ Excellent ○ Very Good ○ Good ○ Fair ○ Poor

2. **(*Air Force*) Do you CURRENTLY have an Assignment Limitation Code C? (*All others*) Are you CURRENTLY on a profile, limited duty, waiting on a MOS/Medical Retention Board (MMRB) decision, or being referred to a medical evaluation board (MEB) or physical evaluation board (PEB)?**
   ○ Yes For what reason? _____
   ○ No
   ○ Don't know

3. **How often do you smoke tobacco (for example cigarettes, cigars, pipe or hookah)?**
   ○ Just about every day
   ○ Some days
   ○ Not at all

4. **FEMALES ONLY – Which of the following best describes you?**
   ○ I am or may be pregnant
   ○ I was pregnant or just delivered within the past 6 months
   ○ I was pregnant or delivered 6-12 months ago
   ○ I am not pregnant now, and was not pregnant or delivered in past 12 months

5. **FEMALES ONLY – Do you wish to receive contraceptive counseling?**
   ○ Yes
   ○ No

6. **In the PAST YEAR did you receive care for a head injury?**
   ○ Yes Please explain: _____
   ○ No

7. **What prescription or over-the- counter medications (including herbals/supplements) for sleep, pain, combat stress, or mental health conditions are you CURRENTLY taking?**
   ○ Please list: _____
   _____
   ○ None

8. **In the PAST YEAR did you receive care for anymental health condition or concern such as, but not limited to, post traumatic stress disorder (PTSD), depression, anxiety disorder, alcohol abuse or substance abuse?**
   ○ Yes Please explain: _____
   ○ No

9. **During the PAST MONTH, how much have you been bothered by any of the following problems?**

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	○	○	○
b. Trouble hearing	○	○	○

10. **a. How often do you have a drink containing alcohol?**
    ○ Never ○ Monthly or less ○ 2-4 times a month ○ 2-3 times per week ○ 4 or more times a week
    b. How many drinks containing alcohol do you have on a typical day when you are drinking?
    ○ 1 or 2 ○ 3 or 4 ○ 5 or 6 ○ 7 to 9 ○ 10 or more
    c. How often do you have six or more drinks on one occasion?
    ○ Never ○ Less than monthly ○ Monthly ○ Weekly ○ Daily or almost daily

11. **Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:**
    a. Have had nightmares about it or thought about it when you did not want to? ○ Yes ○ No
    b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? ○ Yes ○ No
    c. Were constantly on guard, watchful or easily startled? ○ Yes ○ No
    d. Felt numb or detached from others, activities, or your surroundings? ○ Yes ○ No
    e. Felt guilt or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused? ○ Yes ○ No

NOTE: If 3 or more items on 11a. through 11e. are marked yes, continue to answer items 11f. through 11w.

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each question carefully and check the box for how much you have been bothered by that problem in the PAST MONTH. Please answer all items.	Not at all	A little bit	Moderately	Quite a bit	Extremely
11f. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	O	O	O	O	O
11g. Repeated, disturbing dreams of a stressful experience from the past?	O	O	O	O	O
11h. Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	O	O	O	O	O
11i. Feeling very upset when something reminded you of a stressful experience from the past?	O	O	O	O	O
11j. Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	O	O	O	O	O
11k. Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	O	O	O	O	O
11l. Avoid activities or situations because they remind you of a stressful experience from the past?	O	O	O	O	O
11m. Trouble remembering important parts of a stressful experience from the past?	O	O	O	O	O
11n. Loss of interest in things that you used to enjoy?	O	O	O	O	O
11o. Feeling distant or cut off from other people?	O	O	O	O	O
11p. Feeling emotionally numb or being unable to have loving feelings for those close to you?	O	O	O	O	O
11q. Feeling as if your future will somehow be cut short?	O	O	O	O	O
11r. Trouble falling or staying asleep?	O	O	O	O	O
11s. Feeling irritable or having angry outbursts?	O	O	O	O	O
11t. Having difficulty concentrating?	O	O	O	O	O
11u. Being "super alert" or watchful, on guard?	O	O	O	O	O
11v. Feeling jumpy or easily startled?	O	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
11w. How difficult have these problems (11f. through 11v.) made it for you to do your work, take care of things at home, or get along with other	O	O	O	O

12. Over the LAST 2 WEEKS, how often have you been bothered by the following problems?

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

NOTE: If 12a. or 12b. are marked "More than half the days" or "Nearly every day," continue to answer items 12c. through 12i.

Over the LAST 2 WEEKS, how often have you been bothered by any of the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
12c. Trouble falling/staying asleep, sleep too much.	O	O	O	O
12d. Feeling tired or having little energy.	O	O	O	O
12e. Poor appetite or overeating.	O	O	O	O
12f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	O	O	O	O
12g. Trouble concentrating on things, such as reading the newspaper or watching television.	O	O	O	O
12h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety that you have been moving around a lot more than usual.	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
12i. How difficult have these problems (12a.through12h.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

13. a. Over the PAST MONTH, what major life stressors, if any, have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people? Mark all that apply.

❍ None ❍ Legal ❍ Financial ❍ Spiritual ❍ Substance abuse (including alcohol)
❍ Family/relationship ❍ Employment ❍ Sleep ❍ Behavioral health
❍ Other, explain _____

b. Are you currently in treatment or getting professional help for this concern? ○ Yes ○ No

14. Are you concerned about any other health condition(s) or health risk exposures not already addressed? ○ Yes, please explain: _____ ○ None

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

Section II. Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations

I. Health Care Provider Information:

1. Last Name: _____

2. First Name: _____

3. Middle Name: _____

4. Service Branch:
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O U.S. Public Health Service
- O Other (e.g., RHRP contractor)

5. Status:
- O Active Duty
- O Traditional Guardsman
- O Reservist
- O Active Guard Reserve or Full-time Support
- O Civilian Government Employee
- O Civilian Contractor
- O Other (*List*): _____

6. Select the appropriate title.
- O Physician (MD, DO)
- O Nurse Practitioner (NP)
- O Physician Assistant (PA)
- O Advance Practice Nurse (Clinical Nurse Specialist)
- O Independent Duty Corpsman
- O Independent Duty Health Services Technician
- O Independent Duty Medical Technician
- O Special Forces Medical Sergeant

7. Email: _____

8. Facility: _____

9. Unit: _____

10. Address: _____

11. State: _____

12. ZIP Code: _____

13. Phone (*Commercial*): _____

II. Mental Health Assessment

Deployer is deploying to_____ **Has deployed**_____**times before in the past five years.**
Last returned _____

1. **Address concerns identified on deployer questions 1 through 8.**

Deployer question	Not answered	Yes response	Deployer's response	Provider comments (if indicated)
Self health rating	O	O		
MEB or PEB	O	O		
Medical, dental, or mental health concern	O	O		
Pregnancy: SM response				
I am or may be pregnant	O	O		
I was pregnant or just delivered within the past 6-months	O	O		
I was pregnant and delivered 6 - 12 months ago	O	O		
I am not pregnant now, and was not pregnant or delivered in past 12 months	O	O		
Contraceptive counseling	O	O		
Head injury	O	O		
Medications	O	O		
History of mental health care	O	O		

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

2. Hearing and tinnitus as reported in deployer question 9.

a. Did deployer mark he/she bothered a little or a lot in the past month by "noises in head or ears" or "trouble hearing"?
- O Yes
- O No (*go to block 3)*

b. If yes, referral indicated?
- O Yes (complete blocks 11 and 12)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

3. Alcohol use as reported in deployer question 10.

a. Deployer's AUDIT-C screening score was_____. *(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 4).*
- O Not answered

Number of drinks per week:_____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5-7 Women 4-7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week **OR** ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week **OR** ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

* **BRIEF** counseling: **B**ring attention to elevated level of drinking; **R**ecommend limiting use or abstaining; **I**nform about the effects of alcohol on health; **E**xplore and help/support in choosing a drinking goal; **F**ollow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?
- O Yes (complete blocks 11 and 12)
- O No Provide education/awareness as needed.

