



The Continuous Working Patterns (CWP) Survey is a seven day diary completed by trained, UK regular personnel to record the number of hours spent at work, on call, on breaks and off duty. The aim of the survey is to measure and describe the working patterns of trained, UK regular personnel.

This publication provides results from the CWP Survey 2018/19 along with results from previous years by Service, broad location and rank group.

Key Points and Trends

43.8 hours Average weekly hours worked by trained, UK regular personnel In 2018/19

▲ 49.8 hours Naval Service personnel have the highest average weekly hours worked In 2018/19 An increase of 2.1 hours since 2017/18 (47.8 hours).



▼ 63.7 hours Average weekly hours spent on duty by trained, UK regular personnel In 2018/19 A decrease of 1.5 hours since 2017/18 (65.3 hours).

▲ 7% Of trained, UK regular personnel worked excessive hours In 2018/19 An increase of 1.0 percentage point since 2017/18 (6%).

6.2 hours Average weekly unsociable hours worked by trained, UK regular personnel In 2018/19 Has remained stable since 2017/18 (6.2 hours).

▼ 11% Is the CWP Survey's valid response rate In 2018/19 A decrease of 6.0 percentage points since 2017/18 (17%).



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Background quality report: https://www.gov.uk/government/collections/armed-forces-continuous-working-patterns-survey-index

Would you like to be added to our contact list, so that we can inform you about updates to these statistics and consult you if we are thinking of making changes? You can subscribe to updates by emailing DefStrat-Stat-WDS-Pubs@mod.gov.uk

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## Introduction

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The Chief of Defence People (CDP) sponsors the CWP survey under a remit from the Armed Forces Pay Review Body (AFPRB).

Excel Reference tables, ODS References tables and CWP 2018/19 questionnaires are published as separate documents and can be found on the CWP webpage here: <https://www.gov.uk/government/collections/armed-forces-continuous-working-patterns-survey-index>

As well as providing details of the working patterns of the Services, the reference tables also provide details of the three single Service working patterns broken down by rank group and broad locations each year from the 2013/14 Survey. This time series data is presented in a series of tables and graphs.

Please see the [Background Quality Report](#) for full details of the survey methodology, analysis and data quality considerations.

CWP questionnaires were distributed at a time of change for the MOD, including the announcement of the [Future Accommodation Model \(FAM\)](#), the [New Joiner Offer Project \(NJO\)](#) and the [Flexible Engagement System Project \(FES\)](#).

### About these statistics

The CWP Survey 2018/19 was distributed to 24,470 trained UK Regular personnel between September 2018 to April 2019 using paper questionnaires. Participants were chosen using stratified simple random sampling, designed to ensure sufficient responses from each Service and from each rank group within each Service.

### Response rates:

Overall, 2,724 of the returned surveys were considered valid, which represents a response rate of 11%. This is a decrease compared to the 2017/18 Survey where the response rate was 17%.

*Note: throughout the publication, where statistical significant tests applied in order to detect any statistical differences in working patterns between the current year (2018/19) and the previous year (2017/18), a series of z-tests were conducted at a 95% confidence interval. This is at a fairly significant level and means that there should be less than a 5% (5 in 100) chance that differences observed in CWP results are representative of the Armed Forces as a whole. This reduces the likelihood of wrongly concluding that there has been an actual change based on the survey results which only covers a sample of the Armed Forces.*

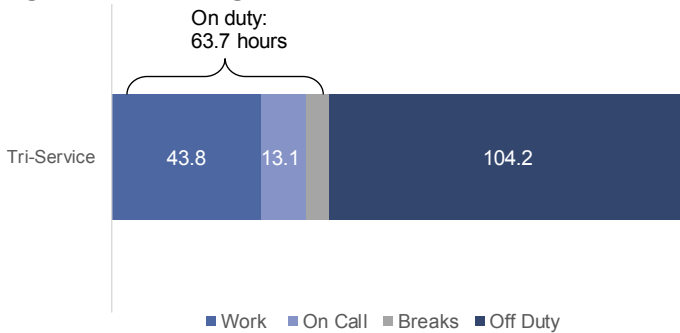
# Section 1: Tri-Service

## 1.1 Working patterns, 2018/19

On average, personnel worked 43.8 hours per week, this is mainly driven by the Naval Service where there has been an increase of 2.1 hours worked per week.

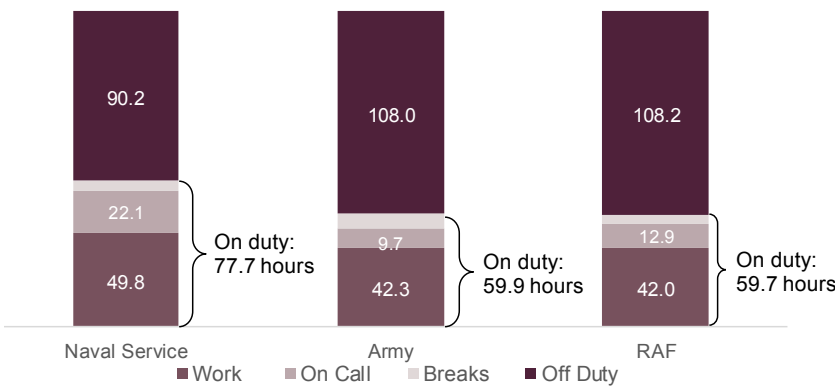
**On Duty**  
On duty comprises time spent at work, on breaks and on call.

