

# Self-Reported Health Information from the Airborne Hazards and Open Burn Pit Registry

*Cumulative from June 2014 through December 31, 2019*

**Post Deployment Health Services  
Office of Patient Care Services  
Veterans Health Administration  
Department of Veterans Affairs**  
<http://www.publichealth.va.gov>

**VA**



**U.S. Department of Veterans Affairs**

Veterans Health Administration

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## Introduction

This report describes self-reported summary information, including demographic and military service characteristics, exposures, and health outcomes, for 191,044 Veterans and active duty service members who completed the Airborne Hazards and Open Burn Pit Registry (AHOBPR) between June 2014 and December 31, 2019.

The contents of this report are derived from the online data collection tool of the AHOBPR. The data only apply to Veterans and service members who have completed the AHOBPR, and do not represent all eligible Veterans and service members.

These self-reported data are valuable for helping VA and stakeholders understand the experience of Veterans and service members, including a general understanding of potential exposures and health outcomes. The reporting is descriptive and should not be used to draw conclusions that exposure caused a specific disease.

Post Deployment Health Services (PDHS) publishes this report and releases updated reports every six months. Find previous reports on the bottom of the web page <https://www.publichealth.va.gov/exposures/burnpits/registry.asp>.

## About the AHOBPR

The AHOBPR allows Veterans and service members to document their exposures and report health concerns in an online questionnaire. The AHOBPR is an excellent tool for informing VA, Veterans, and stakeholders about post deployment health concerns and generating hypotheses for research. The registry is not a replacement for well-designed epidemiological studies or other programs of scientific inquiry focused on understanding relationships between exposure and disease. After completing the questionnaire, participants can follow up with an in-person health exam.

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## Burn Pit Registry Summary Facts

### Participant Numbers

- The registry gained 14,109 new participants between July 1, 2019 and December 31, 2019.
- While all the reported results have increased in number, the proportions remained the same when comparing the recent report to the July 2019 report.

### Military Experiences

- About 124,428 (64.5%) of those in the registry are Veterans (retired or separated from service). This is an increase of 10,408 since July 1, 2019 (114,020 or 64.4%).
- About 67,000 (34.7%) of those in the registry are currently in the service (active duty, Reserve, or National Guard). As of July 1, 2019, 61,639 (34.8%) were active duty.
- 16,827 (8.7%) of registry participants served in the 1990-1991 Gulf War. The number for the July 2019 report was 15,240 (8.6%).
- Of all unique deployments longer than 30 days, 6,063 (1.2%) occurred on bodies of water in the Gulf/Southwest Asia region (i.e., Gulf of Oman, Persian Gulf, Arabian Sea, and Red Sea).

### Burn Pit Exposure

- 178,604 (92.6%) of AHOBPR participants reported a burn pit exposure during deployment. The number of participants reporting a burn pit exposure during deployment in the July 2019 report was 165,755 (93.7%).
- 113,714 (58.9%) of AHOBPR participants reported duties involving burn pits. This number has increased from 100,806 (59.8%) as reported in the July 2019 report.

### Blast Experiences

- 132,379 (69.9%) were close enough to feel the blast of an improvised explosive device (IED). The number for the July 2019 report was 123,355 (69.7%).

### Respiratory Symptoms

- 64,396 (34.1%) saw a health care provider during their deployment for respiratory symptoms due to air quality. The number for the July 2019 report was 59,879 (33.8%).

### **Interest in Seeing a Healthcare Provider**

- 103,043 (54.1%) reported interest in seeing a healthcare provider. The number for the July 2019 report was 96,397 (54.5%).

### **Smoking Behaviors**

- 72,611 (38.1%) reported ever smoking. The number for the July 2019 report was 67,908 (38.4%).
- 19,514 (10.1%) were current smokers at the time they completed the survey. About half were daily smokers. The current smoker number for the July 2019 report was 18,551 (10.5%).

## **INSOMNIA**

Insomnia is common among registry participants. 154,425 (80.8%) of the participants through December 31, 2019 reported insomnia (Table 6) and 51% of the participants reported sleeping five or less hours a night (Chart 3). This data should not be interpreted to mean that airborne hazards and open burn pits cause insomnia but rather this is a frequent health issue among those who have completed the survey.

