

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

Cumulative from April 2014 through June 30, 2021

Health Outcomes Military Exposures
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

Contents

Introduction	2
About the Airborne Hazards and Open Burn Pit Registry (AHOBPR)	2
AHOBPR Summary Facts	3
Number of Participants and Registrants over Time	4
Figure 1: AHOBPR Participants Per Year and Cumulative per Year.....	4
Figure 2: AHOBPR Registrants Per Year and Cumulative Per Year	5
Figure 3: AHOBPR Participants by Month, January 2021 to June 2021.....	6
Deployment Information	6
Table 1: Distribution of Country of Deployment by Era of Deployment, 2014-2021	7
Demographic Data	8
Table 2: Demographic Characteristics of AHOBPR Participants Who Completed the AHOBPR Evaluation.....	8
Table 3: Registry Participants’ Service Relates Characteristics	9
Exposures	10
Table 4: Most Concerning Self-Reported Exposures on Health.....	10
Medical Conditions	11
Table 5: Most Common Self-Reported Health Conditions that Cause Difficulty with either Running or Walking (2021).....	11
Table 6: Most Common Self-Reported Medical Conditions	12
Table 7: Most Common Self-Reported Respiratory and Cardiac Conditions.....	13
Table 8: Most Common Self-Reported Cancers	14
Hobbies	15
Table 9: Hobbies Self-Reported by Registry Participants	15
Clinical Exams	16
Figure 4: AHOBPR Clinical Exams at all VA Facilities by Month in 2021	16
Figure 5: AHOBPR Clinical Exams at all VA Facilities Per Year and Cumulative Per Year..	17
Health Care Utilization	18
Table 10: VHA Usage Among AHOBPR Participants.....	18

Introduction

This report is a summary of the self-reported information that includes demographic and military service characteristics, exposures, and health outcomes, for 249,061 Veterans and active duty service members who volunteered to complete the Airborne Hazards and Open Burn Pit Registry (AHOBPR) survey between April 2014 and June 30, 2021. This number represents an increase from December 31, 2020, when the total AHOBPR participants was 223,714.

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.

Health Outcomes Military Exposures (HOME) publishes this report and releases updated reports every six months. Previous reports can be found on the web page: [VA Airborne Hazards and Open Burn Pit Registry - Reports - Public Health](#).

About the Airborne Hazards and Open Burn Pit Registry (AHOBPR)

The AHOBPR allows Veterans and service members to document their exposures and report health concerns in an online questionnaire. The AHOBPR is a 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.

The AHOBPR is not part of the benefit claim process nor is required to file a claim for a health condition. The information obtained from the AHOBPR can be used to supplement an existing claim.

Suggested citation: Health Outcomes of Military Exposures, Office of Patient Care Services, Veterans Health Administration, Department of Veterans Affairs (2021). *Self-Reported Health Information from the Airborne Hazards and Open Burn Pit Registry, Cumulative from June 2014 through June 30, 2021* Washington, DC: Author. Retrieved from: <https://www.publichealth.va.gov/docs/exposures/va-ahobp-registry-data-report-jul2021.pdf#>

AHOBPR Summary Facts

Participant Numbers

- The registry gained 25,447 new participants between January 1, 2021 and June 30, 2021.

Military Experiences

- The number of Veterans (retired or separated from service) in the registry increased from 144,170 in December 2020 to 152,007 in June 2021, a difference of 7,837. In contrast, the proportion of Veterans decreased from 64.4% to 61.0% in this same timeframe. This decreased proportion of Veterans is due to the increased numbers of participants currently in the service as outlined below.
- 94,557 (38.0%) of those in the registry are currently in the service (active duty, Reserve, or National Guard), an increase of 17,537 from the December 2020 report when 77,020 (34.4%) were active duty, Reserve, or National Guard.
- Of all unique deployments that were longer than 30 days, 9,622 (1.5%) 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 652,924 (98.5%) deployments were to countries in the Gulf and Southwest Asia regions.
- 19,821 (8.0%) participants are Desert Storm/Gulf War I Veterans, an increase of 1,497 since the December 2020 report (18,324; 8.2%).

Burn Pit Exposure

- 226,266 (91.0%) participants reported they had a burn pit exposure during deployment. Though this was an increase of 22,511 participants since the December 2020 report (203,755), the proportion of participants reporting a burn pit exposure remained stable (91.1% in December 2020).
- 140,105 (56.3%) participants reported duties involving burn pits. The number of participants who recorded this exposure in December 2020 was 127,586 (57.0%).

Blast Experiences

- 166,414 (66.8%) participants were close enough to feel the blast of an improvised explosive device (IED). The number in the December 2020 report was 151,496 (67.7%).

Respiratory Symptoms

- 79,179 (32.0%) participants saw a health care provider during their deployment for respiratory symptoms due to air quality. The number for the December 2020 report was 72,810 (32.5%).