State reason if AUDIT-C score was 8+:
- O *Already under care*
- O *Already has referral*
- O *No significant impairment*
- O *Other reason (explain):* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

4. PTSD screening as reported in deployer question 11.

a. Did deployer mark yes on three or more of questions 11a. through 11e.?
- O Yes
- O No (go to block 5)
- O Not answered by deployer

b. If yes, deployer's responses to questions 11f. through 11v. resulted in a PCL-C score of_____and the deployer's response to level of impairment with life events (11w.) is indicated in the table below.

O 11f. through 11w. were not answered or are incomplete.

Based on the PCL-C score, the deployer's level of functioning, and your exploration of responses, follow the guidance below:

Post-Traumatic Stress Disorder Intervention Matrix				
Self-Reported Level of Functioning	**PCL-C Score <30** (Sub-threshold or no Symptoms)	**PCL-C Score 30-39** (Mild Symptoms)	**PCL-C Score 40-49** (Moderate Symptoms)	**PCL-C Score ≥ 50** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Provide PTSD education*		Consider referral for further evaluation AND provide PTSD education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide PTSD education*	Consider referral for further evaluation AND provide PTSD education*		Refer for further evaluation AND provide PTSD education*

* PTSD Education = Reassurance/supportive counseling, provide literature on PTSD, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?
- O Yes (complete blocks 11 and 12)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

5. Depression screening as reported in deployer question 12.

a. Did deployer mark "More than half the days" or "Nearly every day" on question 12a. or 12b.?
- O Yes
- O No (go to block 6)
- O Not answered by deployer

b. If yes, deployer's responses to questions 12a. through 12h. resulted in a total PHQ-8 score of_____and the deployer's response to level of impairment with life events (12i.) is indicated in the table below.

O 12c. through 12i. were not answered or incomplete.

Based on the PHQ-8 score, deployer's level of functioning, and exploration of responses, follow the guidance below:

Depression Intervention Matrix					
Self-Reported Level of Functioning	**PHQ-8 Score 1-4** (No Symptoms)	**PHQ-8 Score 5-9** (Sub-Threshold Symptoms)	**PHQ-8 Score 10-14** (Mild Symptoms)	**PHQ-8 Score 15-18** (Moderate Symptoms)	**PHQ-8 Score 19-24** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*	Refer for further evaluation AND provide depression education*

* Depression Education = Reassurance/supportive counseling, provide literature on depression, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?
- O Yes (complete blocks 11 and 12)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

6. Major life stressor as reported on deployer question 13.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
- O Yes Deployer's concern: _____
- O No (go to block 7)
- O Not answered by deployer

b. If yes, **ask** additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
- O Yes (complete blocks 11 and 12)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O Other *reason (explain):* _____

7. Suicide risk evaluation.

a. **Ask** "Over the PAST MONTH, have you wished you were dead or wished you could go to sleep and not wake up?"
- ❍ Yes
- ❍ No

b. **Ask** "Have you actually had any thoughts of killing yourself?"
- ❍ Yes
- ❍ No (*skip to 7.f1.*)

c. **Ask** "Over the PAST MONTH, have you been thinking about how you might do this?"
- ❍ Yes
- ❍ No

d. **Ask** "Over the past month, have you had these thoughts and had some intention of acting on them?"
- ❍ Yes
- ❍ No

e1. **Ask** "Over the past month, have you started to work out or worked out the details of how to kill yourself?"
- ❍ Yes
- ❍ No (*skip to 7.f1.*)

e2. **Ask** "At any time in the past month, did you intend to carry out this plan?"
- ❍ Yes
- ❍ No

f1. **Ask** "In your lifetime, have you ever done anything, started to do anything, or prepared to do anything to end your life?"
- ❍ Yes
- ❍ No (*skip to 7.g.*)

f2. **Ask** "Was this within the past three months?"
- ❍ Yes
- ❍ No

g. **Conduct further risk assessment** (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems or serious physical illness**).**
_____
_____

h. Does deployer pose a current risk for harm to self?
- ❍ Yes (complete blocks 11 and 12)
- ❍ No

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

8. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?"
O Yes
O No *(go to block 9)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history)
Comments: _____

b. Does member pose a current risk to others?
O Yes (complete blocks 11 and 12)
O No (briefly state reason): _____

9. Medical History Review – if available, hard copy and/or electronic health records (including DD2766 and SF-600 entries,and most recent past deployment health assessments).
O Completed
O No health records available

a. Significant findings related to ability to deploy: _____

b. Evidence of deployment limiting conditions or medications?
O Yes
O No

10. Deployer issues with this assessment (mark as appropriate):
O Deployer declined to complete form
O Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 11 through 14.

11. Summary of provider's identified concerns needing referral (Mark all that apply)	Yes	No
a. None Identified O		
b. Physical health	O	O
c. Dental health	O	O
d. Alcohol use	O	O
e. PTSD symptoms	O	O
f. Depression symptoms	O	O
g. Mental health symptoms	O	O
h. Risk of self-harm	O	O
i. Risk of violence	O	O
j. Other, list:	O	O

12. Recommended referral(s) (Mark all that apply even if deployer does not desire)	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	O	O	O
b. Behavioral Health in Primary Care	O	O	O
c. Mental Health Specialty Care	O	O	O
d. Dental	O	O	O
e. Other specialty care:	O	O	O
Audiology	O	O	O
Dermatology	O	O	O
OB/GYN	O	O	O
Physical Therapy	O	O	O
TBI/Rehab Med	O	O	O
Podiatry	O	O	O
Other, list	O	O	O
f. Case Manager / Care Manager	O	O	O
g. Substance Abuse Program	O	O	O
h. Other, list:	O	O	O

13. Comments: _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

14. Medical assessment/disposition:
- O Deployable
- O Deployable at present, but requires medical readiness updates. May delay or make undeployable, e.g., pregnancy test, immunizations, overdue Pap test, dental exam, PHA, outdated eyeglass prescription, (add comments – block 15).
- O Not Deployable – potentially disqualifying condition requiring additional evaluation (add comments – block 15).
- O Not Deployable – other (add comments – block 15).

15. Comments (Mandatory for any type of Not Deployable disposition).

_____

_____

16. Supplemental services recommended / information provided	
O Appointment Assistance: _____	O Family Support
O Contract Support: _____	O Military One Source
O Community Service: _____	O TRICARE Provider
O Chaplain	O VA Medical Center or Community Clinic
O Health Education and Information	O Veterans Center
O Health Care Benefits and Resources Information	O Other, list: _____
O In Transition	O No Supplemental Services Required

O **I hereby certify that this review process has been completed.**	
Health Care Provider Digital Signature:	**Date Completed (*dd/mmm/yyyy*):**

This visit is coded by DOD0211.

This form must be completed electronically. Handwritten forms will not be accepted.

POST DEPLOYMENT HEALTH ASSESSMENT (PDHA)

PRIVACY ACT STATEMENT

This statement serves to inform you of the purpose for collecting the personal information required by the DD Form 2796, Post Deployment Health Assessment (PDHA), and how it will be used.

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDD 1404.10, DoD Civilian Expeditionary Workforce; DoDD 6490.02E, Comprehensive Health Surveillance; and E.O. 9397 (SSN), as amended.

PURPOSE: To collect information on your physical and mental health status after a deployment in a combat, contingency, or other operation outside of the United States, and to assist health care providers in administering present or future care.

ROUTINE USES: Use and disclosure of your records outside of DoD may occur in accordance with the DoD Blanket Routine Uses published at http://dpcld.defense.gov/Privacy/SORNsIndex/BlanketRoutineUses.aspx, and as permitted by the Privacy Act of 1974, as amended (5 U.S.C. 552a(b)). Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD. Permitted uses and disclosures of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. However, if you choose not to provide the requested information comprehensive health care services may not be possible or administrative delays may occur. Care will not be denied.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when and where you deployed. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** _____

Provide your 10-digit DoD ID number located on the back of your CAC _____

Today's Date (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*) _____ **Gender** O Male O Female

Service Branch
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O Civilian Expeditionary Workforce (CEW)
- O USPHS
- O Other Defense Agency List: _____

Component
- O Active Duty
- O National Guard
- O Reserves
- O Civilian Government Employee

Pay Grade
- O E1
- O E2
- O E3
- O E4
- O E5
- O E6
- O E7
- O E8
- O E9
- O O1
- O O2
- O O3
- O O4
- O O5
- O O6
- O O7
- O O8
- O O9
- O O10
- O W1
- O W2
- O W3
- O W4
- O W5
- O Other (List): _____

Unit Name: _____ **Duty Station/Location:** _____

Current contact information:
Phone:_____
Cell:_____
DSN: _____
Email: _____
Address: _____

Point of contact who can always reach you:
Name:_____
Phone:_____
Email:_____
Address: _____

PLEASE ANSWER ALL QUESTIONS BASED ON YOUR MOST RECENT DEPLOYMENT

Date arrived theater (*dd/mmm/yyyy*) _____ **Date departed theater** (*dd/mmm/yyyy*) _____

Location of operation
To what areas were you mainly deployed?

