

# Examination of Recent Deployment Experience Across the Services and Components

*Jennie W. Wenger, Caoliann O'Connell, Linda Cottrell*

## Key findings

- Between 9/11 and September 2015, 2.77 million service members served on more than 5.4 million deployments.
- Soldiers across the Army's components have provided the majority of the deployments.
- The Selected Reserve provides one way to retain some of the Army's deployment experience.

**SUMMARY** ■ Over the past 15 years, deployments have represented a key aspect of U.S. military service, with many service members completing multiple tours. Given the disruption that they pose, it is not surprising that deployments are associated with numerous service member and family outcomes. For example, spouses of deployed service members reported that their children experienced behavioral and peer-related problems during deployments (Meadows et al., 2016). Therefore, accrued time deployed constitutes a relevant metric for measuring military experience, but also for measuring service member and family well-being. In this research, we compare deployments (in terms of the total number

of deployments, and the total amount of time deployed) across the services and components. We also examine the transitions of soldiers between Army components to determine whether the Army retains soldiers with the largest amounts of deployments.<sup>1</sup>

To date, all of the services have contributed substantially to the 3.1 million troop-years of deployments since September 2001. The Army has provided the bulk of deployment experience. The vast majority of soldiers who have deployed over the past 15 years are no longer serving in the Army. However, the Selected Reserve (SELRES) continues to retain deployments acquired in the Regular Army; about one-quarter of the deployment experience in the SELRES was acquired by soldiers who deployed while serving in the Regular Army. Also, a substantial proportion of the soldiers with the most intensive deployment experience (those who have served at least three deployments) remain in the Army.

Since previous studies have shown the correlations between deployments and service member and family well-being, it is important to characterize not only the deployments, but also the service members who deploy. Enlisted personnel made up the bulk of those who have deployed, as did personnel from the active component of their service. Most service members who deployed were married at the time; nearly half had children. Average time spent in a single deployment varies across the services. A typical deployment for soldiers in the Regular Army lasted about 12 months, whereas other active service members' deployments are about five to seven months.<sup>2</sup> Very short deploy-

ments also occurred; they are somewhat more common in the Regular Army than in the SELRES. Given the variation in length of a single deployment across the services, the same amount of total time deployed could have different impacts depending on how that total deployment time was accumulated. Also, service members' individual resilience to deployments may vary. Given such variation, deployment experience may need to be managed differently across services and personnel. Tracking deployment experience carefully, in terms of total number of deployments *and* total time deployed, would likely assist in managing these differences.

---

## INTRODUCTION

Deployments are a key aspect of military service, especially in the post-9/11 era, and experience acquired while deployed represents a specialized type of experience within the services. However, deployments vary across the services, components, and years. Tracking these differences has value, especially since deployments have been linked to the well-being of service members and their families. Indeed, both the number of deployments and the cumulative time spent deployed are associated with a wide variety of relevant outcomes; examples include service members' physical and mental health, but also postdeployment earnings of reservists, well-being and academic performance of service members' children, the quality of marital relationships, and spouses' labor force participation.<sup>3</sup> Prior research also suggests that deployments are related to the willingness to reenlist, but that the relationship is not straightforward.<sup>4</sup> Characterizing deployments by service and component, as well as determining the number of personnel with key levels of deployment experience, could be helpful in determining how best to manage the effects of multiple deployments or cumulative time deployed.

In the first section of this report we detail the number of service members deployed during the period since the terrorist attacks of September 11, 2001, as well as the average length of these deployments and the deployment experience accrued. We include information about service- and component-level differences.

In the next section, we focus on the Army, which provided the bulk of the deployments. Many who were deployed have since left the Regular Army, but past research has found that the SELRES (U.S. Army Reserve [USAR] and the Army National Guard of the United States [ARNGUS]) serves an important function in retaining some personnel with accrued deployment experience (O'Connell, Wenger, and Hansen, 2014).<sup>5</sup> Given these findings, it is helpful to understand more about the flow of personnel and deployment experience into and out of the Regular Army and the SELRES. To this end, we determine the number of soldiers with intensive deployment experience; we also update previous analyses by documenting in detail the net flow of soldiers and deployment experience into and out of the Regular Army and the SELRES (Bonds, Baiocchi, and McDonald, 2010; Baiocchi, 2013; O'Connell, Wenger, and Hansen, 2014).

---

## CHARACTERIZING DEPLOYMENTS BY SERVICE

In the years since 9/11, some 2.77 million service members have served on more than 5.4 million deployments. Table 1 includes some descriptive information about those who deployed between September 2001 and September 2015.<sup>6</sup>

Both the number of deployments and the cumulative time spent deployed are associated with a wide variety of relevant outcomes.