Interested in Seeing a Healthcare Provider

- 126,652 (51.0%) participants reported interest in seeing a healthcare provider. The number for the December 2020 report was 116,613 (52.1%).

Smoking Behaviors

- 90,165 (36.2%) reported ever smoking. The number for the December 2020 report was 82,212 (35.2%).
- 23,006 (9.2%) reported that they were current smokers at the time they completed the survey. About half were daily smokers. The current smoker number for the December 2020 report was 21,819 (9.8%).

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 Figures 1 and 2 below. Some 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.

Figure 1: AHOBPR Participants Per Year and Cumulative per Year

Data as of July 6, 2021

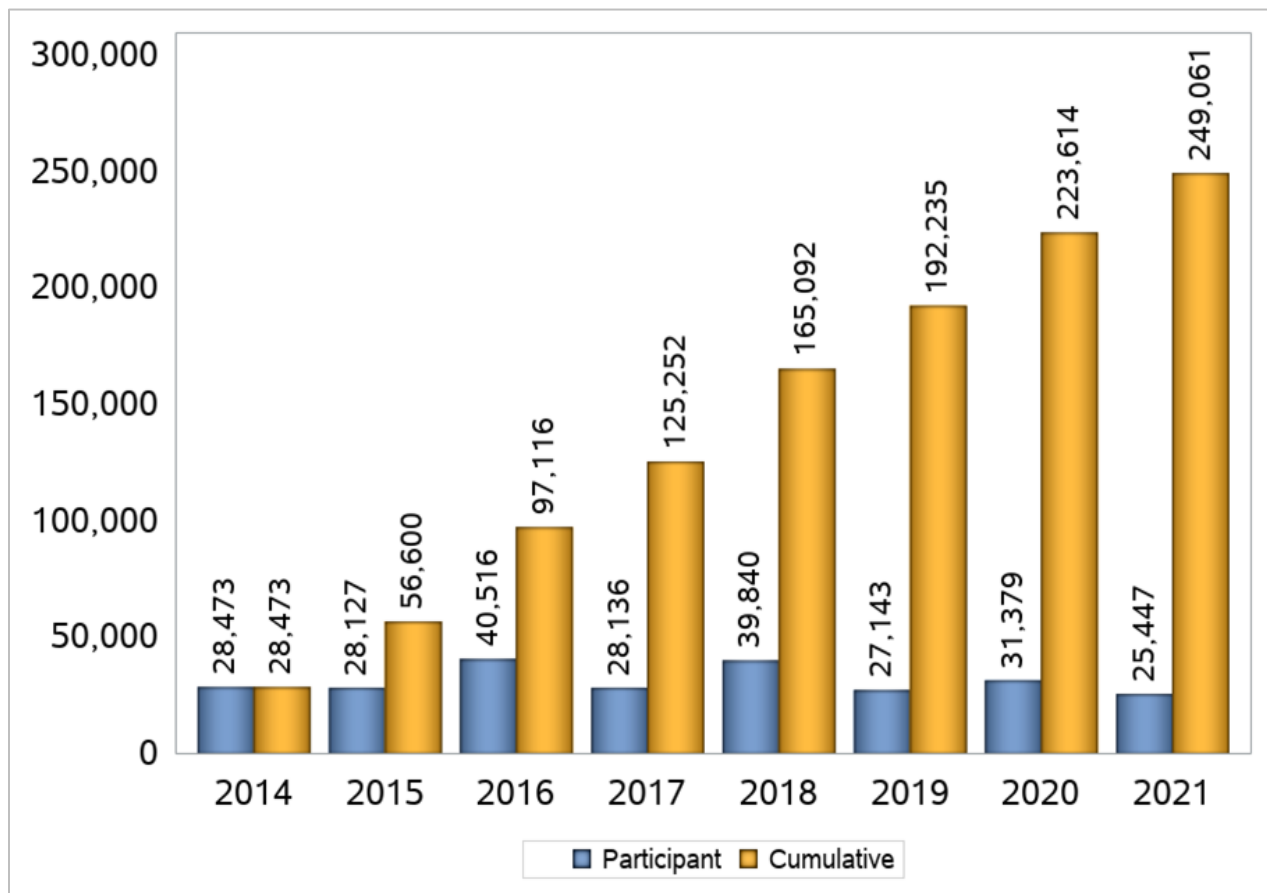
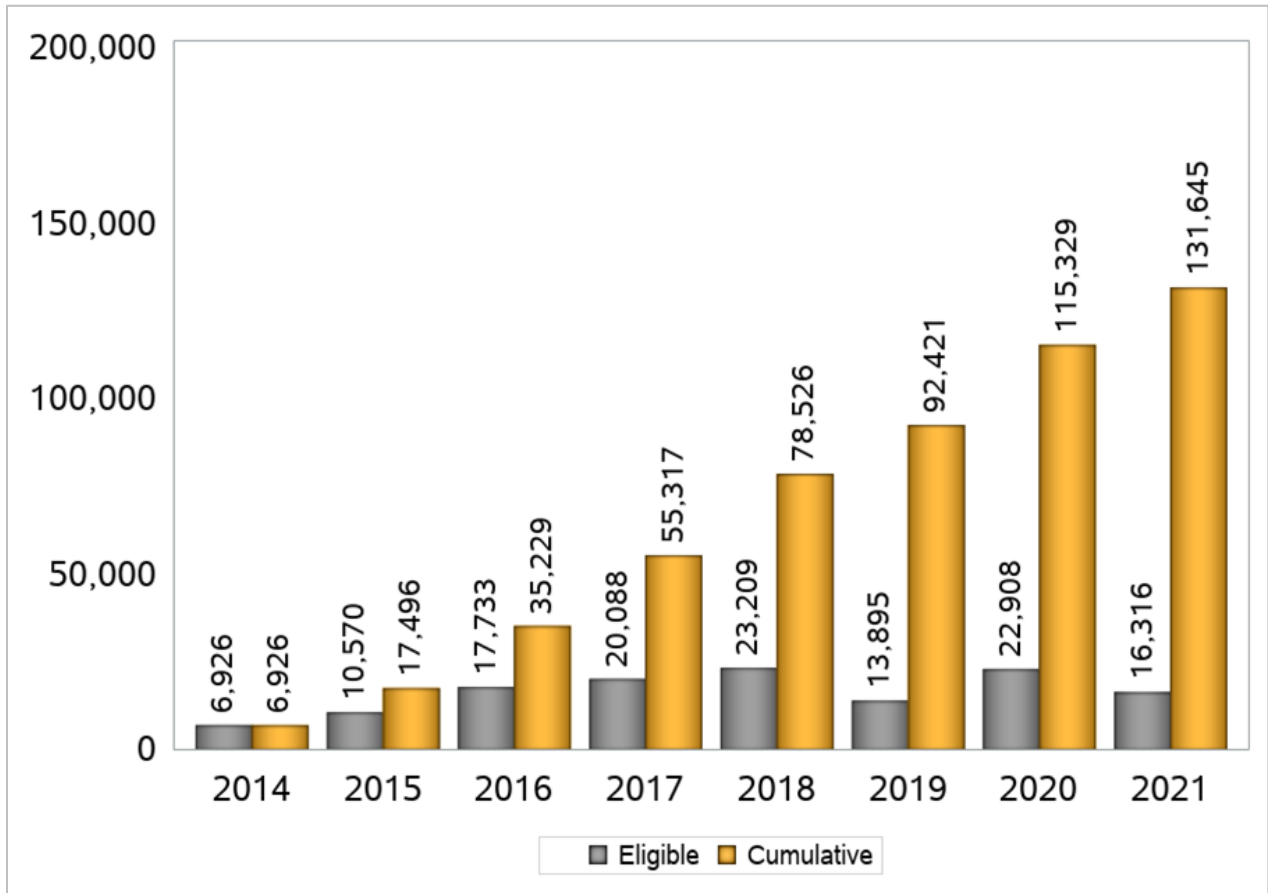
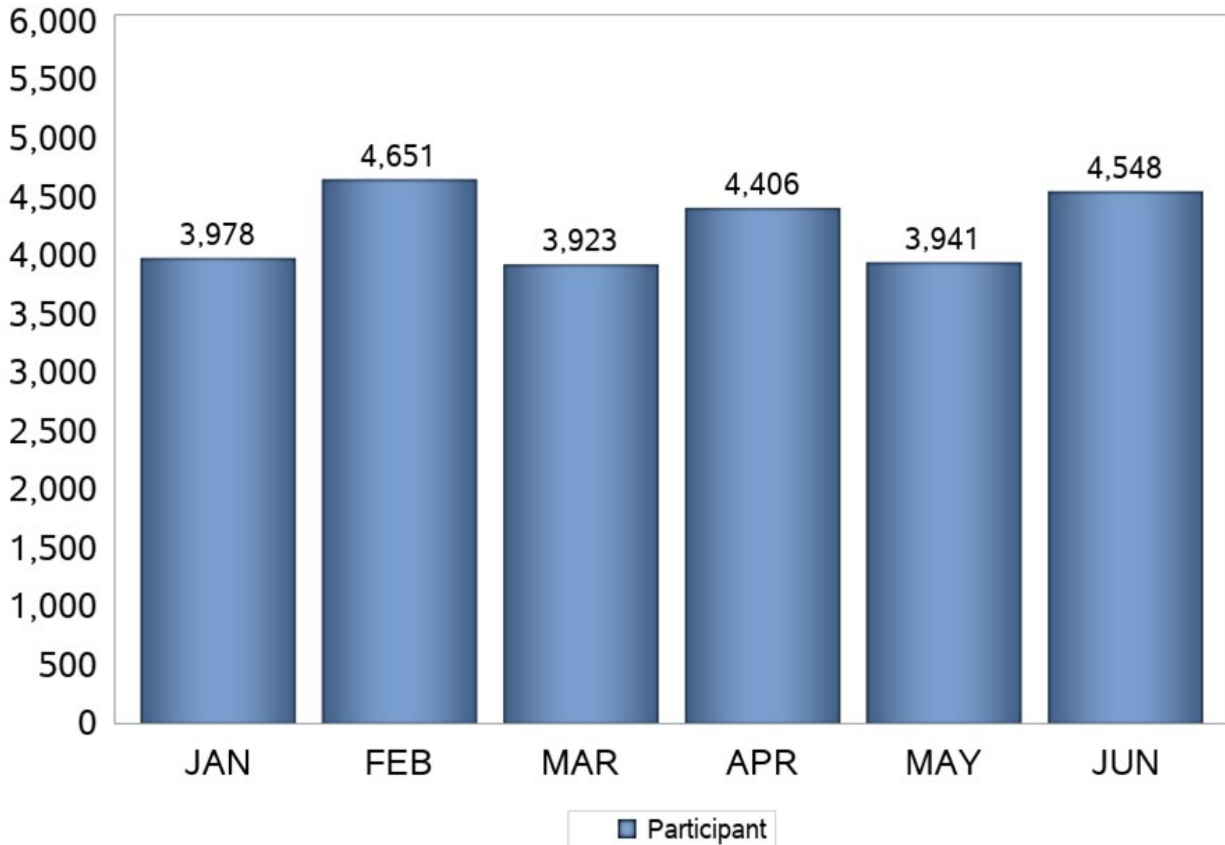