**Figure 1: Working patterns of personnel, 2018/19**



During 2018/19 personnel spent, on average, 63.7 hours per week on duty, as shown in Figure 1. This is a decrease of 1.5 hours compared to the hours reported last year (65.2).

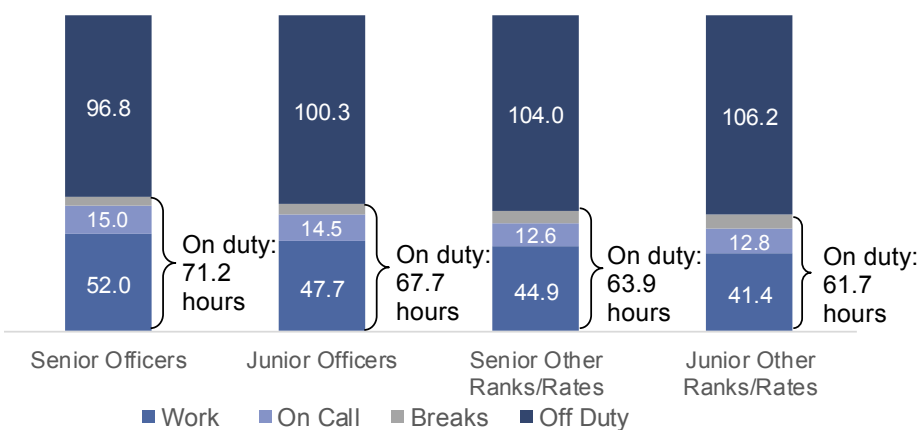
**Figure 2: Working patterns of all personnel by Service, 2018/19**



On average, Naval Service personnel have spent more time on duty (77.7 hours), than Army and RAF personnel, as shown in Figure 2. This is largely due to Naval Service sea-based personnel having additional duties and therefore spending longer hours at work and on call.

Army personnel, on average, have spent the most time on breaks per week (7.9 hours) compared to Naval Service (5.8 hours) and RAF personnel (4.8 hours). Army and RAF personnel on average have spent more time off duty per week than the Naval personnel.

**Figure 3: Working patterns of personnel by rank group, 2018/19**



Senior Officers spent more time on duty (71.2 hours) than any other rank group, as shown in Figure 3, which has increased by 2.4 hours since last year.

Junior Other Ranks/Rates have seen a decrease in the amount of hours spent on duty (61.7 hours) by 3.3 hours compared to the 65.0 hours reported last year.

**Table 1: Working patterns of personnel, 2017-18 - 2018/19**

	At Work		On Call		On Duty		Key:
	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	
<b>Tri-Service</b>	44.1 <sup>r</sup>	43.8	14.8 <sup>r</sup>	13.1 ▼	65.2 <sup>r</sup>	63.7 ▼	▲ Significant increase from 2017/18 ▼ Significant decrease from 2017/18
<b>Naval Service</b>	47.8	49.8 ▲	23.5	22.1	77.2	77.7 ▲	
<b>Army</b>	43.5 <sup>r</sup>	42.3 ▼	12.5 <sup>r</sup>	9.7 ▼	63.0 <sup>r</sup>	59.9 ▼	
<b>RAF</b>	42.2 <sup>r</sup>	42.0	12.4 <sup>r</sup>	12.9	59.4 <sup>r</sup>	59.7	
<b>Senior Officers</b>	51.3 <sup>r</sup>	52.0	13.2 <sup>r</sup>	15.0 ▲	68.8 <sup>r</sup>	71.2 ▲	
<b>Junior Officers</b>	47.5 <sup>r</sup>	47.7	16.1 <sup>r</sup>	14.5	68.7 <sup>r</sup>	67.7	
<b>Senior Other Ranks/ Rates</b>	44.6 <sup>r</sup>	44.9	13.0 <sup>r</sup>	12.6	63.2 <sup>r</sup>	63.9	
<b>Junior Other Ranks/ Rates</b>	42.2 <sup>r</sup>	41.4	15.7 <sup>r</sup>	12.8 ▼	65.0 <sup>r</sup>	61.7 ▼	