Table 1. Characteristics of Deployed Service Members

Characteristics	Army	Air Force	Marine Corps	Navy	All Services
<i>Individuals deployed by component, and by service</i>					
Regular	855,000	397,000	333,000	515,000	2,100,000
Reserve	156,000	47,000	38,000	55,000	295,000
National Guard	344,000	84,000	N/A	N/A	428,000
<b>Total<sup>a</sup></b>	<b>1,326,000</b>	<b>518,000</b>	<b>367,000</b>	<b>563,000</b>	<b>2,774,000</b>
<i>Number of deployments by rank, gender, and family structure</i>					
Commissioned Officer	325,000	284,000	73,000	172,000	854,000
Warrant Officer	73,000	0	6,000	7,000	86,000
Enlisted	1,938,000	968,000	597,000	1,009,000	4,512,000
Male	2,096,000 (90.0%)	1,089,000 (87.2%)	652,000 (96.6%)	1,034,000 (87.5%)	4,871,000 (89.6%)
Female	232,000 (10.0%)	160,000 (12.8%)	23,000 (3.4%)	148,000 (12.5%)	563,000 (10.4%)
Age at time of deployment (Average, in years)	29.3	31.1	25.0	28.7	29.0
Married at time of deployment	1,389,000 (59.7%)	768,000 (61.5%)	305,000 (45.2%)	622,000 (52.7%)	3,085,000 (56.8%)
Had children at time of deployment	1,164,000 (50.0%)	606,000 (48.5%)	198,000 (29.4%)	492,000 (41.6%)	2,460,000 (45.3%)
<b>Total<sup>a</sup></b>	<b>2,335,972</b>	<b>1,252,424</b>	<b>676,351</b>	<b>1,187,932</b>	<b>5,452,679</b>
<i>Average number of cumulative months deployed, among those who have deployed</i>					
Regular	17.8	12.0	12.0	9.9	
Reserve <sup>b</sup>	12.5	8.8	8.1	8.9	
National Guard <sup>b</sup>	12.8	7.3	N/A	N/A	

SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File (September 2001 through September 2015; 2001 and 2015 represent partial calendar years).

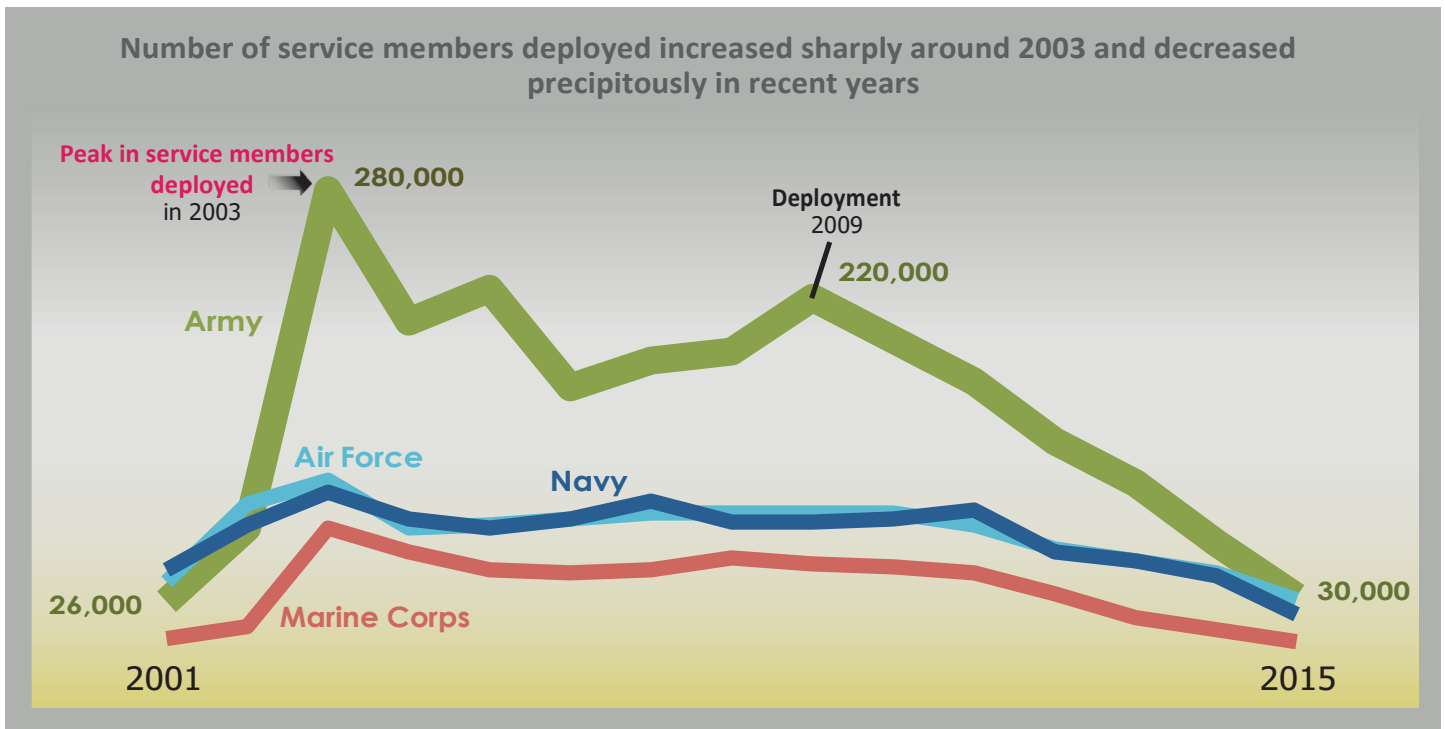
<sup>a</sup> Total figures are lower than the sum across rows because some service members deployed with multiple components or ranks.

<sup>b</sup> As illustrated on p. 6, nearly 25 percent of cumulative months deployed in USAR and ARNG were accrued in the RA.

At the time of the deployment, about 57 percent of service members were married, and 45 percent had children. Those deployed were typically about 29 years of age. We note that deployed reservists are, on average, substantially older than those who deploy with the Regular services, although this is less true in the Marine Corps, where the age difference is quite small (age by component figures are excluded from Table 1 for brevity).

Roughly 10 percent of those deployed were women, although this percentage varies substantially across the services,

with women making up a larger proportion of those deployed in the Air Force and Navy and a much smaller proportion in the Marine Corps. To some extent, these patterns reflect the breakdown of each service by gender. About 86 percent of those deployed were enlisted at the time of deployment, while 13 percent were commissioned officers, and just over 1 percent were warrant officers. Approximately three-quarters were serving in the Regular (rather than the Reserve or National Guard) component of their service.