Seven to eight hours of sleep per night along with healthy eating habits and regular exercise are associated with better health. Regular exercise is particularly helpful for reducing insomnia.

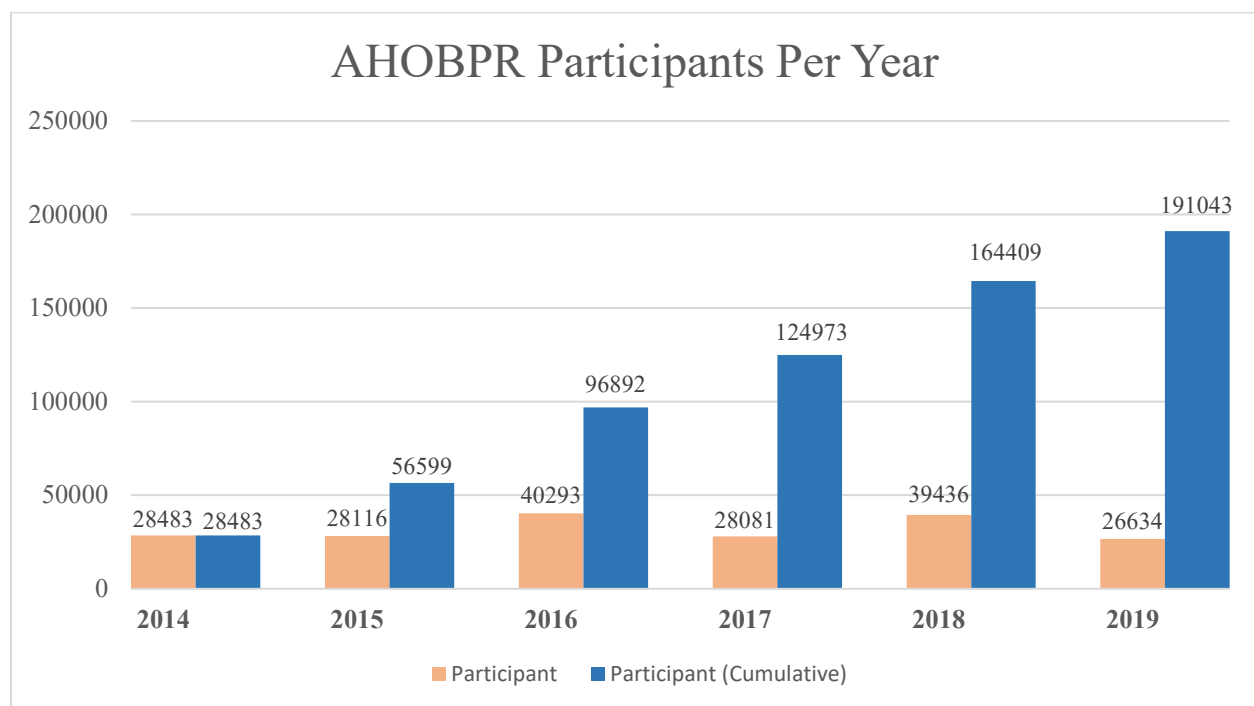
Learn more about insomnia from the “Myhealthvet Veterans Health Library” at <https://www.veteranshealthlibrary.va.gov/LivingWith/Insomnia/>

## Number of Participants and Registrants over Time

The number of participants (those who finished the AHOBPR questionnaire) and registrants (those who started the AHOBPR questionnaire but did not finish) by year and cumulatively are in charts 1 and 2 below. The registrants have incomplete information for data analysis due to not completing some or all the questions. Registrants are encouraged to return to the portal to complete the online questions.

