

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

Cumulative from June 2014 through July 1, 2020

**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 is a summary of the self-reported information that includes: demographic and military service characteristics, exposures, and health outcomes, for 209,177 Veterans and active duty service members who volunteered to complete the Airborne Hazards and Open Burn Pit Registry (AHOBPR) between June 2014 and July 1, 2020. This number is up from 191,044 as of January 1, 2020.

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 18,133 new participants between January 1, 2020, to July 1, 2020.

Military Experiences

- 134,434 (64.3%) of those in the registry are Veterans (retired or separated from service which is an increase of 10,006 participants from the January 2020 report (124,428 (64.5%))
- 73,377 (35.1%) of those in the registry are currently in the service (Active duty, Reserve, or National Guard) which is an increase of 6,377 from the January 2020 report. As of January 1, 2020, 67,000 (34.7%) were active duty, Reserve, or National Guard.
- Of all unique deployments of longer than 30 days, 8,584 (1.4%) occurred on bodies of water in the Gulf/Southwest Asian region (i.e., Gulf of Oman, Persian Gulf, Arabian Sea and the Red Sea. The remaining 515,004 (98.6%) deployments were to countries in the Gulf and Southwest Asia regions.
17,556 (8.4%) participants are Desert Storm/Gulf War I Veterans. The number from the January 2020 report was 16,827 (8.7%).

Burn Pit Exposure

- 190,251 (90.9%) participants reported a burn pit exposure during deployment. The number of participants who recorded a burn pit exposure through January 2020 was 178,604 (92.6%).
- 120,061 (57.4%) reported duties involving burn pits. The number of participants who recorded this exposure in January 2020 was 113,714 (58.9%).

Blast Experiences

- 142,229 (67.9%) were close enough to feel the blast of an improvised explosive device (IED). The number for the January 2020 report was 132,714 (69.9%).

Respiratory Symptoms

- 68,786 (32.8%) participants saw a health care provider during their deployment for respiratory symptoms due to air quality. The number for the January 2020 report was 64,396 (34.1%).

Interest in Seeing a Healthcare Provider

- 110,290 (52.7%) participants reported interest in seeing a healthcare provider. The number for the January 2020 report was 103,043 (54.1%).

Smoking Behaviors

- 77,485 (37.0%) reported ever smoking. The number for the January 2020 report was 72,611 (38.1%).
- 20,505 (9.8%) reported that they were current smokers at the time they completed the survey. About half were daily smokers. The current smoker number for the January 2020 report was 19,514 (10.1%).