**Figure 4: Working patterns of personnel, 2017/18 - 2018/19**

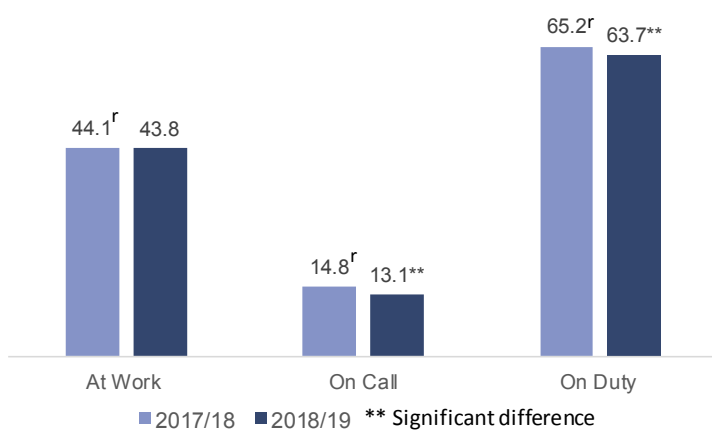


Figure 4 shows that, since 2017/18 on average, there has been a decrease in the number of hours personnel are spending on call (1.7 hours) and on duty (1.5 hours). This change is mainly driven by the Army where there has been a decrease in the number of hours personnel are spending at work (1.2 hours), on call (2.7 hours) and on duty (3.1 hours).

**Figure 5: Hours spent on call by rank group, 2017/18 - 2018/19**

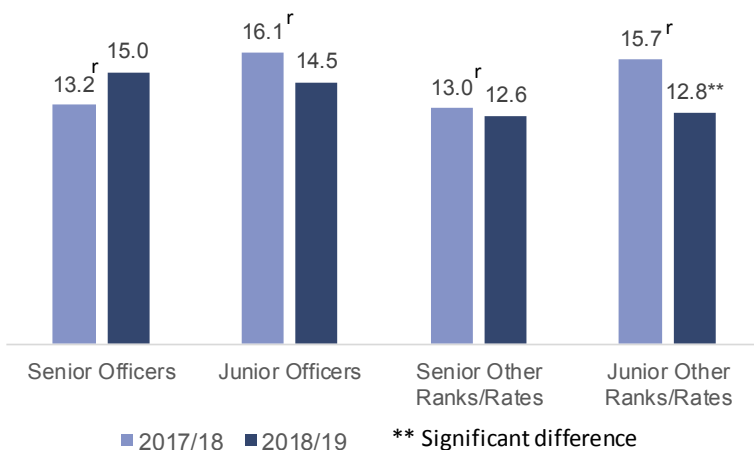


Figure 5 shows that, since 2017/18, the number of hours Junior Other Ranks/Rates spent on call per week has decreased by 2.9 hours.

*r* - This figure has been revised since the 2017/18 CWP publication, for further information please see page 33

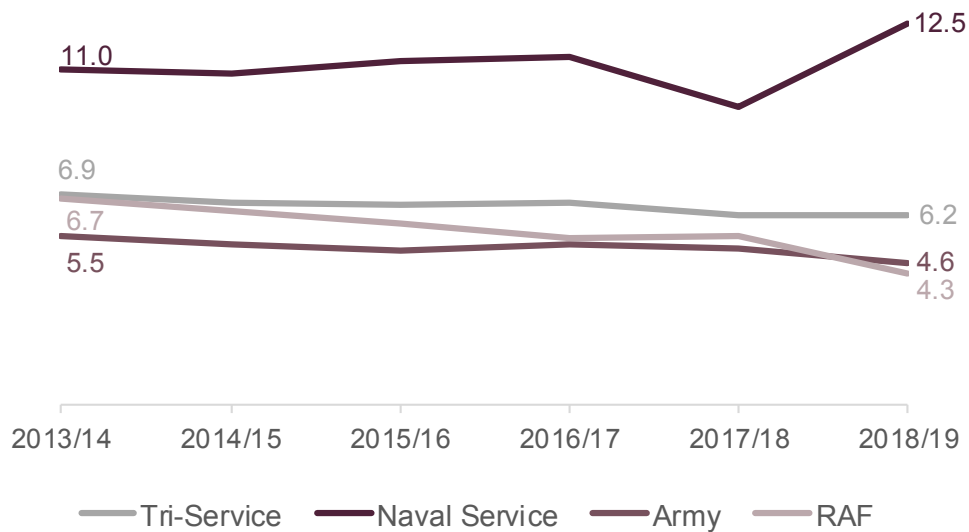
## 1.2 Unsociable hours worked by personnel, 2013/14 - 2018/19

Unsociable hours are described as:

- Any hours worked between 18:00 and 06:00, Monday to Friday
- Any hours worked on Saturday and Sunday

In 2018/19 personnel worked, on average, 6.2 unsociable hours per week, this is the lowest recorded since 2013/14.

**Figure 6: Unsociable hours worked by Service, 2013/14 - 2018/19**



The number of unsociable hours per week is the highest in the Naval Service, where in 2018/19 personnel have worked 12.5 unsociable hours per week. This is an increase of 2.8 hours within the past year. This can mainly be explained by sea-based personnel who have additional duties and are therefore spending extra hours at work during unsociable hours.