Following 9/11, there was a sharp increase in deployments across all four of the armed services, but especially within the Army. Except in the first and last two years shown, the Army provided at least 40 percent of the service members deployed each year.

SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File.

NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

The bottom section of Table 1 lists the average number of cumulative months deployed, among those who ever deployed. The differences reflect variation in both length of deployments and number of deployments. Tables A.1 and A.2 in the appendix provide additional detail on deployments.

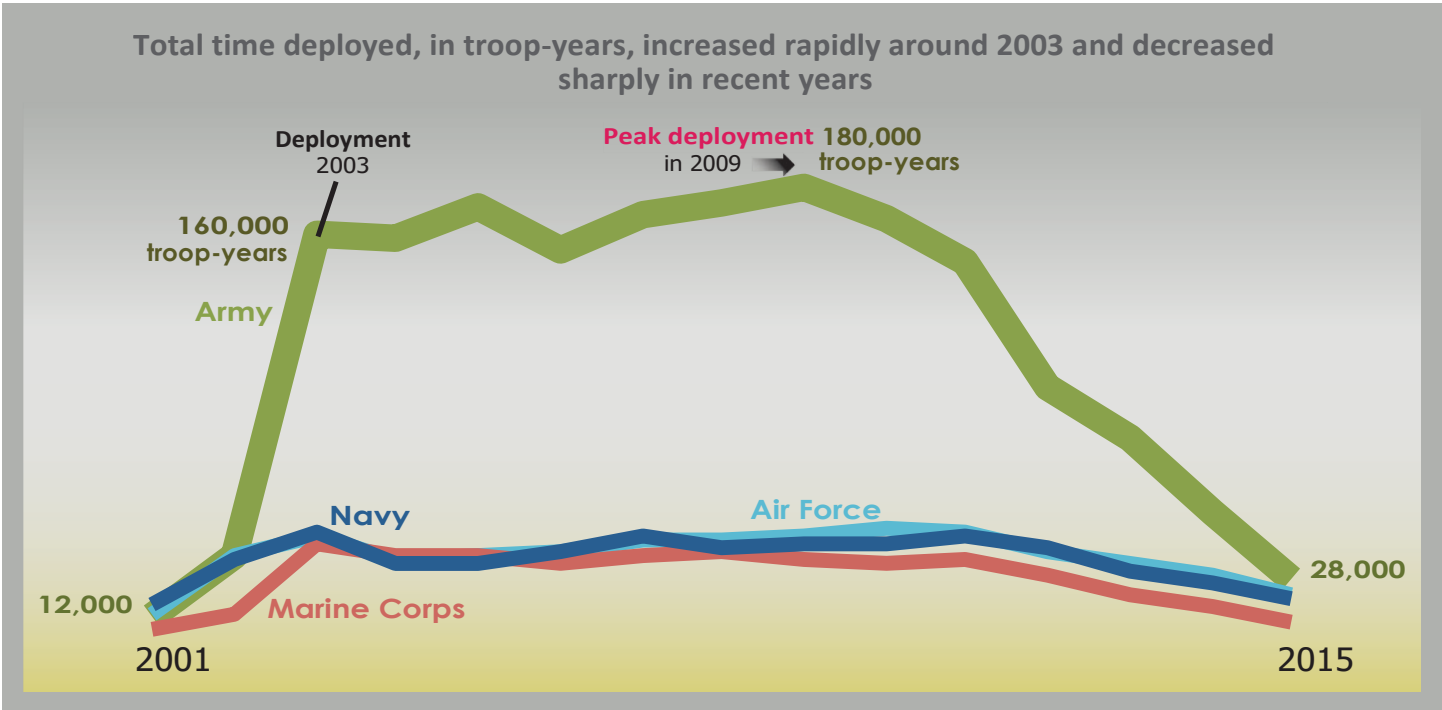
The figure at the top of this page shows the number of service members deployed and the total composition, by service and year. This figure reflects the sharp increase in deployments in the years following 9/11. Excepting the first and last two years shown, the Army provided at least 40 percent of the service members deployed each year.

Next, we calculate the total time deployed by service. The figure at the top of page 5 shows the total number of deployed troop-years, by service and calendar year, between September 2001 and September 2015.<sup>7</sup> (Like the figure above, the figure on the top of page 5 includes deployments by all components.) It also shows the relative contribution of each of the services to the total deployed troop-years. Consistent with the figure above, the figure on the top of page 5 indicates that the Army provided the majority of the troop-years of deployment during much of this period. As was the case in the figure above, the one on the top of page 5 also demonstrates the rapid increase

in deployments around 2003, as well as the sharp decrease in deployments in recent years.

A key difference between these figures occurs in the Army data in the years after 2003. The 2003 peak in the above figure versus the relatively flat slope in the figure at the top of page 5 reflects the longer deployments experienced by soldiers versus other service members. Additional detail can be found in Table A.3 in the appendix.