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 July 1, 2020

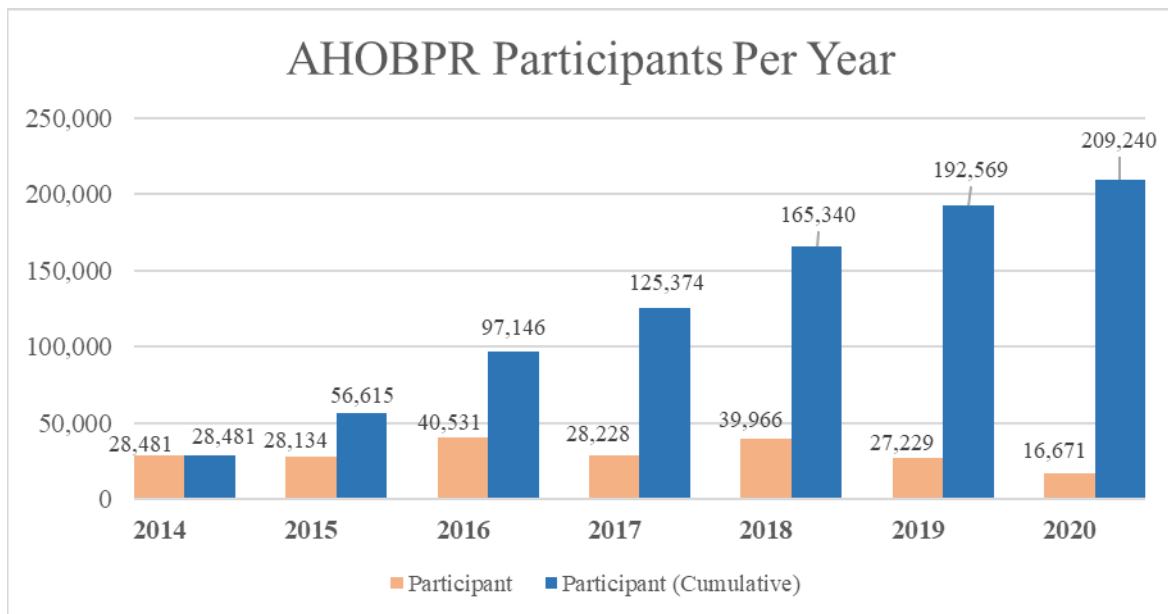
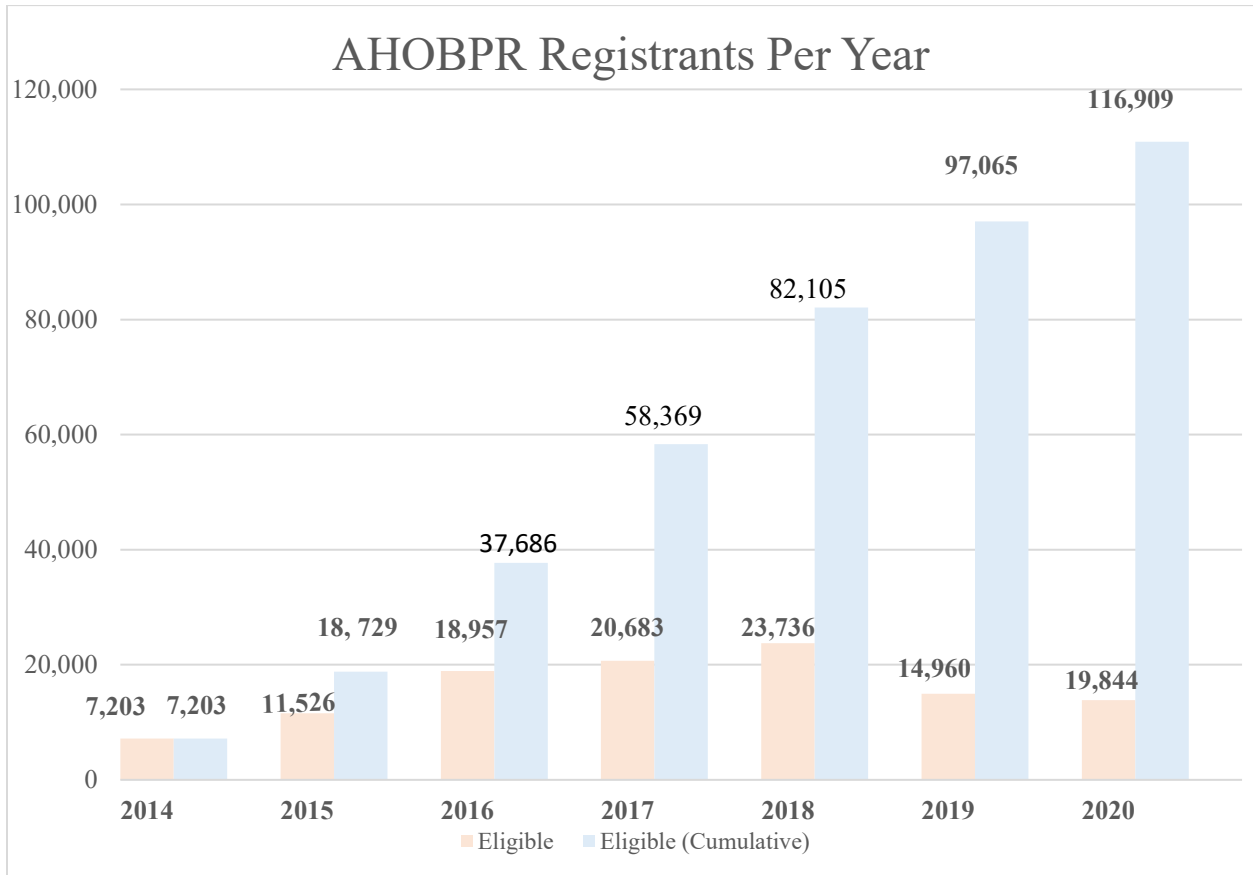