Figure 2: AHOBPR Registrants Per Year and Cumulative Per Year
 Data as of July 6, 2021



- A goal of the 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 June 30, 2021:
 - 38,723 (15.5%) participants who joined the registry took more than seven days to complete the questionnaire.

Figure 3: AHOBPR Participants by Month, January 2021 to June 2021
Data as of July 6, 2021



The enrollment of new participants remained relatively stable from January 2021 until June 2021. However, the number per month is trending higher than the monthly average 2020 of 2617 per month.

Deployment Information

Table 1 presents the countries of deployment for all AHOBPR participants, by deployment and by era, for 1,085,274 deployments across 247,824 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.

Table 1: Distribution of Country of Deployment by Era of Deployment, 2014-2021

Data as of July 6, 2021

	Desert Shield/Storm (DS) 1990-1991	After DS 1990-1991 to 9/11	Post-9/11
Country of Deployment¹	N=57,980	N=11,844	N=1,015,450
Iraq	15,159 (26.1%)	165 (1.4%)	310,351 (30.6%)
Afghanistan	6,052 (10.4%)	245 (2.1%)	230,949 (22.7%)
Kuwait	17,101 (29.5%)	3,925 (33.1%)	360,611 (35.5%)
Saudi Arabia	13,934 (24.0%)	4,849 (40.9%)	5,949 (0.6%)
Djibouti	359 (0.6%)	79 (0.7%)	23,782 (2.3%)
Qatar	1,612 (2.8%)	115 (1.0%)	53,359 (5.3%)
Other Countries²	1,627 (2.8%)	991 (8.4%)	22,151 (2.2%)
Other Sea Locations³	2,136 (3.7%)	1,475 (12.5%)	8,298 (0.8%)

¹Participants with missing deployment information are excluded (N=1,237).

²"Other Countries" includes deployment to Bahrain, Oman and the United Arab Emirates.

³"Other Sea Locations" includes deployments the Arabian Sea, the Gulf of Aden, the Gulf of Oman, the Persian Gulf, and the Red Sea

Demographic Data

Table 2: Demographic Characteristics of AHOBPR Participants Who Completed the AHOBPR Evaluation