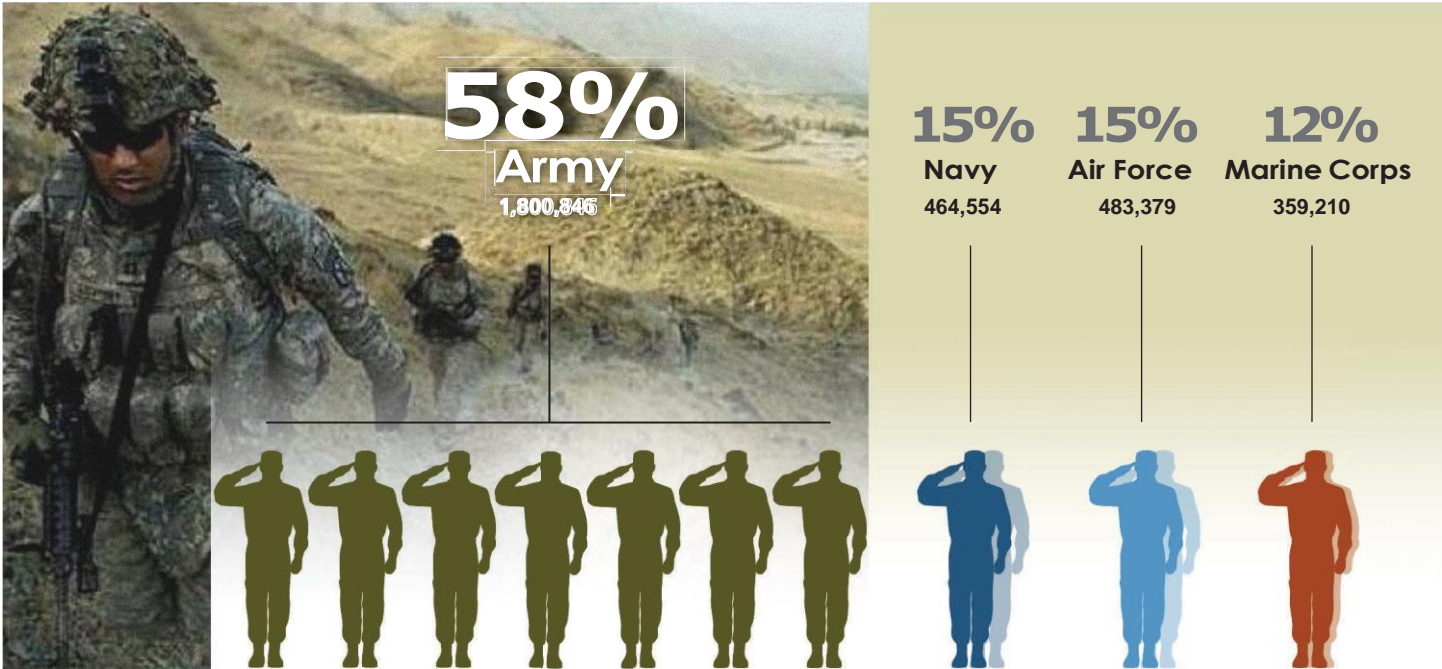
The figure at the bottom of page 5 sums the total deployment experience, in troop-years, across this entire period, by service. Over the period shown, the Army provided about 1.8 million deployed troop-years, accounting for about 58 percent of all deployed troop-years from all the services. The Air Force provided nearly 500,000 deployed troop-years during this period, the Marine Corps provided slightly more than 350,000 deployed troop-years, and the Navy provided a little more than 450,000 deployed troop-years. The Army's provision of the majority of deployed troop-years is consistent with the nature of operations in Afghanistan and Iraq and with the findings of previous research.



Time deployed is measured in troop-years; the Army provided the largest share of time deployed during much of the period following 9/11. There was a rapid increase, particularly within the Army, around 2003, peaking in 2009. Since 2009 there has been a sharp decrease in time deployed.

SOURCE: RAND Arroyo Center Analysis of DMDC’s Contingency Tracking System Deployment File.  
 NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

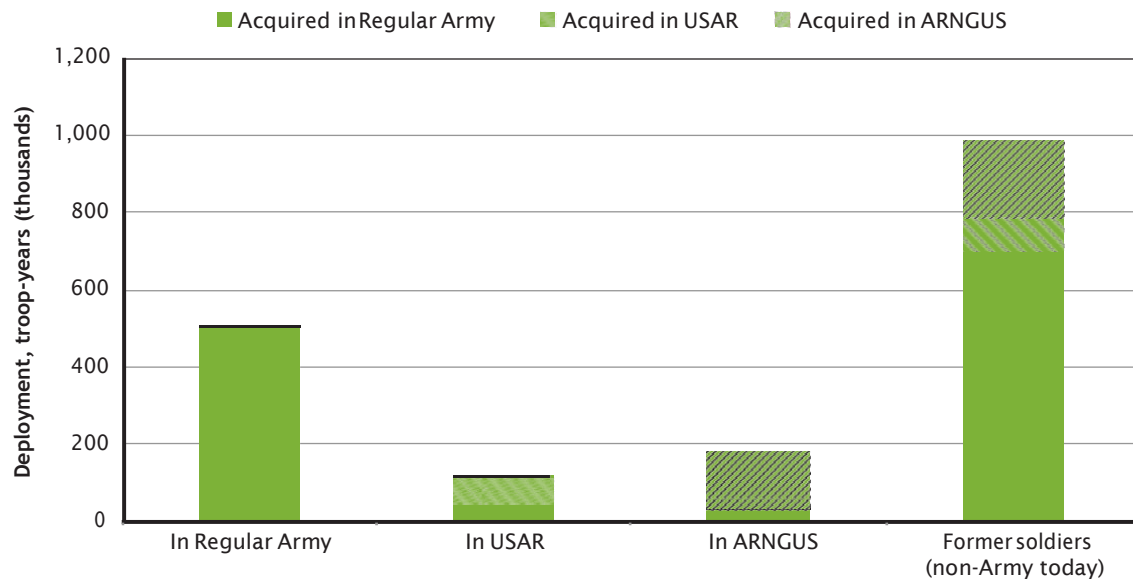
### The Army has provided approximately 58 percent of the total deployments since 9/11



All components have made contributions to operations in Afghanistan and Iraq. Of the 1.8 million deployed troop-years shown, the Regular Army provided 71 percent of the Army’s deployed troop-years, while the ARNGUS provided 20 percent and the USAR provided 9 percent. The relative sizes and compositions of the ARNGUS and USAR are responsible for much of the difference in deployed troop-years contributed by these two components.