(Please list all that apply, including the number of months spent at each location.)

- O Country 1 _____ Time at location *(months)* _____
- O Country 2 _____ Time at location *(months)* _____
- O Country 3 _____ Time at location *(months)* _____
- O Country 4 _____ Time at location *(months)* _____
- O Country 5 _____ Time at location *(months)* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

1. Overall, how would you rate your health during the PAST MONTH?
O Excellent O Very Good O Good O Fair O Poor

2. Compared to before this deployment, how would you rate your health in general now?
O Much better now than before I deployed
O Somewhat better now than before I deployed
O About the same as before I deployed
O Somewhat worse now than before I deployed Please explain: _____
O Much worse now than before I deployed Please explain: _____

3. How often did you smoke tobacco (for example cigarettes, cigars, pipe, or hookah) during your deployment?
O Just about every day O Some days O Not at all

4. Were you wounded, injured, assaulted or otherwise hurt during your deployment? O Yes O No

If yes, are you still having any problems or concerns related to this event? O Yes O No

If yes, please explain: _____

5. During your deployment:
a. Did you ever feel like you were in great danger of being killed? O Yes O No
b. Did you encounter dead bodies or see people killed or wounded during this deployment? O Yes O No
c. Did you engage in direct combat where you discharged a weapon? O Yes O No

6. How many times during your deployment did you visit a health care provider for a medical or dental health problem/concern?
O No visits O 1 visit O 2-3 visits O 4-5 visits O 6 or more

7. During this deployment did you receive care for combat stress or a mental health problem/concern? O Yes O No

If yes, please explain: _____

8. During this deployment, did you have to spend one or more nights in a hospital as a patient? O Yes O No

Reason/dates: _____

9. During the PAST MONTH, how difficult have physical health problems *(illness or injury)* made it for you to do your work or other regular daily activities?
O Not difficult at all O Somewhat difficult O Very difficult O Extremely difficult

10.a. **During this deployment, did any of the following events happen to you? (Mark all that apply)**

(1) Blast or explosion (e.g., IED, RPG, EFP, land mine, grenade, etc.)? O Yes O No
If yes, please estimate your distance from the closest blast or explosion:
O Less than 25 meters (82 feet)
O 25-50 meters (82-164 feet)
O 50-100 meters (164-328 feet)
O More than 100 meters (328 feet)
(2) Vehicular accident/crash (any vehicle including aircraft)? O Yes O No
(3) Fragment wound or bullet wound?
a. Head or neck O Yes O No
b. Rest of body O Yes O No
(4) Other injury (e.g., sports injury, accidental fall, etc.)? O Yes O No

If yes to any of the above, please explain: _____

10.b. As a result of any of the events in 10.a., did you receive a jolt or blow to your head that IMMEDIATELY resulted in:
(1) Losing consciousness ("knocked out")? O Yes O No
If yes, for about how long were you knocked out?
O Less than 5 min O 5-30 min O more than 30 min
(2) Losing memory of events before or after the injury? O Yes O No
(3) Seeing stars, becoming disoriented, functioning differently, or nearly blacking out? O Yes O No

10.c. How many total times during this deployment did you receive a blow or jolt to your head?
(only answer if you had a yes to any of the questions on 10a.)
O 0 O 1 O 2 O 3 O more than 3 (list number of times) _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

11. During the PAST MONTH, how much have you been bothered by any of the following problems?

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Stomach pain	O	O	O
b. Back pain	O	O	O
c. Pain in the arms, legs, or joints (knees, hips, etc.)	O	O	O
d. Menstrual cramps or other problems with your periods (Women only)	O	O	O
e. Headaches	O	O	O
f. Chest pain	O	O	O
g. Dizziness	O	O	O
h. Fainting spells	O	O	O
i. Feeling your heart pound or race	O	O	O
j. Shortness of breath	O	O	O
k. Pain or problems during sexual intercourse	O	O	O
l. Constipation, loose bowels, or diarrhea	O	O	O
m. Nausea, gas, or indigestion	O	O	O
n. Feeling tired or having low energy	O	O	O
o. Trouble sleeping	O	O	O
p. Trouble concentrating on things (such as reading a newspaper or watching tele	O	O	O
q. Memory problems	O	O	O
r. Balance problems	O	O	O
s. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	O	O	O
t. Trouble hearing	O	O	O
u. Sensitivity to bright light	O	O	O
v. Becoming easily annoyed or irritable	O	O	O
w. Fever	O	O	O
x. Cough lasting more than 3 weeks	O	O	O
y. Numbness or tingling in the hands or feet	O	O	O
z. Hard to make up your mind or make decisions	O	O	O
aa. Watery, red eyes	O	O	O
bb. Dimming of vision, like the lights were going out	O	O	O
cc. Skin rash and/or lesion	O	O	O
dd. Pain with urination, frequency of urination, or strong urge to urinate	O	O	O
ee. Bleeding gums, tooth pain, or broken tooth	O	O	O

12. a. Over the PAST MONTH, what major life stressors, if any, have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people? Mark all that apply.

❍ None ❍ Legal ❍ Financial ❍ Spiritual ❍ Substance abuse (including alcohol)
❍ Family/relationship ❍ Employment ❍ Sleep ❍ Behavioral health
❍ Other, explain _____

b. Are you currently in treatment or getting professional help for this concern? O Yes O No

13. In the PAST YEAR, did you receive care for any mental health condition or concern such as, but not limited to, post-traumatic stress disorder (PTSD), depression, anxiety disorder, alcohol abuse, or substance abuse?

❍ Yes (please explain) _____
❍ No

14. What prescription or over-the-counter medications (including herbals/supplements) for sleep, pain, combat stress, or mental health conditions are you CURRENTLY taking? O Please list: _____ O None

15. a. How often do you have a drink containing alcohol?
O Never O Monthly or less O 2-4 times a month O 2-3 times per week O 4 or more times a week

b. How many drinks containing alcohol do you have on a typical day when you are drinking?
O 1 or 2 O 3 or 4 O 5 or 6 O 7 to 9 O 10 or more

c. How often do you have six or more drinks on one occasion?
O Never O Less than monthly O Monthly O Weekly O Daily or almost daily

16. Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:

a. Have had nightmares about it or thought about it when you did not want to? O Yes O No
b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? O Yes O No
c. Were constantly on guard, watchful or easily startled? O Yes O No
d. Felt numb or detached from others, activities, or your surroundings? O Yes O No
e. Felt guilt or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused? O Yes O No

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

NOTE: If 3 or more items on 16a. through 16e. are marked yes, continue to answer items 16f. through 16w.

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each question carefully and check the box for how much you have been bothered by that problem in the PAST MONTH. Please answer all items.	Not at all	A little bit	Moderately	Quite a bit	Extremely
16f. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	O	O	O	O	O
16g. Repeated, disturbing dreams of a stressful experience from the past?	O	O	O	O	O
16h. Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	O	O	O	O	O
16i. Feeling very upset when something reminded you of a stressful experience from the past?	O	O	O	O	O
16j. Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	O	O	O	O	O
16k. Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	O	O	O	O	O
16l. Avoid activities or situations because they remind you of a stressful experience from the past?	O	O	O	O	O
16m. Trouble remembering important parts of a stressful experience from the past?	O	O	O	O	O
16n. Loss of interest in things that you used to enjoy?	O	O	O	O	O
16o. Feeling distant or cut off from other people?	O	O	O	O	O
16p. Feeling emotionally numb or being unable to have loving feelings for those close to you?	O	O	O	O	O
16q. Feeling as if your future will somehow be cut short?	O	O	O	O	O
16r. Trouble falling or staying asleep?	O	O	O	O	O
16s. Feeling irritable or having angry outbursts?	O	O	O	O	O
16t. Having difficulty concentrating?	O	O	O	O	O
16u. Being "super alert" or watchful, on guard?	O	O	O	O	O
16v. Feeling jumpy or easily startled?	O	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
16w. How difficult have these problems (16f. through 16v.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

17. Over the LAST 2 WEEKS, how often have you been bothered by the following problems?

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

NOTE: If 17a. or 17b. are marked "More than half the days" or "Nearly every day," continue to answer items 17c. through 17i.