### 1.3 Excessive hours worked and spent on duty, 2018/19

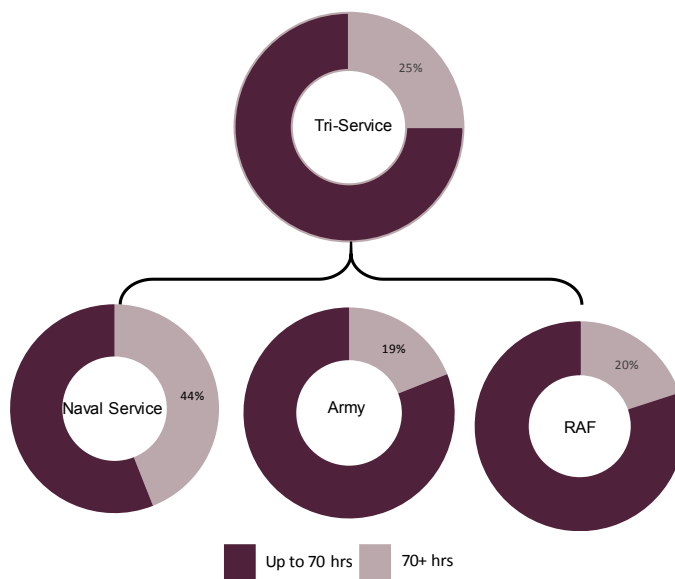
Section 3.2 is based on the 1,131 UK regular personnel for whom a full week’s data was available in 2018/19, a decrease of 791 in the last year.

Overall, 25.0 per cent of personnel spent more than 70 hours per week on duty. There is a larger proportion of Naval Service personnel (44.0 per cent) that spent more than 70 hours per week on duty when compared to Army (19.0 per cent) and RAF (20.0 per cent) personnel; this is fairly consistent over time. This is due to Naval Service personnel being away at sea and having additional duties.

#### Excessive hours

The proportion of personnel who worked more than 70 hours during the week surveyed.

**Figure 7: Proportion of personnel spending more than 70 hours on duty for the week surveyed by Service, 2018/19**

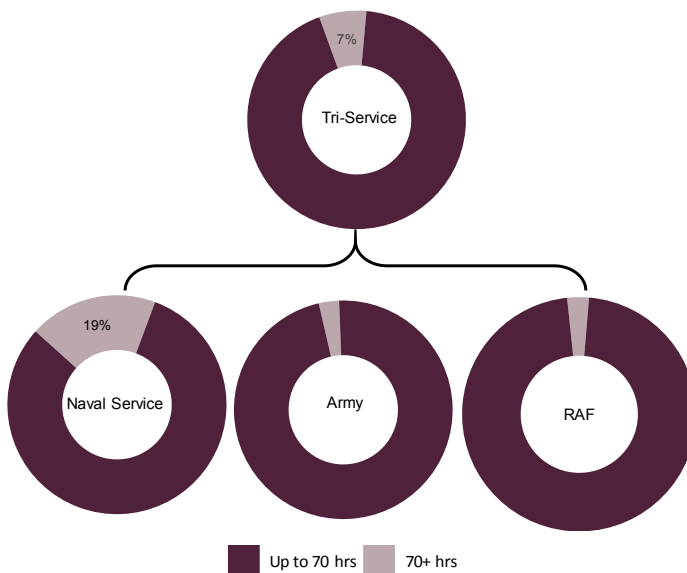


#### Data Quality Note

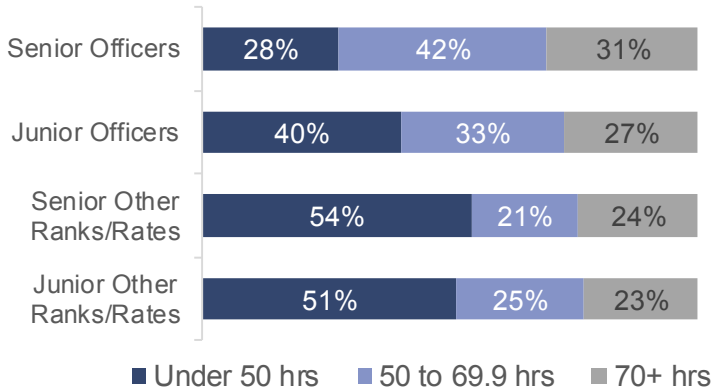
The results in Figures 7 and 8 are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are intended as an indication of the average working week.

Overall, 7.0 per cent of personnel spent more than 70 hours per week at work, as shown in Figure 8, this has remained fairly stable since 2013/14.