SOURCE: RAND Arroyo Center Analysis of DMDC’s Contingency Tracking System Deployment File.  
 NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

## Time Deployed: Where Was It Acquired? Where Is It Now?



SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File.

NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

RAND RR1928-4

## RETENTION OF THE ARMY'S ACCRUED DEPLOYMENT EXPERIENCE

Next, we focus on the Army, and the flows of soldiers and deployment experience between components and out of the Army. Many soldiers have left the Army in the past 15 years; as a result, about 55 percent of the 1.8 million troop-years deployed shown in the figure at the bottom of page 5 no longer remains in the Army. To examine the flow in more detail, we next compare the number of individual soldiers with various *levels* of deployment experience who remain in the Army in September 2015 with the number who transitioned between September 2001 and September 2015. We find that the soldiers with the most time deployed (those with at least three deployments) remain in the Army in relatively large numbers. In total, just over 230,000 soldiers completed at least three deployments during this period. These highly deployed soldiers typically served in the Regular Army and spent at least three years deployed; some spent much more time deployed. They possess nearly half of the deployment experience currently resident within the Army (although they make up only 13 percent of soldiers across components).

While the group of highly deployed soldiers is small in comparison with the 2.9 million who served in the Army between 9/11 and September 2015, we also find that these

soldiers are more likely than others to remain in the Army.<sup>8</sup> Currently, the Army retains nearly 60 percent of these highly deployed soldiers, with roughly 45 percent serving in the Regular Army and 15 percent serving in the SELRES. (This provides one example of the role of the SELRES in retaining those who have deployed.)

Finally, we track deployment experience as it moves between components. To do this, we tabulate the time deployed by soldiers in each component separately. We then track the soldiers and their deployment experience, as they move between components or exit the Army (see figure above).

The figure above classifies soldiers' *time deployed* based on the component in which it was acquired, as well as the soldier's current component, thus tracing the flow of experience between components. The height of the "former soldiers" stovepipe indicates that the majority of deployment experience acquired since 9/11 is no longer retained in the Army. The figure also indicates that the Regular Army has substantially more deployment experience than the SELRES (reflecting, among other things, the greater likelihood of multiple deployments among those serving in the Regular Army). Finally, this figure indicates that most deployment experience remains in the component in which it was acquired, but there is some movement from the Regular Army into the SELRES (along with much smaller

movements from the SELRES into the Regular Army). Only about 5 percent of all of the time deployed acquired in the Regular Army is now resident in the SELRES, but this fraction makes up about one-quarter of the total deployment experience in the SELRES. (Recall that deployment patterns vary across the components, with those in the SELRES spending less time deployed than those in the Regular Army). The movement of soldiers with deployment experience from the Regular Army to the SELRES is consistent with prior research, but these updated findings suggest that as soldiers with deployment experience continue to leave the Army and the overall deployment levels continue to fall, the SELRES may play an increasingly important role in retaining deployment experience—and the experience of former Regular Army soldiers in the SELRES is likely to make up an increasing proportion of the total deployment experience resident in these components.

---

## CONCLUSIONS

Between 9/11 and September 2015, 2.77 million service members served on more than 5.4 million deployments. About 86 percent of those deployed were enlisted personnel, while about 10 percent were women. Deployed personnel were less than 30 years of age, on average; more than half were married at the time of the deployment, and nearly half had children. The average length of a deployment varies across the services; multiple deployments are not uncommon. As such, service members and families have experienced substantial disruption over the past 15 years. The number of deployments *and* total time deployed have been found to be linked to service member and family well-being (see, e.g., Chandra et al., 2010). This, along with the differing lengths of deployments across the services, suggests that the same amount of total time deployed could have different effects on members of different services and may need to be managed differently across the services. As a first step, we

suggest tracking both the number of deployments and the total time deployed carefully.

Soldiers across the Army's three components provided the majority of deployments, some 1.8 million troop-years, between 9/11 and September 2015. As of September 2015, the majority of soldiers with deployment experience were no longer serving in the Army; however, the majority of heavily deployed soldiers (those with three or more deployments) did remain in the Army. Across the Army, these heavily deployed soldiers make up about 13 percent of all soldiers, but they possess about half of the deployment experience currently resident in the Army. Some of these soldiers transitioned from the Regular Army to the SELRES at some point during their careers, and the SELRES continues to provide an avenue for retaining deployment experience. Indeed, the deployment experience of soldiers formerly serving in the Regular Army makes up about one-quarter of the total experience resident within the SELRES. This suggests that continuing to encourage soldiers to consider the SELRES as an option upon leaving the Regular Army also provides a method of retaining deployment experience.

Across the services, a small group of service members has served at least three deployments. These service members and their families may be quite resilient, as many have chosen to remain in the Army. However, given the evidence that both the number of deployments and the total time spent deployed influence service member and family outcomes, carefully tracking the resilience of this group appears to be a sensible approach. Indeed, it may be appropriate to focus key resources and services on these service members and their families. Finally, the deployment experience of the most intensely deployed service members represents a unique resource. Both time and changes in the operational environment are likely to make deployment experience less relevant over time. However, managing this experience and seeking additional ways to transfer the knowledge and skills obtained during deployment before those service members choose to leave military service have the potential to increase the effectiveness of training.