Over the LAST 2 WEEKS, how often have you been bothered by any of the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
17c. Trouble falling/staying asleep, sleep too much.	O	O	O	O
17d. Feeling tired or having little energy.	O	O	O	O
17e. Poor appetite or overeating.	O	O	O	O
17f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	O	O	O	O
17g. Trouble concentrating on things, such as reading the newspaper or watching television.	O	O	O	O
17h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety that you have been moving around a lot more than usual.	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
17i. How difficult have these problems (17a.through17h.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

18. Are you worried about your health because you believe you were exposed to something in the environment while deployed? O **Yes** O **No**

If yes, please explain: _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

19. **a. During this deployment were you based or stationed at a location where an open burn pit was used?** ○ **Yes** ○ **No** ○ **Not Sure**
b. During this deployment were you exposed to toxic airborne chemicals or other airborne contaminants? ○ **Yes** ○ **No** ○ **Not Sure**
c. (If 19a or 19b is "Yes" or "Not Sure") For Service members, are you enrolled in the Airborne Hazards and Open Burn Pit Registry? ○ **Yes** ○ **No**
d. (If 19c is "No") For Service members, if you are eligible, do you elect to enroll in the Airborne Hazards and Open Burn Pit Registry? ○ **Yes** ○ **No**

20. **Do you think you were exposed to any chemical, biological, or radiological warfare agents during this deployment?** ○ **Yes** ○ **No**

If yes, please explain: _____

21. **Were you in a vehicle hit by a depleted uranium (DU) round; inside a destroyed vehicle that contained DU; or closely inspect such a vehicle?** ○ **Yes** ○ **No** ○ **Don't know**

If yes, please explain: _____

22. **Were you told to take medicines to prevent malaria?** ○ **Yes** ○ **No**

If yes, please indicate which medicines you took and whether you took all pills as directed. (Mark all that apply)

Anti-malarial medications received	Took all pills?		
○ Chloroquine (Aralen®)	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Doxycycline (Vibramycin®)	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Malarone®	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Mefloquine (Lariam®)	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Primaquine	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Tafenoquine (Arakoda™, Krintafel TM)	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Other:	○ Yes	○ Yes, currently taking as prescribed	○ No
○ Given pills but do not know drug name	○ Yes	○ Yes, currently taking as prescribed	○ No

23. **Were you bitten or scratched by an animal during your deployment?** ○ Yes ○ No
If yes, please explain what kind of animal was involved, your injury, and what happened:
_____

24. **Would you like to schedule an appointment with a health care provider to discuss any health concern(s)?** ○ Yes ○ No

25. **Are you interested in receiving information or assistance for a stress, emotional, or alcohol concern?** ○ Yes ○ No

26. **Are you interested in receiving assistance for a family or relationship concern?** ○ Yes ○ No

27. **Would you like to schedule a visit with a chaplain, mental health care provider, or a community support counselor?** ○ Yes ○ No

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations:

I. Health Care Provider Information:

1. Last Name: _____ **2. First Name:** _____ **3. Middle Name:** _____

4. Service Branch:
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O U.S. Public Health Service
- O Other (e.g., RHRP contractor)

5. Status:
- O Active Duty
- O Traditional Guardsman
- O Reservist
- O Active Guard Reserve or Full-time Support
- O Civilian Government Employee
- O Civilian Contractor
- O Other (*List*): _____

6. Select the appropriate title.
- O Physician (MD, DO)
- O Nurse Practitioner (NP)
- O Physician Assistant (PA)
- O Advance Practice Nurse (Clinical Nurse Specialist)
- O Independent Duty Corpsman
- O Independent Duty Health Services Technician
- O Independent Duty Medical Technician
- O Special Forces Medical Sergeant

7. Email: _____ **8. Facility:** _____ **9. Unit:** _____

10. Address: _____ **11. State:** _____ **12. ZIP Code:** _____ **13. Phone (*Commercial*):** _____

II. Mental Health Assessment

Deployer reports arriving in theater on: _____ **Deployer reports departing theater on:** _____

1. Address concerns identified on deployer questions 1 and 2.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Self health rating	O	O		
Change in health post-deployment	O	O		

2. Address wounds, injuries, assaults, etc., occurring during deployment as reported on deployer question 4.

a. Did deployer mark that he/she is still having a problem or concern related to a wound, injury, or assault that occurred during their deployment?
- O Yes
- O No (*go to block 3)*
- O Not answered by deployer

b. Refer for evaluation?
- O Yes (complete blocks 19 and 20)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

3. Deployment experiences as reported in deployer question 5. Consider in overall assessment; ask follow-up questions as indicated.

Deployer question	Not answered	Yes response	Provider comments (if indicated)
Danger of being killed	O	O	
Encountered bodies or saw people killed or wounded	O	O	
In direct combat and discharged weapon	O	O	

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

4. Address concerns identified on deployer questions 6 through 9.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Health care visits during deployment	O	O		
Care for combat stress/mental health	O	O		
Hospitalized during deployment	O	O		
Physical limitations/problems	O	O		

5. Deployment injury and concussion risk assessment.

a. Did deployer have an injury based on their responses to question 10.a.?
O Yes
O No (*go to block 6)*

b. Did deployer have a possible concussion based on their responses to questions 10.a. through 10.c.?
O Yes
O No (*go to block 6)*

c. Evaluate injury history and concussion-related experiences and symptoms.

Refer for evaluation?
O Yes (complete blocks 19 and 20)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

6. Post-deployment general symptoms/health concerns.

List of symptoms reported as "Bothered a Lot" on Deployer Questions 11a. through 11ee.

List of symptoms reported as "Bothered a Little" on Deployer Questions 11a. through 11ee.

Physical symptom (PHQ-15) severity score for Deployer Questions 11a. through 11o.

	Minimal < 4	Low 5 - 9	Medium 10 - 14	High ≥ 15
Deployer's total	_____	_____	_____	_____

a. Does deployer have evidence of high generalized post-deployment physical symptoms (a score of ≥ 15 on the PHQ-15 physical symptoms scale - deployer questions 11a. - 11o.) or is "bothered a lot" by specific symptoms listed in 11a. – 11ee.?
O Yes
O No
O Not answered by deployer

b. Based on deployer's responses to deployer questions 11a. through 11ee. is a referral indicated?
O Yes (complete blocks 19 and 20)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

7. Major life stressor as reported on deployer question 12.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
O Yes Deployer's concern: _____
O No (*go to block 8)*
O Not answered by deployer

b. If yes, **ask** additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
O Yes (complete blocks 19 and 20)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O Other *reason (explain):* _____

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Deployer's DoD ID (10 digits): _____

8. Address concerns as described on deployer questions 13 and 14.

Deployer question	Not answered	Yes response	Deployer's response	Provider comments (if indicated)
History of mental health care	O	O		
Medications	O	O		

9. Alcohol use as reported in deployer question 15.

a. Deployer's AUDIT-C screening score was _____. O Not answered
(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 10).

Number of drinks per week:_____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5 - 7 Women 4 - 7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week **OR** ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week **OR** ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

* **BRIEF** counseling**:** **B**ring attention to elevated level of drinking; **R**ecommend limiting use or abstaining; **I**nform about the effects of alcohol on health; **E**xplore and help/support in choosing a drinking goal; **F**ollow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?