Chart 2: AHOBPR Registrants Per Year and Cumulative Per Year
Data as of July 1, 2020



- **Discussion: A goal of VA is to maximize the number of registrants who complete the online survey. Currently, most registrants rapidly complete the survey within a week from starting it.**
- Participants tend to join the registry and complete the questionnaire within a one-week period. As of April 1, 2020:
 - 49.8 percent of participants joined the registry and completed the questionnaire the same day.
 - 72.3 percent of participants joined the registry and completed the questionnaire by the following day.
 - 85.1 percent of participants joined the registry and completed the questionnaire within seven days.

VA is looking at ways to get the 14.9% who did not finish the survey to complete it.

Chart 3: AHOBPR Participants by Month and Year, Last 12 Months (July 2019 – June 2020)

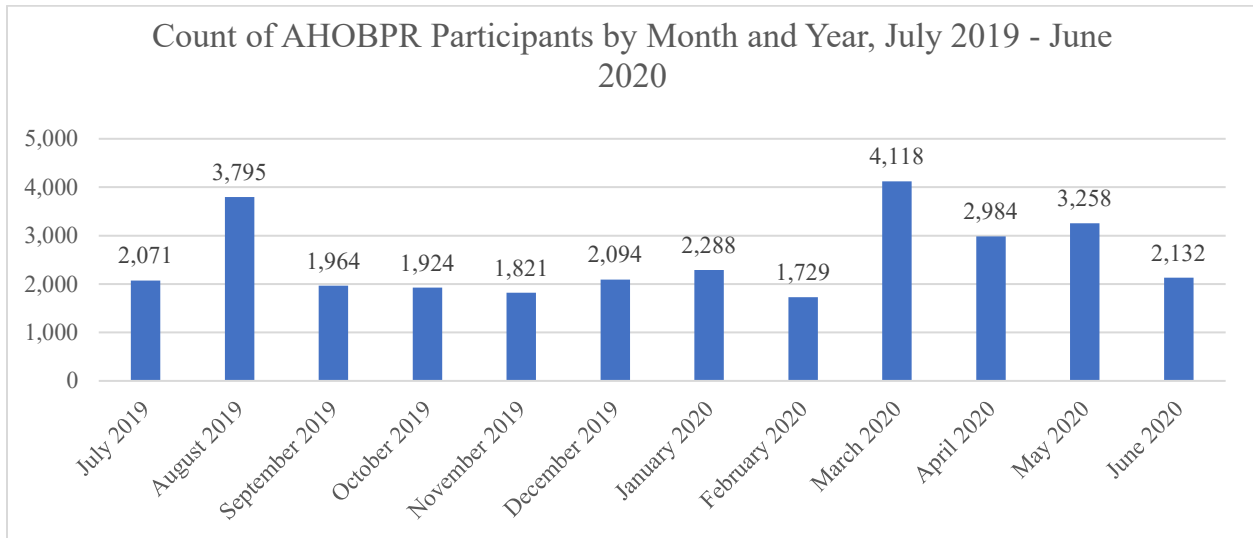
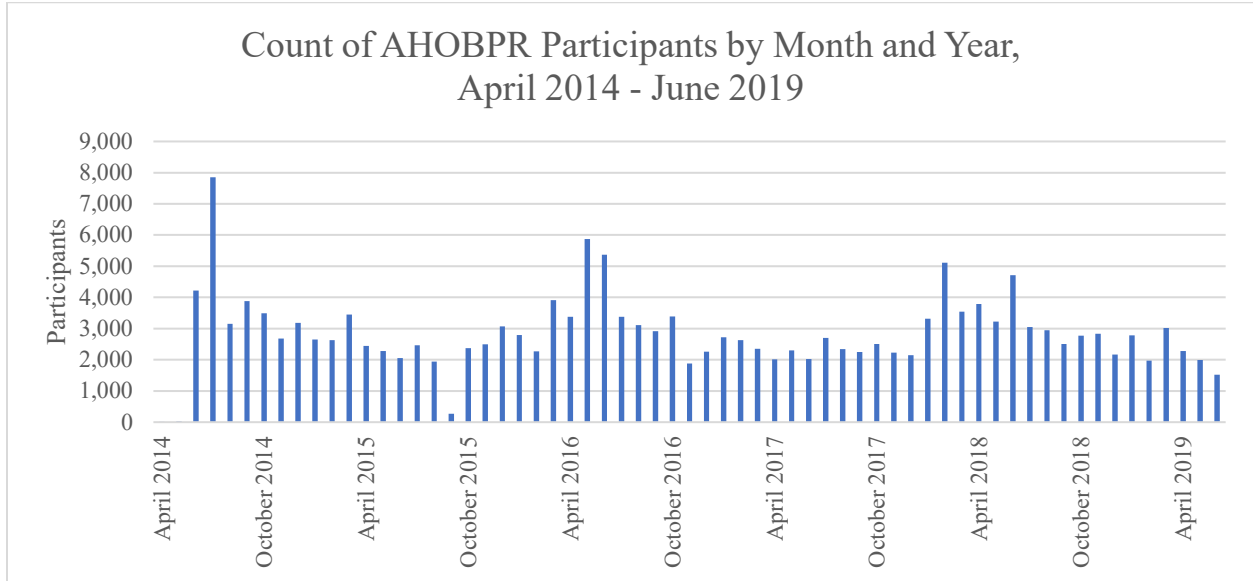