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Total (Participants)	N=223,614	N=25,447	N=249,061
Sex			
Male	191,404 (85.6%)	22,320 (87.7%)	213,724 (85.8%)
Female	23,349 (10.4%)	2,995 (11.8%)	26,344 (10.6%)
Missing	8,861 (4.0%)	132 (0.5%)	8,993 (3.6%)
Age Category¹			
<25	1,485 (0.7%)	1,099 (4.3%)	2,584 (1.0%)
25 – 34	44,248 (19.8%)	6,936 (27.3%)	51,184(20.6%)
35 – 44	86,942 (38.9%)	10,560 (41.5%)	97,502(39.1%)
45 – 54	59,278 (26.5%)	4,687 (18.4%)	63,965 (25.7%)
55 – 64	19,851 (8.9%)	1,605 (6.3%)	21,456 (8.6%)
65+	2,387 (1.1%)	198 (0.8%)	2,585 (1.0%)
Missing	9,423 (4.2%)	362 (1.4%)	9,785 (3.9%)
Race²			
American Indian/Alaska Native	2,421 (1.1%)	243 (1.0%)	2,664 (1.1%)
Asian or Pacific Islander	12,695 (5.7%)	1,383 (5.4%)	14,078 (5.7%)
Black or African American	28,982 (13.0%)	3,085 (12.1%)	32,067 (12.9%)
White	167,736 (75.0%)	19,256 (75.7%)	186,992 (75.1%)
Unknown	6,793 (3.0%)	1,427 (5.6%)	8,220 (3.3%)
Missing	4,987 (2.2%)	53 (0.2%)	5,040 (2.0%)
Ethnicity²			
Hispanic or Latino	23,213 (10.4%)	2,981 (11.7%)	26,194 (10.5%)
Not Hispanic or Latino	195,437 (87.4%)	21,947 (86.2%)	217,384 (87.3%)
Unknown	3 (0.0%)	2 (0.0%)	5 (0.0%)
Missing	4,961 (2.2%)	517 (2.0%)	5,478 (2.2%)

¹The average (mean) age is 43 years.

²Race and Ethnicity information is collected from respondents' self-report and was supplemented by VADIR data.

Table 3: Registry Participants' Service Relates Characteristics

Data as of July 6, 2021

This table shows what service the Veteran or current service member served with while in the service. The component shows what component the Veteran was in while in service or where the Service Member is now. The service status shows the current status of the participants as of July 1, 2021. All active duty, Guard and Reserve members will be separated or retired at some point in time.

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Total (Participants)	N=223,614	N=25,447	N=249,061
Branch¹			
Army	132,060 (59.1%)	13,052 (51.3%)	145,112 (58.3%)
Air Force	49,158 (22.0%)	8,608 (33.8%)	57,766 (23.2%)
Navy	16,615 (7.4%)	1,794 (7.0%)	18,409 (7.4%)
Marine Corps	24,532 (11.0%)	1,944 (7.6%)	26,476 (10.6%)
Coast Guard	556 (0.2%)	41 (0.2%)	597 (0.2%)
Public Health Service	39 (0.0%)	3 (0.0%)	42 (0.0%)
Unknown	57 (0.0%)	1 (0.0%)	58 (0.0%)
Missing	597 (0.3%)	4 (0.0%)	601 (0.2%)
Component (when in the service)			
Active Duty	113,180 (50.6%)	13,471 (52.9%)	126,651 (50.9%)
National Guard	37,519 (16.8%)	4,014 (15.8%)	41,533 (16.7%)
Reserves	69,646 (31.1%)	7,422 (29.2%)	77,068 (30.9%)
Unknown	1,597 (0.7%)	464 (1.8%)	2,061 (0.8%)
Missing	1,672 (0.7%)	76 (0.3%)	1,748 (0.7%)
Service Status (Current as of July 1 2021)			
Active Duty	30,623 (13.7%)	10,915 (42.9%)	41,538 (16.7%)
Guard/Reserve	46,307 (20.7%)	6,712 (26.4%)	53,019 (21.3%)
Retiree	69,735 (31.2%)	3,077 (12.1%)	72,812 (29.2%)
Separated	74,462 (33.3%)	4,733 (18.6%)	79,195 (31.8%)
Unknown	1,494 (0.7%)	10 (0.0%)	1,504 (0.6%)
Missing	993 (0.4%)	0 (0.0%)	993 (0.4%)

¹Branch of Service, Component and Service Status is collected from respondents' self-report.

Exposures

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

Table 4: Most Concerning Self-Reported Exposures on Health

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Exposure	N=223,614	N=25,447	N=249,061
Hobbies and non-military jobs	330 (0.1%)	28 (0.1%)	358 (0.1%)
Military jobs - not deployed	2,670 (1.2%)	384 (1.5%)	3,054 (1.2%)
Off base air pollution during deployment (factories, cars, burning trash, dust)	45,001 (20.1%)	4,490 (17.6%)	49,491 (19.9%)
On base air pollution during deployment (burning fuel, burn pits)	152,707 (68.3%)	15,832 (62.2%)	168,539 (67.7%)
Smoking (by you or those near you)	1,241 (0.6%)	90 (0.4%)	1,331 (0.5%)
I do not wish to answer	803 (0.4%)	86 (0.3%)	889 (0.4%)
Unsure	13,745 (6.1%)	1,367 (5.4%)	15,112 (6.1%)
Missing	7,117 (3.2%)	3,170 (12.5%)	10,287 (4.1%)