O Yes (complete blocks 19 and 20)
O No Provide education/awareness as needed.
State reason if AUDIT-C score was 8+:
- O *Already under care*
- O *Already has referral*
- O *No significant impairment*
- O *Other reason (explain):* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

10. PTSD screening as reported in deployer question 16.

a. Did deployer mark yes on three or more of questions 16a. through 16e.?

O Yes
O No *(go to block 11)*
O Not answered by deployer

b. If yes, deployer's responses to questions 16f. through 16v. resulted in a PCL-C score of_____and the deployer's response to level of impairment with life events (16w.) is indicated in the table below.

O 16f. through 16w. were not answered or are incomplete.

Based on the PCL-C score, the deployer's level of functioning, and your exploration of responses, follow the guidance below:

Post-Traumatic Stress Disorder Intervention Matrix

Self-Reported Level of Functioning	PCL-C Score <30 (Sub-threshold or no Symptoms)	PCL-C Score 30-39 (Mild Symptoms)	PCL-C Score 40-49 (Moderate Symptoms)	PCL-C Score ≥ 50 (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Provide PTSD education*		Consider referral for further evaluation AND provide PTSD education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide PTSD education*	Consider referral for further evaluation AND provide PTSD education*		Refer for further evaluation AND provide PTSD education*

* PTSD Education = Reassurance/supportive counseling, provide literature on PTSD, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 19 and 20)
O No
- O *Already under care*
- O *Already has referral*
- O *No significant impairment*
- O **Other** *reason (explain):* _____

11. Depression screening as reported in deployer question 17.

a. Did deployer mark "more than half the days" or "nearly every day" on question 17a. or 17b.?

O Yes
O No *(go to block 12)*
O Not answered by deployer

b. If yes, deployer's responses to questions 17a. through 17h. resulted in a total PHQ-8 score of_____and the deployer's response to level of impairment with life events (17i.) is indicated in the table below.

O 17c. through 17i. were not answered or incomplete.

Based on the PHQ-8 score, deployer's level of functioning, and exploration of responses, follow the guidance below:

Depression Intervention Matrix

Self-Reported Level of Functioning	PHQ-8 Score 1-4 (No Symptoms)	PHQ-8 Score 5-9 (Sub-Threshold Symptoms)	PHQ-8 Score 10-14 (Mild Symptoms)	PHQ-8 Score 15-18 (Moderate Symptoms)	PHQ-8 Score 19-24 (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*	Refer for further evaluation AND provide depression education*

* Depression Education = Reassurance/supportive counseling, provide literature on depression, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 19 and 20)
O No
- O *Already under care*
- O *Already has referral*
- O *No significant impairment*
- O **Other** *reason (explain):* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

12. Environmental and exposure concern/assessment as reported in deployer questions 18 through 21.

a. Did deployer indicate a worry or possible exposure? O Yes O No (go to block 13)

If yes, mark deployer's exposureconcern(s)	
O Animal bites	O Paints
O Animal bodies (dead)	O Pesticides
O Chlorine gas	O Radar/Microwaves
O Depleted uranium	O Sand/dust
O Excessive vibration	O Smoke from burn pit, burning trash, or feces
O Fog oils (smoke screen)	O Smoke from oil fire
O Garbage	O Solvents
O Human blood, body fluids, body parts, or dead bodies	O Tent heater smoke
O Industrial pollution	O Vehicle or truck exhaust fumes
O Insect bites	O Chemical, biological, radiological warfare agent
O Ionizing radiation	O Other exposures to toxic chemicals or materials, such as ammonia, nitric acid, etc. Please list:
O JP8 or other fuels	
O Lasers	
O Loud noises	

b. If yes, referral indicated? O Yes (complete blocks 19 and 20)
O No (provide risk education)
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):*_____

When an individual's medical condition(s) or concern may be associated with possible occupational or environmental exposures during a deployment, a Periodic Occupational and Environmental MonitoringSummary (POEMS) document may be available for review online at. *https://phc.amedd.army.mil/topics/envirohealth/hrasm/Pages/POEMS.aspx*.

13. Depleted uranium (DU) as reported in deployer question 21.

a. Did deployer mark either "yes" or "don't know" to question 21? O Yes
O No *(go to block 14)*

b. If yes, based on details of event and extent of exposure is referral to PCM for completion of DD Form 2872 (DU Questionnaire) and possible 24-hour urinalysis indicated? O Yes (complete blocks 19 and 20)
O No (provide risk education)
O *Already under care*
O *Already has referral*
O *No significant impairment*
O Other *reason (explain):* _____

14. Malaria prophylaxis review as reported in deployer question 22.

Deployer reports having deployed to: _____

a. Deployment location required malaria prophylaxis? O Yes O No *(go to block 15)*

b. Did deployer receive anti-malarial prophylaxis AND report compliance? O Yes *(go to block 15)* O No

c. If no, determine need for prophylaxis. Prescription indicated? O Yes (complete blocks 19 and 20)
O No (briefly state reason): _____

15. Animal bite (rabies risk) as reported on deployer question 23.

a. Did deployer mark "yes" on animal bite/scratch? O Yes
O No *(go to block 16)*

b. If yes, based on details of event and care received is a referral and/or follow-up indicated? Rabies incubation period can be months to years. Rabies prophylaxis can begin at any time. O Yes (complete blocks 19 and 20)
O No (provide risk education) Note:
O *Was appropriately treated*
O *Already under care*
O *Already has referral*
O *Situation was not a risk for rabies*
O Other *reason (explain):* _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

16. Suicide risk evaluation.

a. **Ask** "Over the PAST MONTH, have you wished you were dead or wished you could go to sleep and not wake up?"
- ❍ Yes
- ❍ No

b. **Ask** "Have you actually had any thoughts of killing yourself?"
- ❍ Yes
- ❍ No (*skip to 16.f1.)*

c. **Ask** "Over the PAST MONTH, have you been thinking about how you might do this?"
- ❍ Yes
- ❍ No

d. **Ask** "Over the past month, have you had these thoughts and had some intention of acting on them?"
- ❍ Yes
- ❍ No

e1. **Ask** "Over the past month, have you started to work out or worked out the details of how to kill yourself?"
- ❍ Yes
- ❍ No (*skip to 16.f1.*)

e2. **Ask** "At any time in the past month, did you intend to carry out this plan?"
- ❍ Yes
- ❍ No

f1. **Ask** "In your lifetime, have you ever done anything, started to do anything, or prepared to do anything to end your life?"
- ❍ Yes
- ❍ No (*skip to 16.g.*)

f2. **Ask** "Was this within the past three months?"
- ❍ Yes
- ❍ No

g. **Conduct further risk assessment** (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems or serious physical illness).

_____

_____

h. Does deployer pose a current risk for harm to self?
- ❍ Yes (complete blocks 19 and 20)
- ❍ No

17. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?"
- O Yes
- O No *(go to block 18)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history) Comments: _____

b. Does member pose a current risk to others?
- O Yes (complete blocks 19 and 20)
- O No (briefly state reason): _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

18. Deployer issues with this assessment (mark as appropriate):
O Deployer declined to complete form
O Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 19 through 22.

19. Summary of provider's identified concerns needing referral (Mark all that apply)	Yes	No
a. None Identified O		
b. Physical health	O	O
c. Dental health	O	O
d. Concussion	O	O
e. Mental health symptoms	O	O
f. Alcohol use	O	O
g. PTSD symptoms	O	O
h. Depression symptoms	O	O
i. Environment/work exposure	O	O
j. Depleted uranium	O	O
k. Malaria prophylaxis	O	O
l. Risk of self-harm	O	O
m. Risk of violence	O	O
n. Other, list:	O	O

20. Recommended referral(s) (Mark all that apply even if deployer does not desire)	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	O	O	O
b. Behavioral Health in Primary Care	O	O	O
c. Mental Health Specialty Care	O	O	O
d. Dental	O	O	O
e. Other specialty care:	O	O	O
Audiology	O	O	O
Dermatology	O	O	O
OB/GYN	O	O	O
Physical Therapy	O	O	O
TBI/Rehab Med	O	O	O
Podiatry	O	O	O
Other, list	O	O	O
f. Case Manager / Care Manager	O	O	O
g. Substance Abuse Program	O	O	O
h. Other, list:	O	O	O

21. Comments: _____

_____

_____

_____

22. Address requests as reported on deployer questions 24 through 27.

Deployer question	Not answered	Yes response	Comments (if indicated)
Request medical appointment	O	O	
Request info on stress/emotional/alcohol	O	O	
Family/relationship concern assistance	O	O	
Chaplain/mental health care provider/counselor visit request	O	O	

23. Supplemental services recommended / information provided	
O Appointment Assistance: _____	O Family Support
O Information on post-deployment blood specimen requirement	O Military One Source
O Contract Support: _____	O TRICARE Provider
O Community Service: _____	O VA Medical Center or Community Clinic
O Chaplain	O Veterans Center
O Health Education and Information	O Other, list: _____
O Health Care Benefits and Resources Information	O No Supplemental Services Required
O In Transition	

O **I hereby certify that this review process has been completed.**	
Health Care Provider Digital Signature:	**Date Completed (*dd/mmm/yyyy*):**

This visit is coded by DOD0212.