## APPENDIX. DETAILED DEPLOYMENT INFORMATION

**Table A.1. Number of Unique Individuals Deployed, by Service and Calendar Year\***

Calendar Year	Army	Air Force	Marine Corps	Navy	All Services
2001	35,000	47,000	12,000	53,000	148,000
2002	79,000	93,000	21,000	81,000	274,000
2003	281,000	107,000	79,000	100,000	567,000
2004	203,000	79,000	65,000	84,000	430,000
2005	223,000	80,000	55,000	78,000	436,000
2006	164,000	84,000	53,000	84,000	384,000
2007	180,000	89,000	55,000	96,000	419,000
2008	185,000	87,000	61,000	83,000	416,000
2009	216,000	88,000	58,000	82,000	445,000
2010	191,000	89,000	56,000	85,000	421,000
2011	167,000	82,000	53,000	90,000	392,000
2012	131,000	67,000	39,000	65,000	302,000
2013	106,000	60,000	26,000	59,000	251,000
2014	70,000	51,000	18,000	50,000	189,000
2015	37,000	36,000	10,000	27,000	111,000

SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File.

NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

\*In this table, individuals who deployed in multiple years are counted in each year. Therefore, the total number of personnel deployed is higher than that listed in Table A.3.

**Table A.2. Number of Individuals with Multiple Deployments, by Service and Component**

Component	Number of Deployments	Army	Air Force	Marine Corps	Navy	All Services
Regular	1 Deployment	433,000	175,000	152,000	223,000	983,000
	2 Deployments	230,000	97,000	113,000	150,000	590,000
	3+ Deployments	192,000	126,000	68,000	143,000	528,000
Reserve	1 Deployment	114,000	23,000	30,000	34,000	201,000
	2 Deployments	31,000	10,000	6,000	11,000	59,000
	3+ Deployments	11,000	13,000	1,000	9,000	35,000
National Guard	1 Deployment	245,000	39,000	N/A	N/A	284,000
	2 Deployments	77,000	20,000	N/A	N/A	97,000
	3+ Deployments	22,000	24,000	N/A	N/A	47,000

SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File.

NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

Table A.3. Total Deployments in Troop-Years, by Service, Component, and Calendar Year

Component	CY	Army	Air Force	Marine Corps	Navy	All Services
<b>Regular</b>	<b>Total</b>	<b>1,271,395</b>	<b>397,502</b>	<b>333,920</b>	<b>423,992</b>	<b>2,426,809</b>
Regular	2001	6,002	6,980	2,276	12,176	27,435
Regular	2002	26,639	24,828	7,975	30,256	89,699
Regular	2003	116,063	30,205	32,668	38,770	217,706
Regular	2004	94,874	24,704	29,109	26,255	174,942
Regular	2005	100,710	26,608	29,560	25,751	182,629
Regular	2006	113,269	28,621	28,745	30,132	200,767
Regular	2007	130,696	31,931	32,318	36,459	231,404
Regular	2008	133,331	32,202	31,843	33,061	230,437
Regular	2009	127,100	33,397	27,818	32,335	220,650
Regular	2010	123,244	35,248	27,810	33,344	219,645
Regular	2011	110,682	35,142	28,553	36,511	210,888
Regular	2012	71,343	26,789	22,864	31,913	152,908
Regular	2013	58,822	24,816	15,044	23,843	122,525
Regular	2014	39,566	21,299	11,730	20,011	92,606
Regular	2015	19,053	14,732	5,607	13,176	52,569
<b>Reserve</b>	<b>Total</b>	<b>163,042</b>	<b>34,377</b>	<b>25,290</b>	<b>40,562</b>	<b>263,271</b>
Reserve	2001	463	393	15	210	1,081
Reserve	2002	2,162	2,465	242	1,047	5,916
Reserve	2003	21,572	4,105	5,227	2,500	33,404
Reserve	2004	23,481	2,773	3,206	2,269	31,729
Reserve	2005	19,143	2,627	2,898	3,052	27,720
Reserve	2006	12,668	2,335	1,192	4,018	20,213
Reserve	2007	11,785	2,319	696	4,136	18,936
Reserve	2008	11,500	2,847	2,337	2,762	19,445
Reserve	2009	13,261	2,926	3,416	4,077	23,680
Reserve	2010	13,735	2,815	1,858	4,437	22,845
Reserve	2011	12,437	2,659	2,240	3,602	20,938
Reserve	2012	8,127	2,371	1,151	2,849	14,497
Reserve	2013	6,593	1,892	544	2,854	11,883
Reserve	2014	4,887	1,447	224	1,905	8,463
Reserve	2015	1,227	406	42	846	2,521
<b>National Guard</b>	<b>Total</b>	<b>366,410</b>	<b>51,500</b>	<b>N/A</b>	<b>N/A</b>	<b>417,909</b>
National Guard	2001	1,036	803	N/A	N/A	1,839
National Guard	2002	3,778	4,309	N/A	N/A	8,086
National Guard	2003	25,411	6,522	N/A	N/A	31,933
National Guard	2004	43,009	3,093	N/A	N/A	46,102
National Guard	2005	54,741	3,013	N/A	N/A	57,754
National Guard	2006	31,019	3,451	N/A	N/A	34,469
National Guard	2007	28,299	3,907	N/A	N/A	32,206
National Guard	2008	30,426	4,019	N/A	N/A	34,445
National Guard	2009	42,278	4,416	N/A	N/A	46,695