**Figure 8: Proportion of personnel spending more than 70 hours at work for the week surveyed by Service, 2018/19**



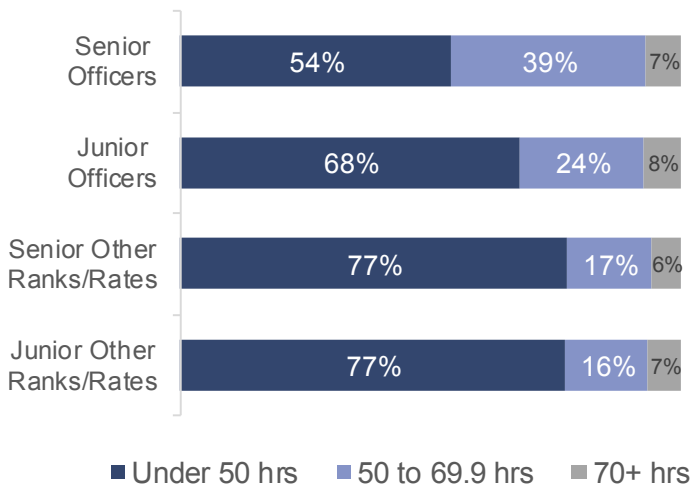
**Figure 9: Distribution of hours on duty of personnel by rank group, 2018/19**



Senior Officers report the highest proportion of personnel that have been on duty for 70 or more hours per week. Whilst Other Ranks/Rates report the lowest proportion of personnel that have been on duty for 70 or more hours per week as shown in Figure 9.

Since 2017/18, the proportion of Junior Officers (24.0 per cent) and Junior Other Ranks/Rates (23.0 per cent) spending more than 70 hours per week on duty has decreased by 6.0 and 4.0 percentage points respectively.