This form must be completed electronically. Handwritten forms will not be accepted.

POST DEPLOYMENT HEALTH RE-ASSESSMENT (PDHRA)

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDD 1404.10, DoD Civilian Expeditionary Workforce; DoDD 6490.02E, Comprehensive Health Surveillance; and E.O. 9397 (SSN), as amended.

PURPOSE: To collect information on your physical and mental health status after a deployment in a combat, contingency, or other operation outside of the United States, and to assist health care providers in administering present or future care.

ROUTINE USES: Use and disclosure of your records outside of DoD may occur in accordance with the DoD Blanket Routine Uses published at http://dpcld.defense.gov/Privacy/SORNsIndex/BlanketRoutineUses.aspx, and as permitted by the Privacy Act of 1974, as amended (5 U.S.C. 552a(b)). Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD. Permitted uses and disclosures of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. However, if you choose not to provide the requested information comprehensive health care services may not be possible or administrative delays may occur. Care will not be denied.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when and where you deployed. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** _____

Provide your 10-digit DoD ID number located on the back of your CAC_____ **Today's Date** (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*)_____ **Gender** O Male O Female

Service Branch	**Component**	**Pay Grade**		
O Air Force	O Active Duty	O E1	O O1	O W1
O Army	O National Guard	O E2	O O2	O W2
O Navy	O Reserves	O E3	O O3	O W3
O Marine Corps	O Civilian Government Employee	O E4	O O4	O W4
O Coast Guard		O E5	O O5	O W5
O Civilian Expeditionary Workforce (CEW)		O E6	O O6	
O USPHS		O E7	O O7	O Other (List): _____
O Other Defense Agency List: _____		O E8	O O8	
		O E9	O O9	
			O O10	

Unit Name: _____ **Duty Station/Location:** _____

Current contact information:
Phone:_____
Cell:_____
DSN: _____
Email: _____
Address: _____
_____
_____

Point of contact who can always reach you:
Name:_____
Phone:_____
Email: _____
Address: _____
_____
_____

PLEASE ANSWER ALL QUESTIONS BASED ON YOUR MOST RECENT DEPLOYMENT

Primary country of last deployment:_____ **Date departed theater/theater location** (*dd/mmm/yyyy*) _____

Total deployments in past 5 years: O 1 O 2 O 3 O 4 O 5 or more

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

1. **Overall, how would you rate your health during the PAST MONTH?**
   ○ Excellent ○ Very Good ○ Good ○ Fair ○ Poor

2. **Compared to before your most recent deployment, how would you rate your health in general now?**
   ○ Much better now than before I deployed
   ○ Somewhat better now than before I deployed
   ○ About the same as before I deployed
   ○ Somewhat worse now than before I deployed Please explain: _____
   ○ Much worse now than before I deployed Please explain: _____

3. **Were you wounded, injured, assaulted or otherwise hurt during your deployment?** ○ Yes ○ No
   If yes, are you still having any problems or concerns related to the event(s)? ○ Yes ○ No
   If yes, please explain: _____

4. **During your deployment:**
   a. Did you ever feel like you were in great danger of being killed? ○ Yes ○ No
   b. Did you encounter dead bodies or see people killed or wounded during this deployment? ○ Yes ○ No
   c. Did you engage in direct combat where you discharged a weapon? ○ Yes ○ No

5. **Since you returned from deployment, how many times have you gone to a health care provider for a medical, dental, or mental health problem/concern?**
   ○ No visits ○ 1 visit ○ 2-3 visits ○ 4-5 visits ○ 6 or more

6. **Since you returned from deployment, have you been hospitalized?** ○ Yes ○ No
   If yes, please list date and brief details: _____

7. **During the PAST MONTH, how difficult have physical health problems *(illness or injury)* made it for you to do your work or other regular daily activities?**
   ○ Not difficult at all ○ Somewhat difficult ○ Very difficult ○ Extremely difficult

8. **During the PAST MONTH, how much have you been bothered by any of the following problems?**

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Stomach pain	○	○	○
b. Back pain	○	○	○
c. Pain in the arms, legs, or joints (knees, hips, etc.)	○	○	○
d. Menstrual cramps or other problems with your periods (Women only)	○	○	○
e. Headaches	○	○	○
f. Chest pain	○	○	○
g. Dizziness	○	○	○
h. Fainting spells	○	○	○
i. Feeling your heart pound or race	○	○	○
j. Shortness of breath	○	○	○
k. Pain or problems during sexual intercourse	○	○	○
l. Constipation, loose bowels, or diarrhea	○	○	○
m. Nausea, gas, or indigestion	○	○	○
n. Feeling tired or having low energy	○	○	○
o. Trouble sleeping	○	○	○
p. Trouble concentrating on things (such as reading a newspaper or watching television)	○	○	○
q. Memory problems	○	○	○
r. Balance problems	○	○	○
s. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	○	○	○
t. Trouble hearing	○	○	○
u. Sensitivity to bright light	○	○	○
v. Becoming easily annoyed or irritable	○	○	○
w. Fever	○	○	○
x. Cough lasting more than 3 weeks	○	○	○
y. Numbness or tingling in the hands or feet	○	○	○
z. Hard to make up your mind or make decisions	○	○	○
aa. Watery, red eyes	○	○	○
bb. Dimming of vision, like the lights were going out	○	○	○
cc. Skin rash and/or lesion	○	○	○
dd. Pain with urination, frequency of urination, or strong urge to urinate	○	○	○
ee. Bleeding gums, tooth pain, or broken tooth	○	○	○

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Deployer's DoD ID (10 digits): _____

9. a. Over the PAST MONTH, what major life stressors, if any, have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people? Mark all that apply.

❍ None ❍ Legal ❍ Financial ❍ Spiritual ❍ Substance abuse (including alcohol)
❍ Family/relationship ❍ Employment ❍ Sleep ❍ Behavioral health
❍ Other, explain _____

b. Are you currently in treatment or getting professional help for this concern? ❍ Yes ❍ No

10. In the PAST YEAR did you receive care for any mental health condition or concern such as, but not limited to, post traumatic stress disorder (PTSD), depression, anxiety disorder, alcohol abuse or substance abuse? ❍ Yes ❍ No

If yes, please explain: _____

11. What prescription or over-the-counter medications (including herbals/supplements) for sleep, pain, combat stress, or a mental health concern are you CURRENTLY taking?

❍ Please list: _____
❍ None

12. a. How often do you have a drink containing alcohol?

❍ Never ❍ Monthly or less ❍ 2-4 times a month ❍ 2-3 times per week ❍ 4 or more times a week

b. How many drinks containing alcohol do you have on a typical day when you are drinking?

❍ 1 or 2 ❍ 3 or 4 ❍ 5 or 6 ❍ 7 to 9 ❍ 10 or more

c. How often do you have six or more drinks on one occasion?

❍ Never ❍ Less than monthly ❍ Monthly ❍ Weekly ❍ Daily or almost daily

13. Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:

a. Have had nightmares about it or thought about it when you did not want to? ❍ Yes ❍ No
b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? ❍ Yes ❍ No
c. Were constantly on guard, watchful or easily startled? ❍ Yes ❍ No
d. Felt numb or detached from others, activities, or your surroundings? ❍ Yes ❍ No
e. Felt guilt or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused? ❍ Yes ❍ No

NOTE: If three or more items on 13a. through 13e. are marked yes, continue to answer items 13f through 13w.