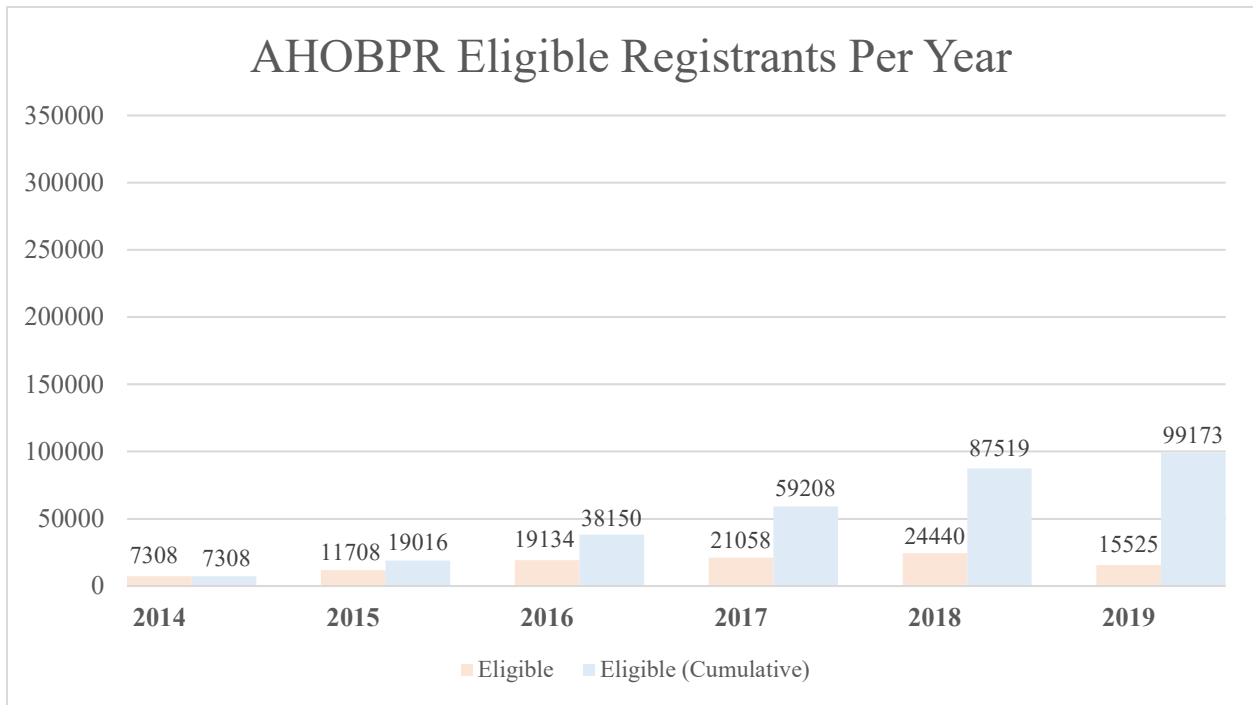
**Chart 1: AHOBPR Participants Per Year and Cumulative Per Year**

Data as of December 31, 2019



**Chart 2: AHOBPR Registrants Per Year and Cumulative Per Year**

Data as of December 31, 2019



## Demographic Data

**Table 1: Sex of Participants in the Registry**

<b>Table 1: Sex of Participants in the Registry</b>		
<b>Sex</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Male	150,245 (84.9%)	162,544 (85.1%)
Female	18,084 (10.2%)	19,684 (10.3%)
Missing	8,606 (4.9%)	8,815 (4.6%)
<b>Total</b>	<b>176,935 (100%)</b>	<b>191,044 (100%)</b>

**Table 2: Age of Participants at Time of Joining the Registry**

<b>Table 2: Age of Participants at Time of Joining the Registry</b>		
<b>Age (Years)</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
<25	3,397 (1.9%)	5,877 (3.1%)
25 - 34	55,240 (31.2%)	63,481 (33.2%)
35 - 44	58,957 (33.3%)	63,565 (33.3%)
45 - 54	39,311 (22.2%)	39,147 (20.5%)
55-64	8,802 (4.9%)	8,117 (4.2%)
65+	802 (0.4%)	710 (0.4%)
Missing	10,426 (5.8%)	10,147 (5.3%)
<b>Total</b>	<b>176,935 (100%)</b>	<b>191,044 (100%)</b>
<b>Average age</b>	<b>42</b>	<b>40</b>