Table A.3—Continued

Component	CY	Army	Air Force	Marine Corps	Navy	All Services
National Guard	2010	33,280	4,760	N/A	N/A	38,040
National Guard	2011	28,502	3,905	N/A	N/A	32,407
National Guard	2012	21,378	4,055	N/A	N/A	25,433
National Guard	2013	15,295	2,927	N/A	N/A	18,222
National Guard	2014	5,978	1,684	N/A	N/A	7,662
National Guard	2015	1,980	636	N/A	N/A	2,616
<b>All components</b>	<b>Total</b>	<b>1,800,846</b>	<b>483,379</b>	<b>359,210</b>	<b>464,554</b>	<b>3,107,989</b>
All components	2001	7,501	8,176	2,291	12,386	30,355
All components	2002	32,580	31,602	8,218	31,303	103,701
All components	2003	163,046	40,832	37,895	41,270	283,042
All components	2004	161,365	30,570	32,315	28,524	252,773
All components	2005	174,595	32,248	32,458	28,802	268,103
All components	2006	156,956	34,407	29,937	34,150	255,449
All components	2007	170,780	38,157	33,014	40,595	282,546
All components	2008	175,257	39,069	34,180	35,823	284,328
All components	2009	182,639	40,740	31,234	36,412	291,025
All components	2010	170,260	42,822	29,668	37,781	280,530
All components	2011	151,620	41,706	30,793	40,113	264,233
All components	2012	100,848	33,214	24,015	34,762	192,838
All components	2013	80,710	29,635	15,588	26,697	152,630
All components	2014	50,431	24,429	11,954	21,916	108,730
All components	2015	22,260	15,774	5,650	14,022	57,706

SOURCE: RAND Arroyo Center Analysis of DMDC's Contingency Tracking System Deployment File.

NOTE: Data include September 2001 through September 2015; 2001 and 2015 represent partial calendar years.

## Notes

<sup>1</sup>We are grateful to Laurie McDonald and Christine DeMartini for their assistance in preparing the data for analysis. We are grateful to Michael Hansen for his guidance throughout this project. We thank our reviewers: Al Robbert of RAND, Terri Tanielian of RAND, and Michelle Dolfini-Reed of the Center for Naval Analyses; their comments and suggestions strengthened this document.

<sup>2</sup>Due to the existence of very short deployments, the median deployment is longer than the mean. The difference is especially large in the Army; the mean Regular Army deployment in our sample is nine months in length and one-to-two-month deployments make up 11 percent of all deployments. Deployments of 12 months or more are also more common in the Regular Army than in the USAR or ARNGUS. We ran all analyses after excluding one-to-two-month deployments; the results are very similar to those shown here.

<sup>3</sup>See, especially, Meadows et al., (2016), but also Loughran, Klerman, and Martin (2006), which focuses on reservists' postdeployment earnings; Loughran and Klerman (2008) examines UCX usage; Chandra et al. (2010) and Richardson et al. (2011) analyze child well-being and school outcomes; Savaych (2008) analyzes spousal labor force participation rates.

<sup>4</sup>See Hosek, Kavanagh, and Miller (2006); Hosek and Martorell (2009).

<sup>5</sup>Throughout this report, we refer to the *Army* or *Total Army* to include all Army components: the Regular Army, ARNGUS, and USAR. We refer to the two reserve components (ARNGUS and USAR) together as SELRES (Selected Reserve).

<sup>6</sup>A *deployment* is defined as a service member physically located within a combat zone or area of operations or a service member specifically identified by his or her service as "directly supporting" a contingency mission. This definition ensures our data are consistent with data used by Defense Manpower Data Center (DMDC), Office of the Secretary of Defense, and the services. Calculations are based on data from DMDC's Contingency Tracking System Deployment File, September 2001 through September 2015.

The file includes all personnel who deployed; this includes personnel in such specialized categories as full-time support. The year of each deployment is defined as the year in which the deployment began. In the figure at the bottom of page 5, service members who deploy more than once in a single year are counted once (such deployments occur infrequently). For more information, see the appendix.

<sup>7</sup>As in previous analyses, we form a metric of *troop-years* by taking the sum of the total number of months each service member has been deployed, and expressing the number in years. Thus an individual deployed for 12 months contributes one troop-year; three individuals deployed for four months each also contribute one

troop-year. While this metric does not indicate the total *number* of deployments, it allows us to compare the collective deployment *experience* across each service, even when average deployment length varies across the services. As in previous analyses, we use this metric to measure aggregate deployment experience and to compare experience across services and components.

<sup>8</sup>To some extent, this reflects the fact that those who remain in the Army are more likely to obtain additional deployment experience. However, those who have deployment experience at the end of their initial term of service are more likely than others to reenlist; see Wenger et al., 2016.

---

## References

Baiocchi, Dave, *Measuring Army Deployments to Iraq and Afghanistan*, Santa Monica, Calif.: RAND Corporation, RR-145-A, 2013. As of July 5, 2016:

[http://www.rand.org/pubs/research\\_reports/RR145.html](http://www.rand.org/pubs/research_reports/RR145.html)

Bonds, Timothy M., Dave Baiocchi, and Laurie L. McDonald, *Army Deployments to OIF and OEF*, Santa Monica, Calif.: RAND Corporation, DB-587-A, 2010. As of July 5, 2016:

[http://www.rand.org/pubs/documented\\_briefings/DB587.html](http://www.rand.org/pubs/documented_briefings/DB587.html)

Chandra, Anita, Laurie T. Martin, Stacy Hawkins, and Amy Richardson, “The Impact of Parental Deployment on Child Social and Emotional Functioning: Perspectives of School Staff,” *Journal of Adolescent Health*, Vol. 146, No. 3, March 2010, pp. 218–223.