Medical Conditions

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

Table 5: Most Common Self-Reported Health Conditions that Cause Difficulty with either Running or Walking (2021)

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Health Condition^{1,2}	223,614	25,447	249,061
Arthritis/Rheumatism	55,469 (24.8%)	4,726 (18.6%)	60,195 (24.2%)
Back or Neck Problem	106,804 (47.8%)	9,140 (35.9%)	115,944 (46.6%)
Knee Problems	71,499 (32.0%)	6,206 (24.4%)	77,705 (31.2%)
Mental Health Problem	47,233 (21.1%)	3,993 (15.7%)	51,226 (20.6%)
Migraine Headaches	38,380 (17.2%)	3,351 (13.2%)	41,731 (16.8%)
Unspecified Lung	56,120 (25.1%)	4,418 (17.4%)	60,538 (24.3%)

¹Total count exceeds the total number participants because participants can report multiple health conditions.

²Percentages are based on the total number of participants (N=223,614 from April 2014 to December 2020 and 25,447 from January 2021 to June 2021.)

³The question does not specify which lung disease. See Top Self-Reported Respiratory and Cardiac Health Conditions (table 6) for more descriptive information.

➤ 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 _____?”

Table 6: Most Common Self-Reported Medical Conditions

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Health Condition^{1,2}	223,614	25,447	249,061
Insomnia	177,966 (79.6%)	18,629 (73.2%)	196,595 (78.9%)
Neurological Problem	155,889 (69.7%)	15,173 (59.6%)	171,062 (68.7%)
Allergies	88,568 (39.6%)	9,987 (39.2%)	98,555 (39.6%)
Hypertension	81,453 (36.4%)	8,535 (33.5%)	89,988 (36.1%)
Immune System	41,052 (18.4%)	3,343 (13.1%)	44,395 (17.8%)
Chronic Multi-Symptom Illness	39,965 (17.9%)	3,590 (14.1%)	43,555 (17.5%)
Asthma	30,919 (13.8%)	3,012 (11.8%)	33,931 (13.6%)
Chronic Bronchitis	27,317 (12.2%)	2,405 (9.5%)	29,722 (11.9%)

¹Total count exceeds the total number participants because participants can report multiple health conditions.

²Percentages are based on the total number of participants (N=223,614 from April 2014 to December 2020 and 25,447 from January 2021 to June 2021.)

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

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

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Health Condition^{1,2}	223,614	25,447	249,061
Allergies	88,568 (39.6%)	9,987 (39.2%)	98,555 (39.6%)
Hypertension	81,453 (36.4%)	8,535 (33.5%)	89,988 (36.1%)
Asthma	30,919 (13.8%)	3,012 (11.8%)	33,931 (13.6%)
Chronic Bronchitis	27,317 (12.2%)	2,405 (9.5%)	29,722 (11.9%)
Other Lung Disease	21,616 (9.7%)	2,071 (8.1%)	23,687 (9.5%)
Other Heart Condition	18,965 (8.5%)	2,089 (8.2%)	21,054 (8.5%)
Coronary Heart Disease	6,580 (2.9%)	746 (2.9%)	7,326 (2.9%)
Chronic Obstructive Pulmonary Disease	6,209 (2.8%)	493 (1.9%)	6,702 (2.7%)

¹Total count exceeds the total number participants because participants can report multiple health conditions.

²Percentages are based on the total number of participants (N=223,614 from April 2014 to December 2020 and 25,447 from January 2021 to June 2021.)

- 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?”

Table 8: Most Common Self-Reported Cancers

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Health Condition¹	223,614	25,447	249,061
Skin (non-melanoma)	3,546 (1.6%)	419 (1.6%)	3,965 (1.6%)
Skin (Don't know what kind)	1,676 (0.7%)	198 (0.8%)	1,874 (0.8%)
Melanoma	1,378 (0.6%)	155 (0.6%)	1,533 (0.6%)
Prostate	880 (0.4%)	137 (0.5%)	1,017 (0.4%)

¹Percentages are based on the total number of participants (N=223,614 from April 2014 to December 2020 and 25,447 from January 2021 to June 2021.)

Hobbies

(NOTE: The AHOBPR does not ask about all hobbies, only those relatively common hobbies with potential inhalational exposure.)

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

Table 9: Hobbies Self-Reported by Registry Participants

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Hobby^{1,2}	223,614	25,447	249,061
None of the listed hobbies	179,885 (80.4%)	20,300 (79.8%)	200,185 (80.4%)
Woodwork	24,130 (10.8%)	3,137 (12.3%)	27,267 (10.9%)
Indoor Swimming/Indoor Ice Skating	15,875 (7.1%)	1,681 (6.6%)	17,556 (7.0%)
Metal Work	7,280 (3.3%)	867 (3.4%)	8,147 (3.3%)
Welding	6,734 (3.0%)	816 (3.2%)	7,550 (3.0%)
Epoxies	5,240 (2.3%)	683 (2.7%)	5,923 (2.4%)
Pottery	526 (0.2%)	62 (0.2%)	588 (0.2%)
Stained Glass	253 (0.1%)	27 (0.1%)	280 (0.1%)

¹Total count exceeds the total number participants because participants can report multiple health conditions.