**Table 3: Registry Participants' Branch of Service**

<b>Table 3: Registry Participants' Branch of Service</b>		
<b>Branch of Service</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Air Force	36,732 (20.8%)	39,956 (20.9%)
Army	107,540 (60.8%)	115,442 (60.4%)
Coast Guard	396 (0.2%)	436 (0.2%)
Marines	19,687 (11.1%)	21,288 (11.1%)
Navy	12,315 (7.0%)	13,656 (7.1%)
Public Health Service	28 (<0.1%)	33 (<0.1%)
Missing	237 (0.1%)	117 (<0.1%)
Total	176,935 (100%)	191,044 (100%)

## Exposures

**Table 4: Most Concerning Self-Reported Exposures on Health**

Questionnaire Item: “Which exposure do you think has the biggest overall effect on your health?”

<b>Table 4: Most Concerning Self-Reported Exposures on Health</b>		
<b>Most Concerning self-reported exposures on health</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
On base air pollution during deployment (burning fuel, burn pits during deployment)	122,448 (69.2%)	131,331 (68.7%)
Smoking (by you or those near you)	1,027 (0.6%)	1,085 (0.6%)
I do not wish to answer	610 (0.3%)	660 (0.3%)
Off base air pollution during deployment (factories, cars, burning trash, dust) (Deployment only)	35,991 (20.3%)	38,627 (20.2%)
Hobbies and non-military jobs	261 (0.1%)	278 (0.1%)
Military jobs while I'm not deployed	2,015 (1.1%)	2,176 (1.1%)
Don't Know	11,000 (6.2%)	11,856 (6.2%)
<b>Total</b>	<b>176,935</b>	<b>191,044</b>

## Medical Conditions

**Table 5: Most Common Self-Reported Health Conditions that Cause Difficulty with either Running or Walking (2020)**

Questionnaire Item: “What condition or health problem causes you to have difficulty with these activities (either running or walking)

<b>Table 5: Most Common Self-Reported Health Conditions that Cause Difficulty with either Running or Walking (2020)</b>		
<b>Most Common self-reported Health Conditions that Cause Difficulty with either Running or Walking</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Back or Neck Problem <sup>1</sup>	86,809 (49.1%)	92,785 (48.6%)
Knee Problems <sup>2</sup>	57,467 (32.5%)	61,894 (32.4%)
Unspecified Lung <sup>3</sup>	46,278 (26.2%)	49,510 (25.9%)
Arthritis/rheumatism	44,897 (25.4%)	48,383 (25.3%)
Mental Health Problem <sup>4</sup>	38,389 (22.7%)	41,443 (21.7%)
Migraine Headaches	Not included July 2019	33,617 (17.5%)
<b>Total Number of Diagnoses*</b>	<b>273,120</b>	<b>294,015</b>

<sup>1</sup> Previously labeled Spine Arthritis

<sup>2</sup> Previously labeled Knee Arthritis

<sup>3</sup> The question does not specify which lung disease. See Top Self-Reported Respiratory and Cardiac Health Conditions for more descriptive information.

<sup>4</sup> Previously labeled Mood Disorders

*\*Total count exceeds the total number of participants because participants can report multiple health conditions. Percentages are based on the total number of participants (N=191,044 in December 2019 and 176,935 in July 2019).*

**Table 6: Most Overall Common Self-Reported Medical Conditions**

Questionnaire Items:

**Insomnia:** “During the past 12 months, have you regularly had insomnia or trouble sleeping?”

**Neurological Problem:** “During the past 12 months, have you had neurological problems? (Some examples of neurological problems may include numbness, tingling, or weakness in arms or legs or difficulties with thinking or memory)”

**Immune System:** “During the past 12 months, have you had problems of the immune system?”

**Chronic Multi-Symptom Illness:** “During the past 12 months, have you been told by a doctor or other health professional that you had a chronic multi-symptom illness (examples include irritable bowel syndrome, chronic fatigue syndrome, and fibromyalgia)?”

**All other conditions:** “Have you ever been told by a doctor or other health care professional that you had \_\_\_\_\_?”