Chart 4: Count of AHOBPR Participants by Month and Year, April 2014 – June 2019



Discussion: The overall trends of enrolling new participants has been fairly stable over the six years that the AHOBPR has been in place. There was a large rush of participants in the first two years but then it has settled to about 500 new participants a year. The larger spikes can often be attributed to outreach campaigns and media reports. In the spring of 2018, a series of congressional hearing were held on burn

pit and airborne hazard exposures. The Department of Defense (DoD) has had several initiatives over the last year. In August 2019, a statement about joining the AHOBPR was put into active duty, guard and reserve pay stubs (LES). In addition, in April of 2020, all DoD members who may have deployed to an eligible country were sent a letter encouraging the person to join the AHOBPR.

Deployment information

Table 1: Distribution of Country of Deployment by Era of Deployment

Table 1 presents the country of deployment for all AHOBPR participants, by deployment and by era, for 912,275 deployments across 204,863 participants. Non-Gulf War participants were split into two separate groups of Pre-9/11 service and Post-9/11 service, determined by the start date of their initial deployment.

Country of Deployment	Desert Storm/Gulf War I Deployment		Desert Storm to 9/11 Deployment		Post-9/11 Deployment	
	N = 49,382	%	N = 32,572	%	N = 830,321	%
Iraq	12,886	26.1	6,508	20	253,357	30.5
Afghanistan	4,961	10.1	4,965	15.2	183,727	22.1
Kuwait	14,668	29.7	8,932	27.4	310,131	37.4
Saudi Arabia	12,093	24.5	4,524	13.9	3,973	0.5
Djibouti	288	0.6	580	1.8	17,997	2.2
Qatar	1,354	2.7	3,052	9.4	38,960	4.7
Other Countries ²	1,369	2.8	2,145	6.6	15,336	1.8
Other at Sea Locations ³	1,763	3.6	1,866	5.7	6,838	0.8

