



## AIRBORNE HAZARDS CONCERNS: INFORMATION FOR VETERANS

Many Veterans are concerned about exposure to airborne hazards after deployment to countries in Southwest Asia (SWA), including Iraq and Afghanistan. Airborne hazards include particulate matter and gaseous air pollutants that may originate from the following sources:

- Burning of human and non-human solid wastes
- Smoke from structural fires and explosions
- Smoke from burning oil wells
- Dust and sand particles
- Industrial and ambient air pollution
- Aircraft and automobile engine exhaust

### WHAT IS KNOWN ABOUT EXPOSURE TO AIRBORNE HAZARDS?

Levels of particulate matter air pollution for service members deployed to countries in SWA are very high, often exceeding military and occupational guidelines. Service members returned from deployment and began reporting respiratory symptoms, leading to concern in the Veteran community. Veterans' health visits and diagnoses related to respiratory problems increased and although most Veterans reported that their respiratory symptoms resolved over time, learning more about airborne hazards exposure and resulting health effects became a top priority at the VA.

In the past several years there have been numerous studies on the health outcomes of exposure to airborne hazards for deployed military members. Several of these studies supported links between the development of respiratory symptoms and exposure to airborne hazards. An important study included a comparison of service members symptom reporting before, during, and after deployment and found that symptoms increased both during and after deployment versus before deployment. Importantly, additional research showed that longer deployment lengths were linked with greater levels of respiratory symptoms.

In 2020 a detailed report published by National Academy of Science, Engineering and Medicine (NASEM), entitled "Respiratory Health Effects of Airborne Hazards Exposures in the Southwest Asia Theater of Military Operations", reviewed deployment literature related to respiratory health and deployment. Based on the available literature, the NASEM committee concluded that deployment to SWA is associated with respiratory symptoms. The committee was unable to conclude

that deployment was associated with diagnosed respiratory conditions due to limited available evidence in service members and Veterans.

The NASEM also concluded that due to the limitations of the published literature, there was insufficient evidence to support a connection between exposure and any respiratory conditions. The main limitations of studies included in this review were that there was no objective information on exposure available (studies in progress are addressing this gap) and that many published studies on deployed individuals lack control groups for comparison. The NASEM recommended that future research will be critical in improving our understanding of the respiratory health effects of deployment.



Emerging areas of research will further investigate findings of:

- Abnormalities of the small airways via novel techniques like oscillometry (testing to determine respiratory resistance), multi-breath washout (testing that measures efficiency of gas mixing in the lung) and quantitative CT imaging (radiological images that provide insight into the cause of breathing difficulties).
- Findings of a variety of abnormalities on surgical lung biopsy that include multiple components of the lung in addition to damage to the small airways.

Exposure to airborne hazards may have health effects beyond the respiratory system. Recent research discoveries show a relationship between exposure to airborne hazards and the development of non-respiratory conditions.



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A June 2021 study concluded that dust exposure during past military service is a risk factor for being diagnosed with Rheumatoid Arthritis and other autoimmune conditions. Again, future work in this area is needed to provide clear evidence of this association.

#### WHAT IS THE VA AIRBORNE HAZARDS AND OPEN BURN PIT REGISTRY?

Based on the findings of a report by NASEM, Veterans Affairs (VA) implemented the Airborne Hazards and Open Burn Pit Registry required by Public Law 112-260. Veterans can participate in the Registry whether or not they are enrolled in the VA and complete a web-based self-assessment health questionnaire. To determine eligibility and access the questionnaire visit: <https://veteran.mobilehealth.va.gov/AHBurnPitRegistry/>

The registry keeps Veterans informed about scientific studies including long term studies on airborne hazards as well as emerging treatments on airborne hazard related concerns. It also helps VA to monitor the health conditions affecting Veterans as a result of airborne hazards exposure. The data collected is used to improve programs at the VA to help Veterans with deployment exposure concerns. VA continues to work to improve the registry questionnaire based on recommendations from NASEM.

#### IN-PERSON EVALUATION

Veterans who have filled out the online self-assessment questionnaire can request an evaluation by a VA provider. The Veteran must be enrolled in the VA in order to receive this evaluation. Although the Veteran does not need to receive his/her care at the VA.

During the visit with a VA provider, concerns and symptoms will be evaluated in a comprehensive manner. Further suggested testing, including specialty evaluations, will be based on the individual Veteran's health concerns and symptoms, and may be ordered by the provider. For more information on the latest process for Veterans with airborne hazard exposure visit: [www.publichealth.va.gov/exposures/burnpits/registry.asp](http://www.publichealth.va.gov/exposures/burnpits/registry.asp)

#### AIRBORNE HAZARDS AND BURN PITS CENTER OF EXCELLENCE AT THE NJ WRIISC

The Airborne Hazards Center of Excellence at the NJ WRIISC was officially recognized by Congress and the President in Public Law 115-929 as a VA Center of Excellence. Designated as the Airborne Hazards and Burn Pits Center of Excellence (AHBPCE) in May 2019, the Center conducts clinical and translational research,

#### VA Presumptive Conditions Related to Particle Matter Exposure

VA recently added presumptive conditions related to particulate matter exposure including asthma, rhinitis, sinusitis and rare respiratory cancers. To be eligible for benefits, you must have been diagnosed with one of these conditions within 10 years of your separation from active service. This will expand benefits for Veterans who served in:

- Afghanistan, Djibouti, Syria, and Uzbekistan during the Persian Gulf War, from September 19, 2001, to the present, or
- The Southwest Asia theater of operations from August 2, 1990, to the present.

To determine eligibility for benefits based on deployment location, contact Veterans Benefits Association (VBA) or file a claim online: <https://www.ebenefits.va.gov/ebenefits/homepage>

and disseminates education products and best practices related to airborne hazards and burn pits.

Clinicians at the AHBPCE work in collaboration with the Post Deployment Cardiopulmonary Evaluation Network (PDCEN) to screen VA's Airborne Hazards and Open Burn Pit Registry to identify Veterans with specific reports of respiratory health concerns. Selected Veterans are then invited to participate in an in-person assessment at either the AHBPCE or the nearest PDCEN site. The AHBPCE's role is to identify possible conditions resulting from a Veteran's evaluation and make management recommendations. These findings and recommendations are provided to the Veteran and their primary care provider for any follow-up management and care.

### AIRBORNE HAZARDS AND BURN PITS CENTER OF EXCELLENCE



For more information detailed on the AHBPCE visit: <https://www.warrelatedillness.va.gov/WARRELATEDILLNESS/AHBPCE/index.asp>





## THE FUTURE

It remains a complex matter to investigate exposure to airborne hazards in service members. Several factors influence the way a study is carried out and measuring environmental exposures in a population brings its own set of difficulties. For example, determining the negative impact an environmental exposure has on health requires knowing the amount, how exposure occurred, how many times it happened, and how much exposure an individual had to the harmful substance. A person may also be exposed to multiple harmful substances at the time of exposure or throughout their whole life through in different ways, meaning more than one exposure could cause a symptom or condition. Researchers at the VA and Subject Matter Experts continue to collaborate and be devoted to conducting research studies that shed light on exposures to airborne hazards for service members, and more importantly, apply findings to optimal clinical care for Veterans.

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