**Figure 10: Distribution of hours at work of personnel by rank group, 2018/19**

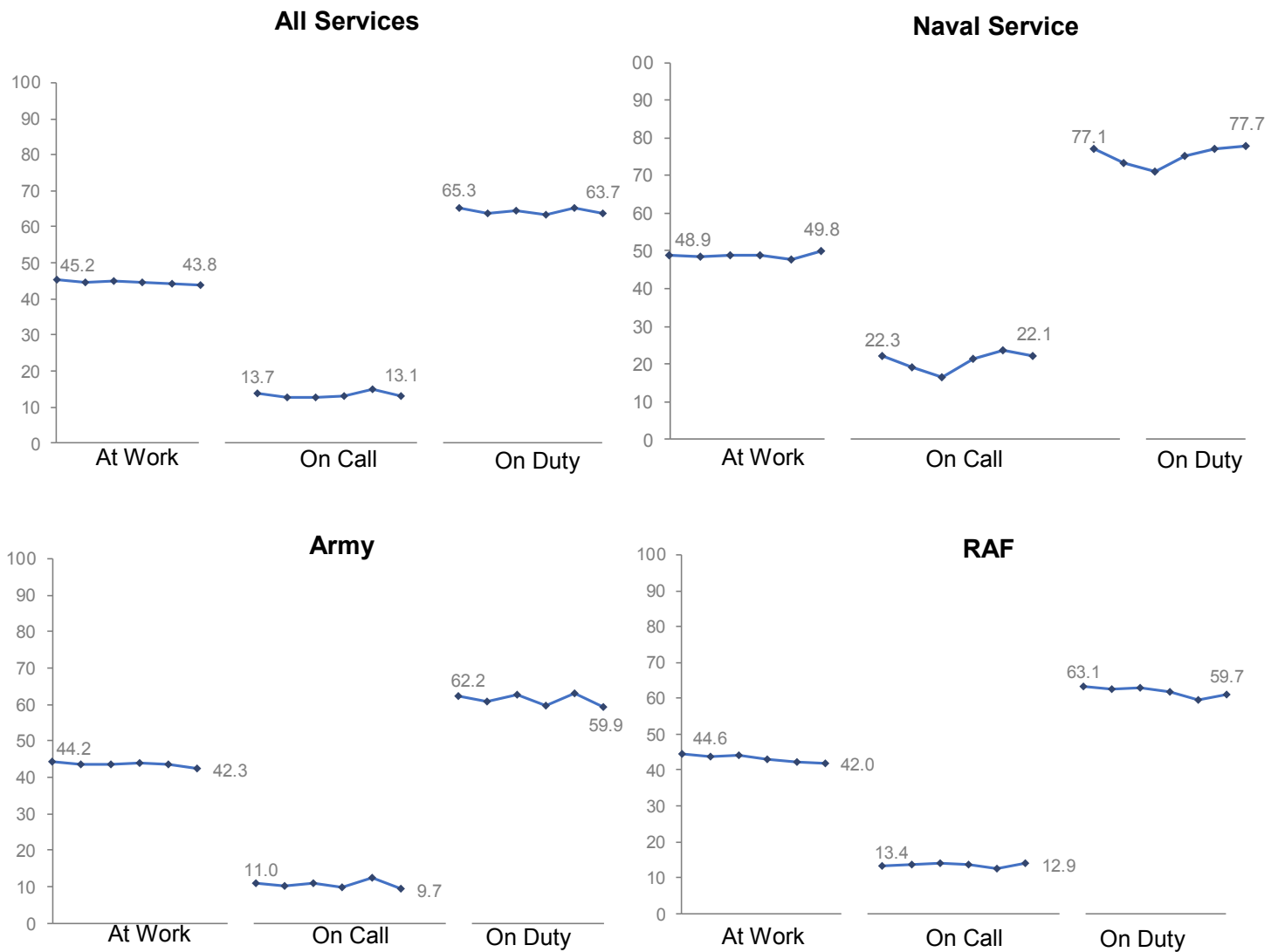


Junior Officers report the highest proportion of personnel that have worked more than 70 hours per week (8.0 per cent), whilst Senior Other Ranks/Rates report the lowest (6.0 per cent), as shown in Figure 10. The proportion of Junior Officers spending more than 70 hours per week at work has remained stable within the last year.

## 1.4 Time series of working patterns, 2013/14 - 2018/19

Over the last five years, the number of hours personnel spent at work and on duty has decreased whereas the amount of hours spent on call has remained fairly consistent following a significant decrease in the past year. Navy Service personnel report the largest amount of hours spent on duty which continues to follow an upward trend after a drop in 2015/16. Army personnel have seen a decrease in the amount of hours they spend on call over the last five years.

**Figure 11: Comparison of average weekly hours spent at work, on call and on duty by Service, 2013/14 - 2018/19**



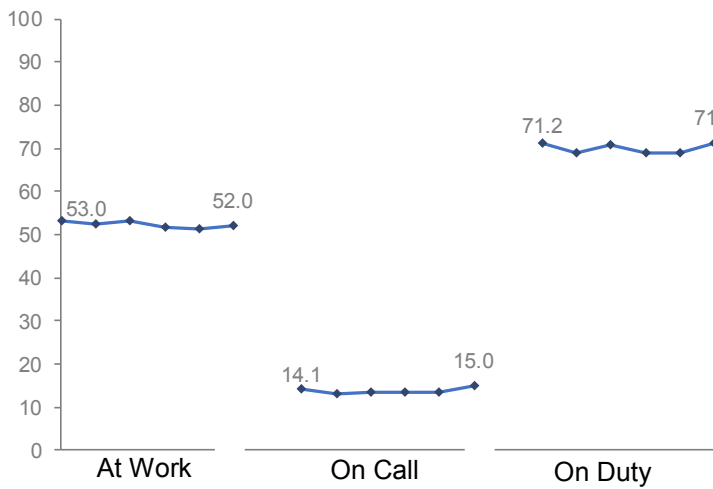


On average, over the last five years, Senior Officers and Junior Officers have spent more time at work than Senior Other Ranks/Rates and Junior Other Ranks/Rates. In 2018/19, all rank groups have the lowest recorded hours spent at work per week.

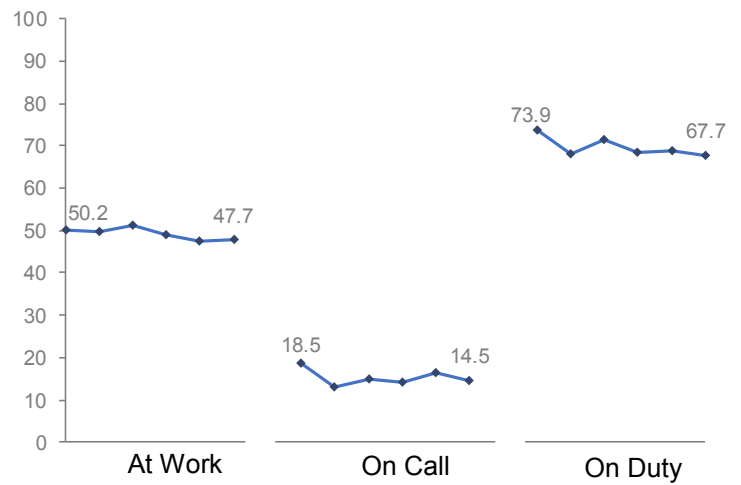
Junior Officers and Other Ranks have gradually decreased the number of hours on duty spent per week in the same time period. However, Senior Officers have increased the number of hours spent per week on duty by 2.5 hours per week.