Hosek, James, Jennifer Kavanagh, and Laura L. Miller, *Deployment, Stress, and Intention to Stay in the Military*, Santa Monica, RAND Corporation, RB-9150-RC, 2006. As of March 6, 2017:

[http://www.rand.org/pubs/research\\_briefs/RB9150.html](http://www.rand.org/pubs/research_briefs/RB9150.html)

Hosek, James, and Paco Martorell, *How Have Deployments During the War on Terrorism Affected Reenlistment?* Santa Monica, RAND Corporation, MG-873-OSD, 2009. As of March 6, 2017:

<http://www.rand.org/pubs/monographs/MG873.html>

Loughran, David S., and Jacob Alex Klerman, *Explaining the Increase in Unemployment Compensation for Ex-Servicemembers During the Global War on Terror*, Santa Monica, Calif.: RAND Corporation, TR-588-OSD, 2008. As of March 6, 2017:

[http://www.rand.org/pubs/technical\\_reports/TR588.html](http://www.rand.org/pubs/technical_reports/TR588.html)

Loughran, David S., Jacob Alex Klerman, and Craig Martin, *Effect of Activation on Reservist Earnings*, Santa Monica, Calif.: RAND Corporation, RB-9183-OSD, 2006. As of March 6, 2017:

[http://www.rand.org/pubs/research\\_briefs/RB9183.html](http://www.rand.org/pubs/research_briefs/RB9183.html)

Meadows, Sarah O., Terri Tanielian, Benjamin Karney, Terry Schell, Beth Ann Griffin, Lisa H. Jaycox, Esther M. Friedman, Thomas E. Trail, Robin Beckman, Rajeev Ramchand, Natalie Hengstebeck, Wendy M. Troxel, Lynsay Ayer, and Christine Anne Vaughan, *The Deployment Life Study: Longitudinal Analysis of Military Families Across the Deployment Cycle*, Santa Monica, Calif.: RAND Corporation, RR-1388-A/OSD, 2016. As of March 6, 2017:

[http://www.rand.org/pubs/research\\_reports/RR1388.html](http://www.rand.org/pubs/research_reports/RR1388.html)

O’Connell, Caoliann, Jennie W. Wenger, and Michael L. Hansen, *Measuring and Retaining the U.S. Army’s Deployment Experience*, Santa Monica, Calif.: RAND Corporation, RR-570-A, 2014. As of July 5, 2016:

[www.rand.org/pubs/research\\_reports/RR570.html](http://www.rand.org/pubs/research_reports/RR570.html)

Richardson, Amy, Anita Chandra, Laurie T. Martin, Claude Messan Setodji, Bryan W. Hallmark, Nancy F. Campbell, Stacy Hawkins, and Patrick Grady, *Effect of Soldiers’ Deployment on Children’s Academic Performance and Behavioral Health*, Santa Monica, Calif.: RAND Corporation, MG-1095-A, 2011. As of March 6, 2017:

<http://www.rand.org/pubs/monographs/MG1095.html>

Savych, Bogdan, “Effects of Deployments on Spouses of Military Personnel,” Pardee RAND Graduate School dissertation, August 2008.

Wenger, Jennie W., Bruce R. Orvis, David M. Stebbins, Eric Apaydin, and James Syme, *Strengthening Prior Service–Civil Life Gains and Continuum of Service Accessions into the Army’s Reserve Components*, Santa Monica, Calif.: RAND Corporation, RR-1376-A, 2016. As of March 6, 2017:

[http://www.rand.org/pubs/research\\_reports/RR1376.html](http://www.rand.org/pubs/research_reports/RR1376.html)

---

## About This Report

This report describes the differences in deployment experience across the U.S. Department of Defense, by service and component, as well as the accrual of deployment experience by year and statistics describing those service members who were deployed over the past 15 years. Finally, we include information tracking the flow of personnel and deployment experience into and out of the Regular Army and the Selected Reserve (SELRES).

This research was sponsored by the Office of the Deputy Chief of Staff, G-8, Army Quadrennial Defense Review Office, and conducted within RAND Arroyo Center's Personnel, Training, and Health Program. RAND Arroyo Center, part of the RAND Corporation, is a federally funded research and development center sponsored by the U.S. Army.

The Project Unique Identification Code (PUIC) for the project that produced this document is RAN167267.

## About the Authors

**Jennie W. Wenger** is a Senior Economist at the RAND Corporation, where she studies education and training, military compensation, and recruiting. Some of her recent projects have examined the implications of integrating women into combat arms occupations, changes in diversity in the military over time, factors that influence the decision to transition to the Reserve Components, and the effectiveness of the Beyond Yellow Ribbon programs which assist servicemembers transitioning back to the civilian world after deployments.

**Caolionn O'Connell** is a senior physical scientist at the RAND Corporation and an Associate Director of RAND Arroyo Center's Forces and Logistics Program. She primarily works in the national security sector, with a focus on cyber systems, manpower issues, and resource management.

**Linda Cottrell** is a research programmer in the RAND Corporation's Information Services department. Her work focuses on health and health care, health care delivery, population health, and manpower and training.

## Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please visit [www.rand.org/pubs/permissions.html](http://www.rand.org/pubs/permissions.html).

For more information on this publication, visit [www.rand.org/t/RR1928](http://www.rand.org/t/RR1928).

© Copyright 2018 RAND Corporation

Library of Congress Cataloguing-in-Publication Data is available for this publication.

ISBN: 978-0-8330-9794-1

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **R**® is a registered trademark.

[www.rand.org](http://www.rand.org)



ARROYO CENTER