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each question carefully and check the box for how much you have been bothered by that problem in the LAST MONTH. Please answer all items.

		Not at all	A little bit	Moderately	Quite a bit	Extremely
13f.	Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	❍	❍	❍	❍	❍
13g.	Repeated, disturbing dreams of a stressful experience from the past?	❍	❍	❍	❍	❍
13h.	Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	❍	❍	❍	❍	❍
13i.	Feeling very upset when something reminded you of a stressful experience from the past?	❍	❍	❍	❍	❍
13j.	Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	❍	❍	❍	❍	❍
13k.	Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	❍	❍	❍	❍	❍
13l.	Avoid activities or situations because they remind you of a stressful experience from the past?	❍	❍	❍	❍	❍
13m.	Trouble remembering important parts of a stressful experience from the past?	❍	❍	❍	❍	❍
13n.	Loss of interest in things that you used to enjoy?	❍	❍	❍	❍	❍
13o.	Feeling distant or cut off from other people?	❍	❍	❍	❍	❍
13p.	Feeling emotionally numb or being unable to have loving feelings for those close to you?	❍	❍	❍	❍	❍
13q.	Feeling as if your future will somehow be cut short?	❍	❍	❍	❍	❍
13r.	Trouble falling or staying asleep?	❍	❍	❍	❍	❍
13s.	Feeling irritable or having angry outbursts?	❍	❍	❍	❍	❍
13t.	Having difficulty concentrating?	❍	❍	❍	❍	❍
13u.	Being "super alert" or watchful, on guard?	❍	❍	❍	❍	❍
13v.	Feeling jumpy or easily startled?	❍	❍	❍	❍	❍

		Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
13w.	How difficult have these problems (13f. through 13v.) made it for you to do your work, take care of things at home, or get along with other people?	❍	❍	❍	❍

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Deployer's DoD ID (10 digits): _____

14. Over the LAST 2 WEEKS, how often have you been bothered by the following problems?

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

NOTE: If 14a. or 14b. are marked "More than half the days" or "Nearly every day," continue to answer items 14c. through 14i.

Over the LAST 2 WEEKS, how often have you been bothered by any of the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
14c. Trouble falling/staying asleep, sleep too much.	O	O	O	O
14d. Feeling tired or having little energy.	O	O	O	O
14e. Poor appetite or overeating.	O	O	O	O
14f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	O	O	O	O
14g. Trouble concentrating on things, such as reading the newspaper or watching television.	O	O	O	O
14h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety that you have been moving around a lot more than usual.	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
14i. How difficult have these problems (14a.-14h.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

15. Are you worried about your health because you believe you were exposed to something in the environment while deployed? O Yes O No

If yes, please explain: _____

16. a. During your deployment were you based or stationed at a location where an open burn pit was used? O Yes O No O Not Sure

b. During this deployment were you exposed to toxic airborne chemicals or other airborne contaminants? O Yes O No O Not Sure

c. (If 16a or 16b is "Yes" or "Not Sure") For Service members, are you enrolled in the Airborne Hazards and Open Burn Pit Registry? O Yes O No

d. (If 16c is "No") For Service members, if you are eligible, do you elect to enroll in the Airborne Hazards and Open Burn Pit Registry? O Yes O No

17. Were you bitten or scratched by an animal during your deployment? O Yes O No

If yes, please explain what kind of animal was involved, your injury, and what happened:

_____

18. Would you like to schedule an appointment with a health care provider to discuss any health concern(s)? O Yes O No

19. Are you interested in receiving information or assistance for a stress, emotional, or alcohol concern? O Yes O No

20. Are you interested in receiving assistance for a family or relationship concern? O Yes O No

21. Would you like to schedule a visit with a chaplain, mental health care provider, or a community support counselor? O Yes O No

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Deployer's DoD ID (10 digits): _____

Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations:

I. Health Care Provider Information:

1. Last Name: _____

2. First Name: _____

3. Middle Name: _____

4. Service Branch:
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O U.S. Public Health Service
- O Other (e.g., RHRP contractor)

5. Status:
- O Active Duty
- O Traditional Guardsman
- O Reservist
- O Active Guard Reserve or Full-time Support
- O Civilian Government Employee
- O Civilian Contractor
- O Other (*List*): _____

6. Select the appropriate title.
- O Physician (MD, DO)
- O Nurse Practitioner (NP)
- O Physician Assistant (PA)
- O Advance Practice Nurse (Clinical Nurse Specialist)
- O Independent Duty Corpsman
- O Independent Duty Health Services Technician
- O Independent Duty Medical Technician
- O Special Forces Medical Sergeant

7. Email: _____

8. Facility: _____

9. Unit: _____

10. Address: _____

11. State: _____

12. ZIP Code: _____

13. Phone (*Commercial*): _____

II. Mental Health Assessment

Deployer reports most recent deployment was to_____**and has deployed** _____**times before in the past five years.**

1. Address concerns identified on deployer questions 1 and 2.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Self health rating	O	O		
Change in health post-deployment	O	O		

2. Address wounds, injuries, assaults, etc., occurring during deployment as reported on deployer question 3.

a. Did deployer mark that he/she is still having a problem or concern related to a wound, injury, or assault that occurred during their deployment?
- O Yes
- O No (*go to block 3)*
- O Not answered by deployer

b. Refer for evaluation?
- O Yes (complete blocks 16 and 17)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

3. Deployment experiences as reported in deployer question 4. Consider in overall assessment; ask follow-up questions as indicated.

Deployer question	Not answered	Yes response	Provider comments (if indicated)
Danger of being killed	O	O	
Encountered bodies or saw people killed or wounded	O	O	
In direct combat and discharged weapon	O	O	

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Deployer's DoD ID (10 digits): _____

4. Address concerns identified on deployer questions 5 through 7.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Health care visits since return	O	O		
Hospitalized since return	O	O		
Physical limitations/problems	O	O		

5. Post-deployment general symptoms/health concerns.

List of symptoms reported as "Bothered a Lot" on Deployer Questions 8a. through 8ee.

List of symptoms reported as "Bothered a Little" on Deployer Questions 8a. through 8ee.

Physical symptom (PHQ-15) severity score for Deployer Questions 8a. through 8o.				
	Minimal < 4	Low 5 - 9	Medium 10 - 14	High ≥ 15
Deployer's total	_____	_____	_____	_____

a. Does deployer have evidence of high generalized post- deployment Yes physical symptoms (a score of ≥ 15 on the PHQ-15 physical No symptom scale – deployer questions 8a. through 8o.) or is "bothered deployer a lot" by specific symptoms listed in 8a. through 8ee.?
O
O
O Not answered by

b. Based on deployer's responses to deployer questions 8a. through 8ee. is a referral indicated?
O Yes (complete blocks 16 and 17)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

6. Major life stressor as reported on deployer question 9.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
O Yes Deployer's concern: _____
O No (*go to block 7)*
O Not answered by deployer

b. If yes, **ask** additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
O Yes (complete blocks 16 and 17)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain)* _____

7. Address concerns as reported in deployer questions 10 and 11.

Deployer question	Not answered	Yes response	Deployer's response	Provider comments (if indicated)
History of mental health care	O	O		
Medications	O	O		

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Deployer's DoD ID (10 digits): _____

8. Alcohol use as reported in deployer question 12.

a. Deployer's AUDIT-C screening score was_____. ○ Not answered by deployer
(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 9).

Number of drinks per week:_____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5-7 Women 4-7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week **OR** ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week **OR** ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

* **BRIEF** counseling: **B**ring attention to elevated level of drinking; **R**ecommend limiting use or abstaining; **I**nform about the effects of alcohol on health; **E**xplore and help/support in choosing a drinking goal; **F**ollow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?
○ Yes (complete blocks 16 and 17)
○ No Provide education/awareness as needed. State reason if AUDIT-C score was 8+:
○ *Already under care*
○ *Already has referral*
○ *No significant impairment*
○ *Other reason (explain):* _____

9. PTSD screening as reported in deployer question 13.

a. Did deployer mark yes on three or more of questions 13a. through 13e.?
○ Yes
○ No (go to block 10)
○ Not answered by deployer

b. If yes, deployer's responses to questions 13f. through 13v. resulted in a PCL-C score of_____and the deployer's response to level of impairment with life events (13w.) is indicated in the table below.