**Figure 12: Comparison of average weekly hours spent at work, on call and on duty by rank group, 2013/14 - 2018/19**

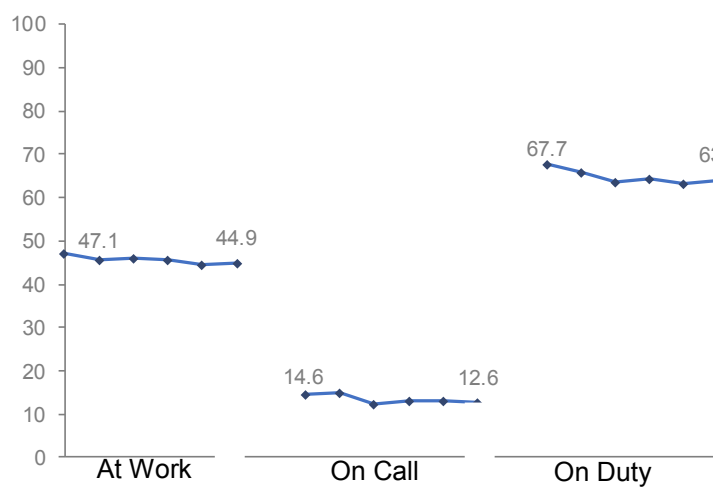
**Senior Officers**



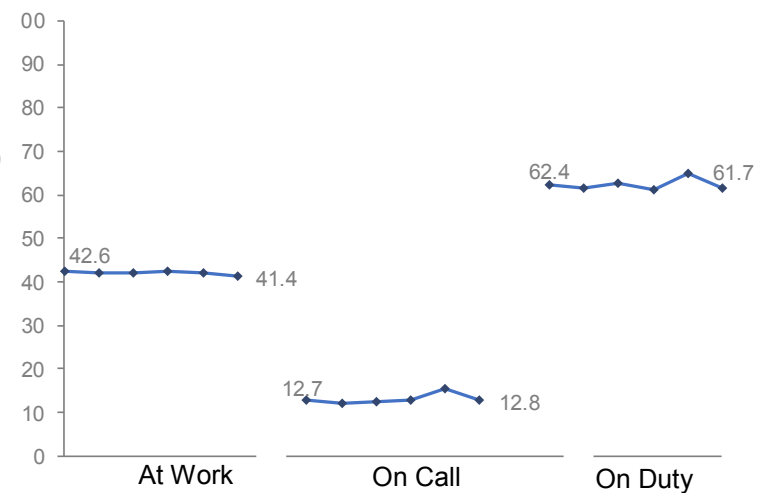
**Junior Officers**



**Senior Other Ranks/Rates**



**Junior Other Ranks/Rates**



## Section 2: The Naval Service

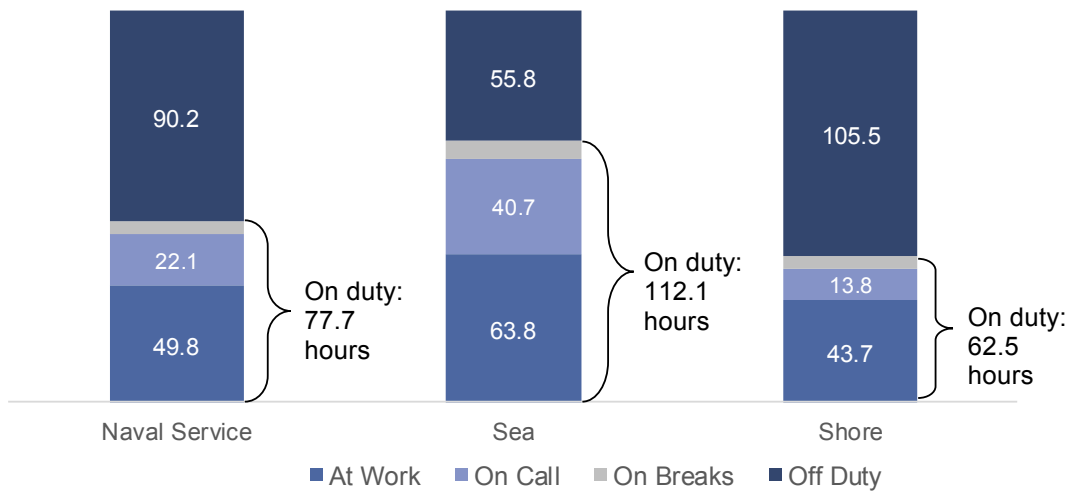
The Naval Service is comprised of the Royal Navy (including Queen Alexandra’s Royal Naval Nursing Service) and the Royal Marines.

### 2.1 Naval Service working patterns, 2018/19

On average, Naval Service personnel worked 49.8 hours per week, a increase of 2.1 hours since 2017/18.