²Percentages are based on the total number of participants (N=223,614 from April 2014 to December 2020 and 25,447 from January 2021 to June 2021.)

Clinical Exams

Figure 4: AHOBPR Clinical Exams at all VA Facilities by Month in 2021

Data as of July 6, 2021

Figure 4 depicts the number of participants that completed a clinical exam from January 2021 to June 2021. A total of 4,509 clinical exams were completed during this time frame with a six-month average of 752.

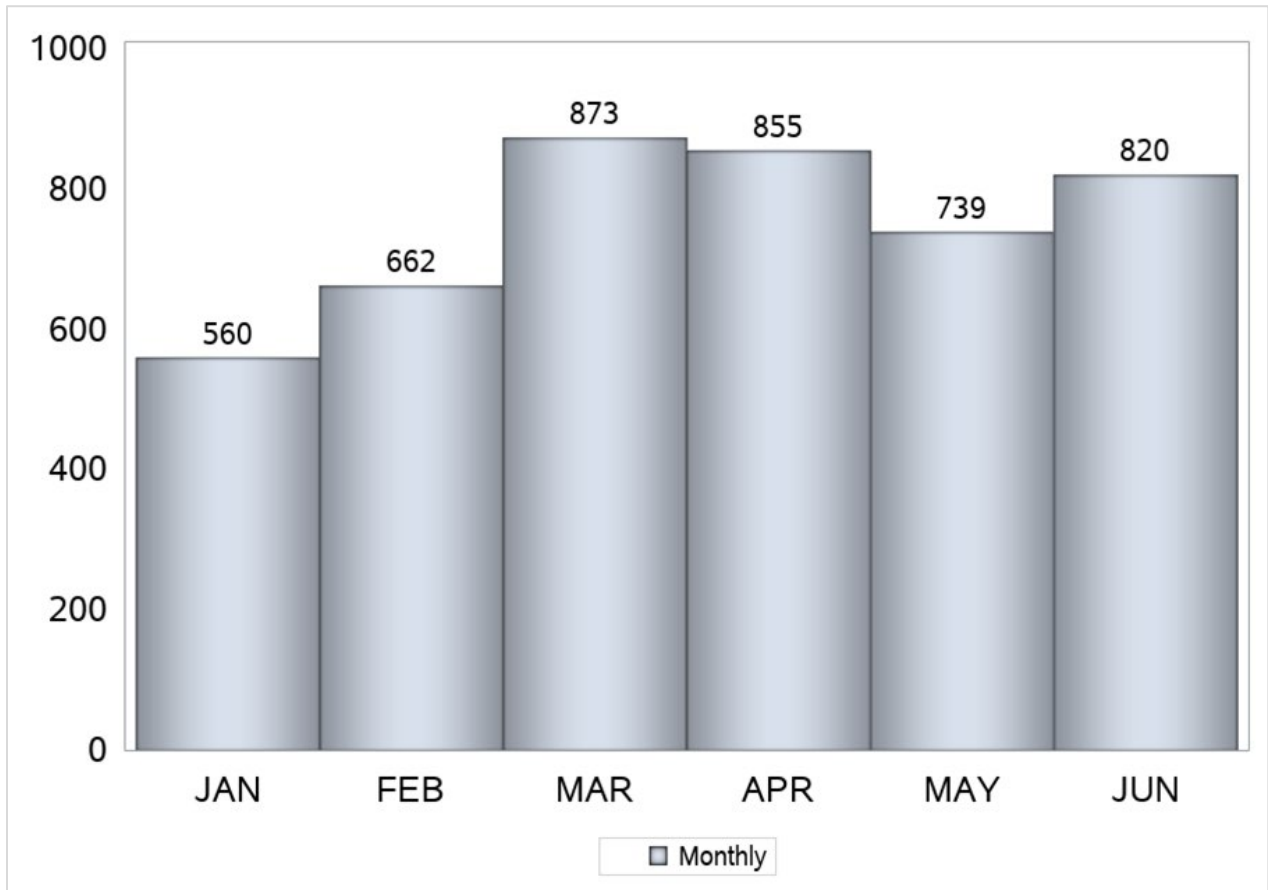
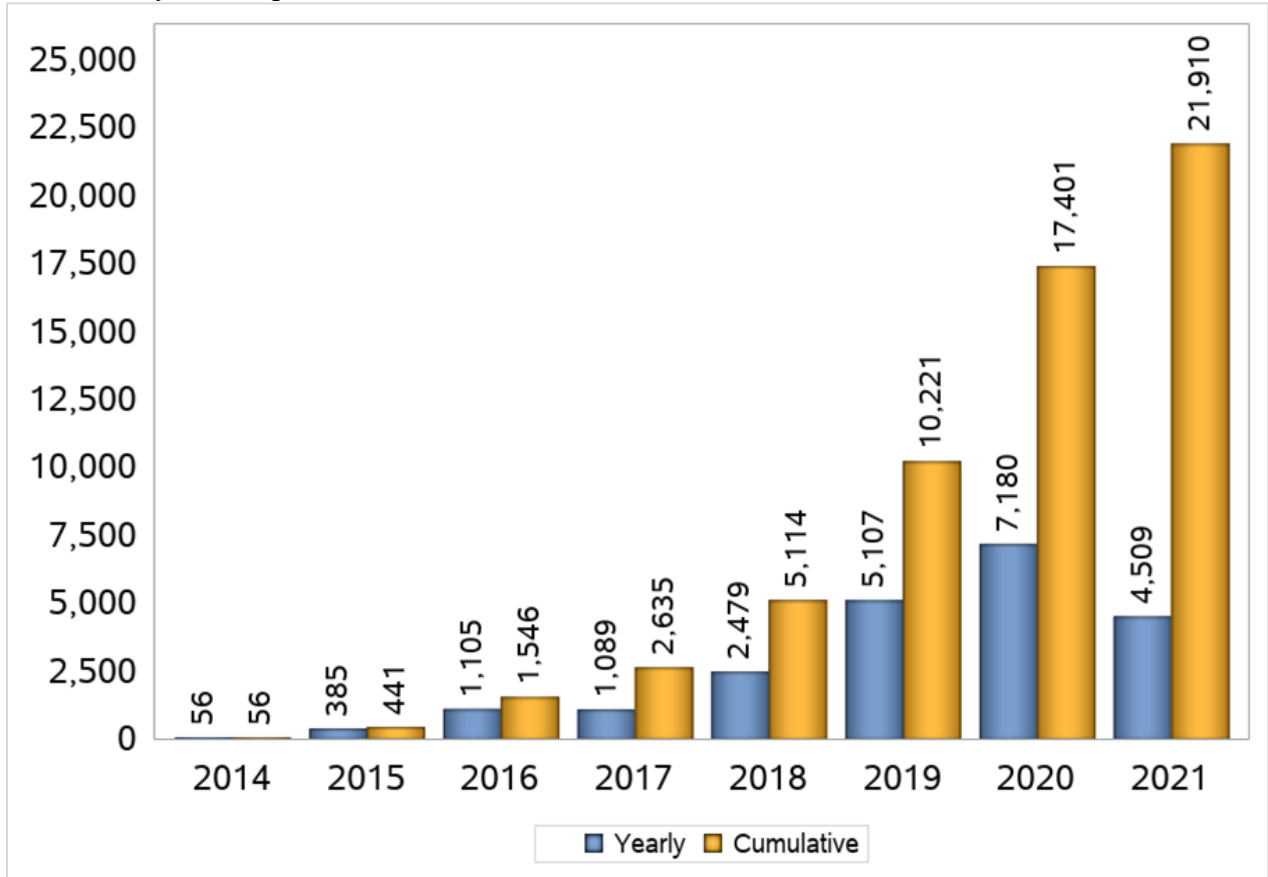