<b>Table 6: Most Overall Common Self-Reported Medical Conditions</b>		
<b>Most Overall Common Self-Reported Medical Conditions</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Insomnia	144,959 (81.9 %)	154,425 (80.8%)
Neurological Problem	128,117 (72.4%)	136,378 (71.4%)
Allergies	70,411 (39.8%)	75,713 (39.6%)
Hypertension (HTN)	65,815 (37.2%)	70,899 (37.1%)
Immune System	34,184 (19.3%)	36,413 (19.1%)
Chronic Multi-Symptom Illness	32,948 (18.6%)	35,180 (18.4%)
Asthma	25,434 (14.4%)	27,197 (14.2%)
Chronic Bronchitis	22,654 (12.8%)	24,258 (12.7%)
<b>Total*</b>	<b>524,522</b>	<b>560,463</b>

*\*Total count exceeds the total number of participants because participants can report multiple health conditions. Percentages are based on the total number of participants (N=191,044 in December 2019 and 176,935 in July 2019).*

**Table 7: Most Common Self-Reported Respiratory and Cardiac Conditions**

Questionnaire Item: “Have you ever been told by a doctor or other health care professional that you had \_\_\_\_\_?”

<b>Table 7: Most Common Self-Reported Respiratory and Cardiac Conditions</b>		
<b>Most common self-reported respiratory and cardiac conditions</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Allergies	70,411 (39.8%)	75,713 (39.6%)
Hypertension (HTN)	65,815 (37.2%)	70,899 (37.1%)
Asthma	25,434 (14.4%)	27,197 (14.2%)
Chronic Bronchitis	22,654 (12.8%)	24,258 (12.7%)
Other Lung Disease	15,642 (8.8%)	16,773 (8.8%)
Other Heart Condition	12,763 (7.2%)	13,761 (7.2%)
Chronic Obstructive Pulmonary Disease (COPD)	5,240 (3.1%)	5,614 (2.9%)
Coronary Heart Disease	3,121 (1.8%)	3,390 (1.8%)
<b>Total*</b>	<b>221,080</b>	<b>244,812</b>

*Total count exceeds the total number of participants because participants can report multiple health conditions. Percentages are based on the total number of participants (N=191,044 in December 2019 and 176,935 in July 2019).*

**Table 8: Most Common Self-Reported Cancers**

Questionnaire Item: “Have you ever been told by a doctor or other health professional that you had cancer or a malignancy (tumor) of any kind? *[If yes]* What kind of cancer was it?”

<b>Table 8: Most Common Self-Reported Cancers</b>		
<b>Most Common Self-Reported Cancers</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Skin (non-melanoma)	2,075 (1.2%)	2280 (1.2%)
Skin (Don't Know what kind)	1,086 (0.6%)	1161 (0.6%)
Melanoma	926 (0.5%)	1013 (0.5%)
Prostate	609 (0.3%)	656 (0.3%)
Total*	4,696 (2.7%)	5,110 (2.7%)

*\* Percentages are based on the total number of participants (N=191,044 in December 2019 and 176,935 in July 2019).*

## Hobbies

*(These are only hobbies that could potentially mimic the exposure of airborne chemical and pollutants and may contribute to airborne hazard disease.)*

**Table 9: Hobbies Self-Reported by Registry Participants**

Questionnaire Item: “Please select from the list below any hobbies you participate in.”

<b>Table 9: Hobbies Self-Reported by Registry Participants</b>		
<b>Hobbies Self-Reported by Registry Participants</b>	<b>Number of Respondents (%)</b>	
	<b>July 1, 2019</b>	<b>December 31, 2019</b>
Woodwork	18,952 (57.3%)	20,367 (55.5%)
Indoor Swimming/Indoor Ice Skating	12,728 (38.5%)	13,661 (37.2%)
Metal Work	5,909 (17.9%)	6,313 (17.2%)
Welding	5,514 (16.7%)	5,879 (16.0%)
Epoxies	4,110 (12.4%)	4,419 (12.0%)
Pottery	434 (1.3%)	459 (1.3%)
Stained Glass	201 (0.6%)	218 (0.6%)
Total Number of Hobbies Reported*	47,464	55,648
No Hobbies as Listed on Questionnaire	143,841	154,381