○ 13f. through 13w. were not answered or are incomplete.

Based on the PCL-C score, the deployer's level of functioning, and your exploration of responses, follow the guidance below:

Post-Traumatic Stress Disorder Intervention Matrix				
Self-Reported Level of Functioning	**PCL-C Score <30** (Sub-threshold or no Symptoms)	**PCL-C Score 30-39** (Mild Symptoms)	**PCL-C Score 40-49** (Moderate Symptoms)	**PCL-C Score ≥ 50** (Severe Symptoms)
○ **Not Difficult at All or Somewhat Difficult**	No intervention	Provide PTSD education*		Consider referral for further evaluation AND provide PTSD education*
○ **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide PTSD education*	Consider referral for further evaluation AND provide PTSD education*		Refer for further evaluation AND provide PTSD education*

* PTSD Education = Reassurance/supportive counseling, provide literature on PTSD, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?
○ Yes (complete blocks 16 and 17)
○ No
○ *Already under care*
○ *Already has referral*
○ *No significant impairment*
○ *Other reason (explain):* _____

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Deployer's DoD ID (10 digits): _____

10. Depression screening as reported in deployer question 14.

a. Did Deployer mark "More than half the days" or "Nearly every day" on question 14a. or 14b.?
- O Yes
- O No (go to block 11)
- O Not answered by deployer

b. If yes, deployer's responses to questions 14a. - 14h. resulted in a total PHQ-8 score of_____and the deployer's response to level of impairment with life events (14i.) is indicated in the table below.

O 14c. through 14i. were not answered or incomplete.

Based on the PHQ-8 score, deployer's level of functioning, and exploration of responses, follow the guidance below:

Depression Intervention Matrix

Self-Reported Level of Functioning	PHQ-8 Score 1-4 (No Symptoms)	PHQ-8 Score 5-9 (Sub-Threshold Symptoms)	PHQ-8 Score 10-14 (Mild Symptoms)	PHQ-8 Score 15-18 (Moderate Symptoms)	PHQ-8 Score 19-24 (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*	Refer for further evaluation AND provide depression education*

* Depression Education = Reassurance/supportive counseling, provide literature on depression, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?
- O Yes (complete blocks 16 and 17)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

11. Environmental and exposure concern/assessment as reported in deployer question 15 through 17.

a. Did deployer indicate a worry or possible exposure? O Yes O No (go to block 12)

If yes, mark deployer's exposureconcern(s)	
O Animal bites	O Paints
O Animal bodies (dead)	O Pesticides
O Chlorine gas	O Radar/Microwaves
O Depleted uranium	O Sand/dust
O Excessive vibration	O Smoke from burn pit, burning trash, or feces
O Fog oils (smoke screen)	O Smoke from oil fire
O Garbage	O Solvents
O Human blood, body fluids, body parts, or dead bodies	O Tent heater smoke
O Industrial pollution	O Vehicle or truck exhaust fumes
O Insect bites	O Chemical, biological, radiological warfare agent
O Ionizing radiation	O Other exposures to toxic chemicals or materials, such as ammonia, nitric acid, etc. Please list:
O JP8 or other fuels	
O Lasers	
O Loud noises	

b. If yes, referral indicated?
- O Yes (complete blocks 16 and 17)
- O No (provide risk education)
  - O *Already under care*
  - O *Already has referral*
  - O *No signficant impairment*
  - O *Other reason (explain):*_____

When an individual's medical condition(s) or concern may be associated with possible occupational or environmental exposures during a deployment, a Periodic Occupational and Environmental MonitoringSummary (POEMS) document may be available for review online at *https://phc.amedd.army.mil/topics/envirohealth/hrasm/Pages/POEMS.aspx*.

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Deployer's DoD ID (10 digits): _____

12. Animal bite (rabies risk) as reported on deployer question 17.

a. Did deployer mark "yes" on animal bite/scratch?
- ○ Yes
- ○ No *(go to block 13)*

b. If yes, based on details of event and care received is a referral and/or follow-up indicated? Rabies incubation period can be months to years. Rabies prophylaxis can begin at any time.
- ○ Yes (complete blocks 16 and 17)
- ○ No (provide risk education) Note:
  - ○ *Was appropriately treated*
  - ○ *Already under care*
  - ○ *Already has referral*
  - ○ *Situation was not a risk for rabies*
  - ○ Other *reason (explain):* _____

13. Suicide risk evaluation.

a. **Ask** "Over the PAST MONTH, have you wished you were dead or wished you could go to sleep and not wake up?"
❍ Yes ❍No

b. **Ask** "Have you actually had any thoughts of killing yourself?"
❍ Yes ❍No (*skip to 13.f1.*)

c. **Ask** "Over the PAST MONTH, have you been thinking about how you might do this?"
❍ Yes ❍No

d. **Ask** "Over the past month, have you had these thoughts and had some intention of acting on them?"
❍ Yes ❍No

e1. **Ask** "Over the past month, have you started to work out or worked out the details of how to kill yourself?"
❍ Yes ❍No (*skip to 13.f1.*)

e2. **Ask** "At any time in the past month, did you intend to carry out this plan?"
❍ Yes ❍No

f1. **Ask** "In your lifetime, have you ever done anything, started to do anything, or prepared to do anything to end your life?"
❍ Yes ❍No (*skip to 13.g.)*

f2. **Ask** "Was this within the past three months?"
❍ Yes ❍No

g. **Conduct further risk assessment** (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems or serious physical illness**).**

_____

_____

h. Does deployer pose a current risk for harm to self?
❍ Yes (complete blocks 16 and 17)
❍ No

14. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?"
- ○ Yes
- ○ No *(go to block 15)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history) Comments: _____

b. Does member pose a current risk to others?
- ○ Yes (complete blocks 16 and 17)
- ○ No (briefly state reason): _____

This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's DoD ID (10 digits): _____

15. Deployer issues with this assessment (mark as appropriate):
O Deployer declined to complete form
O Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 16 through 19.

16. Summary of provider's identified concerns needing referral (Mark all that apply)	Yes	No
a. None Identified O		
b. Physical health	O	O
c. Dental health	O	O
d. Mental health symptoms	O	O
e. Alcohol use	O	O
f. PTSD symptoms	O	O
g. Depression symptoms	O	O
h. Environment/work exposure	O	O
i. Risk of self-harm	O	O
j. Risk of violence	O	O
k. Other, list:	O	O

17. Recommended referral(s) (Mark all that apply even if deployer does not desire)	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	O	O	O
b. Behavioral Health in Primary Care	O	O	O
c. Mental Health Specialty Care	O	O	O
d. Dental	O	O	O
e. Other specialty care:	O	O	O
Audiology	O	O	O
Dermatology	O	O	O
OB/GYN	O	O	O
Physical Therapy	O	O	O
TBI/Rehab Med	O	O	O
Podiatry	O	O	O
Other, list	O	O	O
f. Case Manager / Care Manager	O	O	O
g. Substance Abuse Program	O	O	O
h. Other, list:	O	O	O

18. Comments:

_____

_____

_____

19. Address requests as reported on deployer questions 18 through 21.

Deployer question	Not answered	Yes response	Comments (if indicated)
Request medical appointment	O	O	
Request info on stress/emotional/alcohol	O	O	
Family/relationship concern assistance	O	O	
Chaplain/mental health care provider/counselor visit request	O	O	

20. Supplemental services recommended / information provided	
O Appointment Assistance: _____	O Family Support
O Contract Support: _____	O Military One Source
O Community Service: _____	O TRICARE Provider
O Chaplain	O VA Medical Center or Community Clinic
O Health Education and Information	O Veterans Center
O Health Care Benefits and Resources Information	O Other, list: _____
O In Transition	O No Supplemental Services Required

O **I hereby certify that this review process has been completed.**	
Health Care Provider Digital Signature:	**Date Completed (*dd/mmm/yyyy*):**

This visit is coded by DOD0213.