Figure 5: AHOBPR Clinical Exams at all VA Facilities Per Year and Cumulative Per Year

Data as of July 6, 2021

The number of AHOBPR participants that completed clinical exams at a VA facility by year and cumulatively from April 2014 to June 2021.



Health Care Utilization

Table 10 illustrates the distribution of Veterans Health Administration (VHA) usage among AHOBPR participants between August 2014 and December 2021.

Table 10: VHA Usage Among AHOBPR Participants

Data as of July 6, 2021

	April 2014 to December 2020	January 2021 to June 2021	Cumulative
Number of Visits¹	N=223,614	N=25,447	N=249,061
One Visit	81,474 (36.4%)	6,716 (26.4%)	88,190 (35.4%)
Two Visits	50,373 (22.5%)	2,977 (11.7%)	53,350 (21.4%)
Three Visits	24,427 (10.9%)	1,190 (4.7%)	25,617 (10.3%)
Four Visits	10,824 (4.8%)	481 (1.9%)	11,305 (4.5%)
Five or more Visits	8,382 (3.7%)	396 (1.6%)	8,778 (3.5%)
No VHA Record (Zero Visits)	48,134 (21.5%)	13,687 (53.8%)	61,821 (24.8%)

¹This table represents all visits between April 2014 to June 2021, regardless of when a participant joined the registry. Visits to VA for healthcare prior to 2014 are not enumerated.