*\*Total count (N) exceeds the total number of participants because participants can report multiple hobbies. Percentages are based on the total number of participants that reported a hobby (N=36,697 in December 2019 and 33,094 in July 2019).*

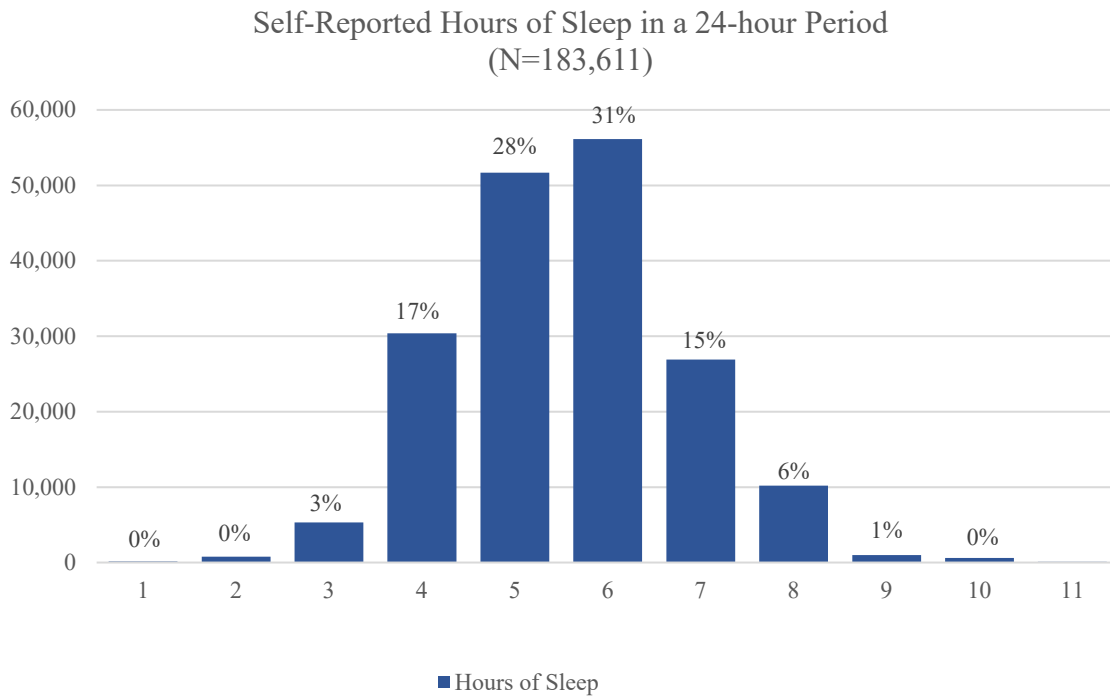
## Sleep

**Table 10. Self-Reported Hours of Sleep in a 24-hour Period**

Questionnaire Item: “On average, how many hours of sleep do you get in a 24-hour period?”

Table 10: Self-Reported Hours of Sleep in a 24-hour Period	
N	183,611 (96.1%)
Min-Max (Range)	The participant can answer between 1-24 hours. The range was 1 to 23 hours for this data set.
Mean (SD)	5.6 (1.3)
Median	6.0
Mode	6.0

**Chart 3: Self-Reported Hours of Sleep in a 24-hour Period**





## Clinical Exams

**Table 11. AHOBPR Clinical Exams at VA facilities by month 2019**

Month (2019)	Exams	Quarter average
January	393	
February	327	
March	383	368 (Jan to March)
April	348	
May	426	
June	282	352 (April to June)
July	308	
August	522	
September	489	440 (July to Sept)
October	675	
November	557	
December	465	565 (Oct to Dec)
Total	5175	12-month average: 431

10,852 total exams have been completed for Veterans since June 2014. Almost 50% of these exams were completed in 2019.

The Department of Defense is responsible exams performed on active duty Service Members. The exams enumerated above are those performed on Veterans, National Guard and Reserve.