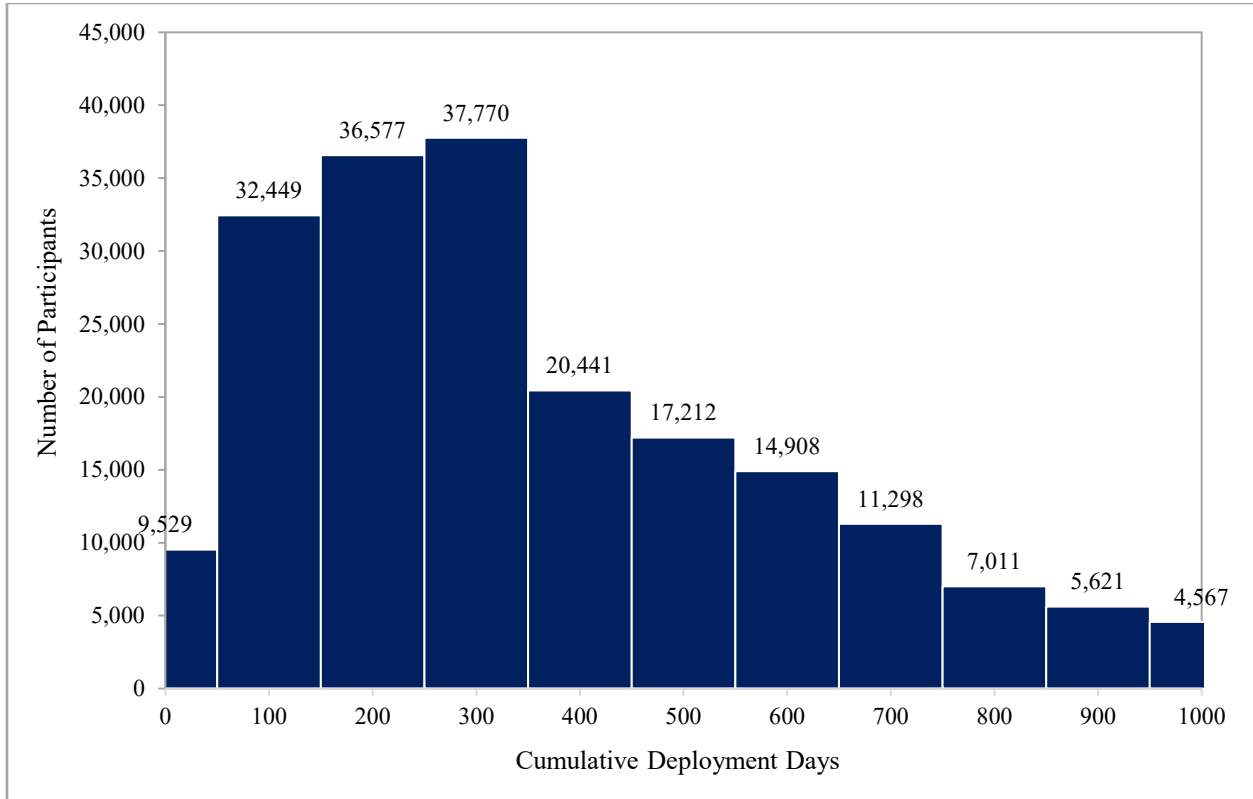
¹Participants with missing deployment information are excluded (n=1,260).

²“Other Countries” includes deployments to Bahrain, Oman, and the United Arab Emirates.

³“Other: Seas” includes deployments to the Arabian Sea, the Gulf of Aden, the Gulf of Oman, the Persian Gulf, and the Red Sea.

Figure 1: Distribution of Length of Deployment of Registry Participants

Figure 1 illustrates the distribution of cumulative days of deployment among AHOBPR participants as of July 1, 2020 across all of their deployments. Deployment data of 912,275 deployments for 204,863 AHOBPR participants* is presented.



*Participants with missing deployment information are excluded (n=1,260).

Demographic Data

Table 2: Sex of Participants in the Registry

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Male	162,544 (85.1%)	178,691 (85.4%)
Female	19,684 (10.3%)	21,686 (10.4%)
Missing	8,815 (4.6%)	8,800 (4.2%)
Total	191,044	209,177

Table 3: Current Age of Participants in the Registry

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Age Categories		
<25	1,115 (0.6%)	1,246 (0.6%)
25 – 34	43,403 (22.7%)	43,997 (21.0%)
35 – 44	70,100 (36.7%)	79,044 (37.8%)
45 – 54	49,747 (26.1%)	55,085 (26.3%)
55-64	14,626 (7.7%)	17,391 (8.3%)
65+	1,684 (0.9%)	2,022 (1.0%)
Missing	10,369 (5.4%)	10,392 (5.0%)
Total	191,044	209,177

The average (mean) age is 43 years.

Table 4: Race of Participants in the Registry¹

	July 1, 2020 Number (%)
American Indian or Alaska Native	1812 (0.9%)
Asian	5,009 (2.4%)
Black or African American	26,932 (12.9%)
Native Hawaiian or other Pacific Islander	2,589 (1.2%)
White	160,248 (76.6%)
Multiple races reported	793 (0.4%)
Other	2,093 (1.0%)
Unknown	71 (<0.1%)
Missing	9,630 (4.6%)
Total	209,177

¹Race was not reported previous reports. Race information is collected from respondent self-report and supplemented by USVETS data, when available.

Table 5: Ethnicity of Participants in the Registry¹

	July 1, 2020 Number (%)
Hispanic or Latino	22,059 (10.5%)
Not Hispanic or Latino	177,394 (84.8%)
Unknown	94 (<0.1%)
Missing	9630 (4.6%)
Total	209,177

¹Ethnicity was not reported previous reports. Ethnicity information is collected from respondent self-report and supplemented by USVETS data, when available.

Table 6: Registry Participants' Branch of Service

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Air Force	39,956 (20.9%)	44,578 (21.3%)
Army	115,442 (60.4%)	124,900 (59.7%)
Coast Guard	436 (0.2%)	520 (0.2%)
Marines	21,288 (11.1%)	23,332 (11.2%)
Navy	13,656 (7.1%)	15,593 (7.5%)
Public Health Services	33 (<0.1%)	37 (<0.1%)
Missing	117 (<0.1%)	217 (0.1%)
Total	191,044	209,155

Exposures

Table 7: Most Concerning Self-Reported Exposures on Health

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

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
On base air pollution during deployment (burning fuel, burn pits)	131,331 (68.7%)	142,552 (68.1%)
Off base air pollution during deployment (factories, cars, burning trash, dust)	38,627 (20.2%)	42,105 (20.1%)
Don't Know	11,856 (6.2%)	12,870 (6.2%)
Missing/Unknown	5,031 (2.6%)	6,896 (3.3%)
Military jobs while I'm not deployed	2,176 (1.1%)	2,441 (1.2%)
Smoking (by you or those near you)	1,085 (0.6%)	1,182 (0.6%)
I do not wish to answer	660 (0.3%)	734 (0.4%)
Hobbies and non-military jobs	278 (0.1%)	307 (0.1%)
Total	191,044	209,177

Medical Conditions

Table 8: 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)”

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Back or Neck Problem	92,785 (48.6%)	100,380 (48.0%)
Knee Problems	61,894 (32.4%)	67,182 (32.1%)
Unspecified Lung ¹	49,510 (25.9%)	53,078 (25.4%)
Arthritis/rheumatism	48,383 (25.3%)	52,365 (25.0%)
Mental Health Problem	41,443 (21.7%)	44,664 (21.4%)
Migraine Headaches	33,617 (17.5%)	36,207 (17.3%)
Total ²	294,015	353,876

¹ The question does not specify which lung disease. See Top Self-Reported Respiratory and Cardiac Health Conditions (table 9) for more descriptive information.

² 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 January 2020 and 209,177 in July 2020).

Table 9: 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 _____?”

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Insomnia	154,425 (80.8%)	167,114 (79.9%)
Neurological Problem	136,378 (71.4%)	147,006 (70.3%)
Allergies	75,713 (39.6%)	82,730 (39.6%)
Hypertension	70,899 (37.1%)	76,707 (36.7%)
Immune System	36,413 (19.1%)	39,128 (18.7%)
Chronic Multi-Symptom Illness	35,180 (18.4%)	37,807 (18.1%)
Asthma	27,197 (14.2%)	29,256 (14.0%)
Chronic Bronchitis	24,258 (12.7%)	25,969 (12.4%)
Total*	560,463	605,717

*

ALLERGIC RHINITIS

Each report in this series focuses on a different condition that is commonly reported within the AHOBPR. Last January, we reported on insomnia. This edition will focus on allergic rhinitis. Allergies are the third most common self-reported condition after insomnia and neurological problems.

82,730 (39.6%) of participants said yes to the following question: “Have you been told by a doctor or other health professional that you had hay fever or allergies to pollen, dust or animals?”

Allergic rhinitis is associated with a symptom complex characterized by bouts of sneezing, runny nose, nasal obstruction, and itching of the eyes, nose, and palate¹. It is also frequently associated with postnasal drip, cough, irritability, and fatigue¹. It is a common condition, affecting 10 to 30 percent of children and adults in the United States and other industrialized countries¹. Allergic rhinitis typically requires a few years of allergen exposure to develop¹. Some of the common causes of allergic rhinitis are pollen from trees or grasses, dust mites, animal dander and mold¹. One of the mainstays of treatment is removal from the source of the allergies. This is good news for those whose symptoms were exacerbated by deployment. However, those who suffer from the condition in the states may not be able to relocate. There are good treatments that can relieve the symptoms. Allergic rhinitis is not life threatening but can cause significant problems like sleepiness, and discomfort. From discussions with Environmental Health Clinicians, this is a common condition they diagnose at the AHOBPR exam.

If you think that you have allergic rhinitis and it is either not diagnosed or treated you should bring it up with your health care provider. If you have not had the AHOBPR exam, it could potentially be diagnosed at this encounter. Future treatment would need to be with your health care provider which could be the VA if one enrolls.

¹Accessed online at UPTODATE® Allergic Rhinitis.

https://www.uptodate.com/contents/allergic-rhinitis-clinical-manifestations-epidemiology-and-diagnosis?search=allergic%20rhinitis&source=search_result&selectedTitle=2~150&usage_type=default&display_rank=2

Table 10: 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 _____?”

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Allergies	75,713 (39.6%)	82,730 (39.6%)
Hypertension (HTN)	70,899 (37.1%)	76,707 (36.7%)
Asthma	27,197 (14.2%)	29,256 (14.0%)
Chronic Bronchitis	24,258 (12.7%)	25,969 (12.4%)
Other Lung Disease	16,773 (8.8%)	18,098 (8.7%)
Other Heart Condition	13,761 (7.2%)	15,030 (7.2%)
Chronic Obstructive Pulmonary Disease (COPD)	5,614 (2.9%)	5,940 (2.8%)
Coronary Heart Disease	3,390 (1.8%)	3,665 (1.8%)

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 January 2020 and 209,177 in July 2020).

Table 11: 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?”

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Skin (non-melanoma)	2,280 (1.2%)	3,336 (1.2%)
Skin (Don't Know what kind)	1,161 (0.6%)	1,564 (0.6%)
Melanoma	1,013 (0.5%)	1,284 (0.5%)
Prostate	656 (0.3%)	812 (0.3%)
Total*	5,110 (2.6%)	6,996 (2.6%)

**Participants can report multiple cancers. Percentages are based on the total number of participants (N=191,044 in January 2020 and 209,177 in July 2020).*

Hobbies

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

Table 12: Hobbies Self-Reported by Registry Participants*

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

	January 1, 2020 Number (%)	July 1, 2020 Number (%)
Woodwork	20,367 (10.7%)	22,314 (10.7%)
Indoor Swimming/Indoor Ice Skating	13,661 (7.2%)	14,905 (7.1%)
Metal Work	6,313 (3.3%)	6,794 (3.2%)
Welding	5,879 (3.1%)	6,328 (3.0%)
Epoxies	4,419 (2.3%)	4,840 (2.3%)
Pottery	459 (0.2%)	498 (0.2%)
Stained Glass	218 (0.1%)	237 (0.1%)
None of the listed hobbies	154,381 (80.8%)	167,887 (80.3%)

**Participants can report multiple hobbies. Percentages are based on the total number of participants (N=191,044 in January 2020 and 209,177 in July 2020).*

The AHOBPR does not ask about all hobbies, only those with potential exposure to toxins and chemicals.

Clinical Exams

Table 13: AHOBPR Clinical Exams at all VA facilities by month from Jan to July 2020

2020	AH Exams	Quarter average
January	681	
February	542	
March	505	576 (Jan to March)
April	374	
May	445	
June	813	544 (April to June)
Total	3360	560 (6 month average)

The monthly average for calendar year 2019 was 431 exams.

Due to COVID, less exams were conducted in March and April. Some sites shifted to virtual visits.

Table 14: Analysis of AHOBPR eligible Veterans who Received A Gulf War Registry Exam.

Participant (Overall)	200,757
Gulf War Registry Exam Only	13,951
AHOBPR exam only	7,900
Both AHOBPR and the Gulf War Registry Exam	4,604
Total exams	26,455

The GW registry (GWR) and the AHOBPR have the common factor of being an exposure assessment evaluation. Researchers have published papers based on data on respiratory disease reported in the GWR, which is also a focus of the AHOBPR. One difference between the two registries is the GWR does not include the countries of Djibouti and Afghanistan.

This evaluation found that an additional 13,951 participants had a GW exam, while 7,900 of the group only had an AHOBPR exam. This could possibly be due to a deployment to a non-GW country. 4,604 individuals had both the AHOBPR and GW exam. The total number of exams within the AHOBPR increases to 28,103 if you factor in both programs. A goal of the VA is to maximize the number of AHOBPR and GW exams when applicable due to the eligible country.

COVID-19

The world has been heavily invested in COVID-19 since March of 2020. The AHOBPR has participated in this effort, including sending an electronic message through the AHOBPR portal to Veterans and service members in the registry who initiated or completed the survey (~250K) with a valid email address. This message outlined resources available and actions to take during COVID-19.

On July 15, 2020, VA had 15,000 COVID positive cases. This was matched with those in the AHOBPR (209,986 participants), and there were 442 positive cases (0.2%) out of all AHOBPR participants. There were four total deaths among the AHOBPR COVID-positive cases. The deaths were unchanged from an analysis run on May 21, 2020.

Health Care Utilization

Table 15: VHA Usage Among AHOBPR Participants

Table 15 illustrates the distribution of Veterans Health Administration (VHA) usage among AHOBPR participants between April 1, 2004 (ten years prior to the opening of the AHOBPR) and July 1, 2020.

	<u>Total Participants</u>	<u>Percent*</u>
-		
<u>Total Participants</u>	<u>209,177</u>	-
<u>No VHA Record (0 Visits)</u>	<u>46,750</u>	<u>22.3</u>
<u>Has VHA Record</u>	<u>162,427</u>	<u>77.7</u>
<u>1 Visit</u>	<u>6,894</u>	<u>3.3</u>
<u>2 Visits</u>	<u>5,830</u>	<u>2.8</u>
<u>3 Visits</u>	<u>5,118</u>	<u>2.4</u>
<u>4 Visits</u>	<u>3,752</u>	<u>1.8</u>
<u>5+ Visits</u>	<u>94,083</u>	<u>45.0</u>

At any given point in time, 14% of those in the registry are on active duty and would not receive health care at VA. This would account for 29,285 (62%) of the 46,750 without a VHA record.