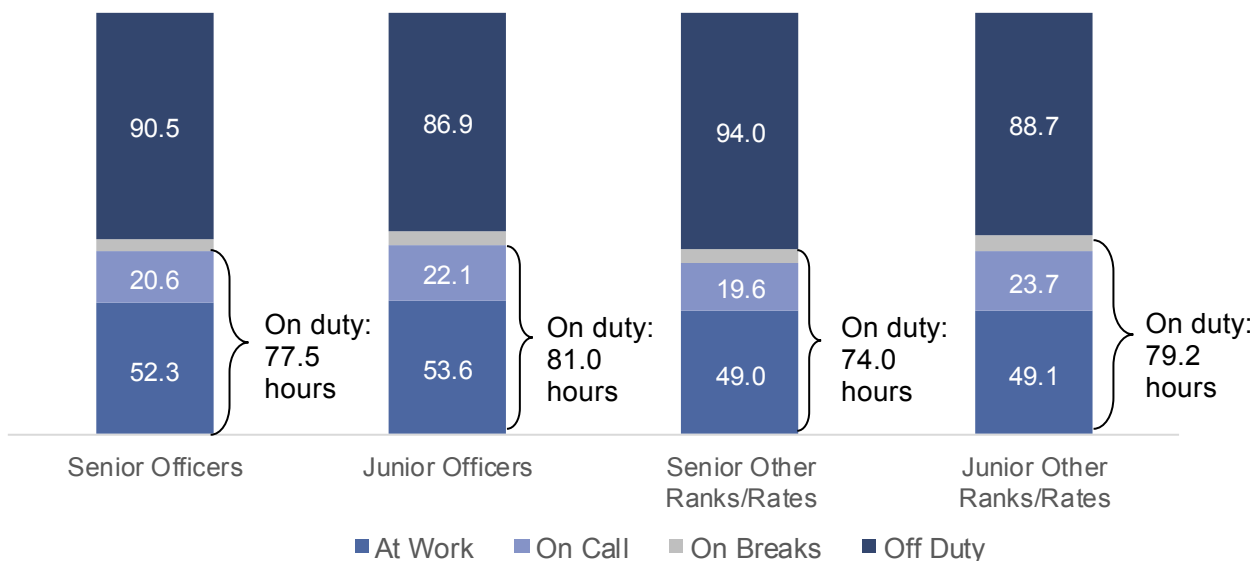
**On Duty**  
On duty comprises time spent at work, on breaks and on call.

**Figure 13: Naval Service personnel working patterns by location, 2018/19**



In 2018/19, on average, sea-based personnel continue to spend more time on duty (112.1 hours) than shore-based personnel (62.5 hours), as shown in Figure 13.

**Figure 14: Naval Service personnel working patterns by rank group, 2018/19**



In 2018/19, Junior Officers spent more time on duty (81.0 hours) than all other rank groups. This is a change from 2017/18 where Junior Other Ranks/Rates (79.8) spent more time on duty.

**Table 2: Working patterns of Naval Service personnel, 2017/18 - 2018/19**

	At Work		On Call		On Duty		Key:
	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	
<b>Naval Service</b>	47.8	49.8 ▲	23.5	22.1	74.2 <sup>r</sup>	77.7 ▲	▲ Significant increase from 2017/18 ▼ Significant decrease from 2017/18
<b>Sea</b>	59.4	63.8 ▲	42.3	40.7	109.9	112.1	
<b>Shore</b>	42.6	43.7 ▲	15.0	13.8	62.6	62.5	
<b>Senior Officers</b>	51.2	52.3	18.5	20.6	73.7	77.5 ▲	
<b>Junior Officers</b>	50.1	53.6 ▲	19.4	22.1 ▲	74.3	81.0 ▲	
<b>Senior Other Ranks/Rates</b>	47.0	49.0 ▲	22.4	19.6 ▼	74.8	74.0	
<b>Junior Other Ranks/Rates</b>	47.0	49.1 ▲	25.7	23.7	79.8	79.2	

**Data Quality Note**

Levels of precision are lower (wider confidence intervals, see 'note' on page 2 for more information) for the at work, on call and on duty averages, for sea-based personnel.

**Figure 15: Working patterns of Naval Service personnel, 2017/18 - 2018/19**

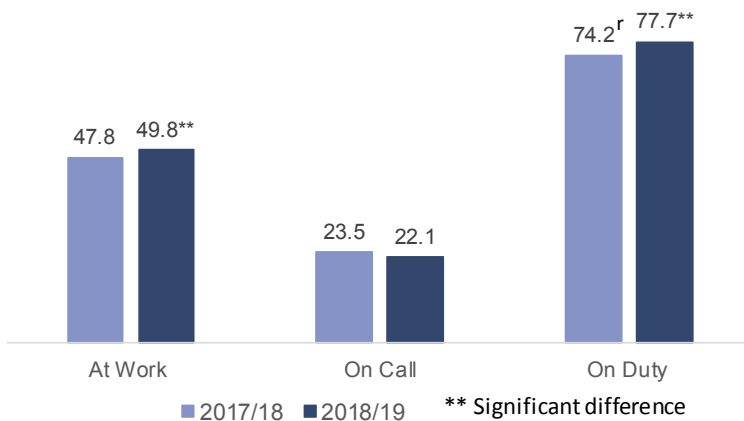


Figure 15 illustrates changes in the number of hours Naval Service personnel spend at work, on call and on duty, per week since 2017/18. There has been an increase of:

- ⇒ 2.1 hours spent at work
- ⇒ 3.5 hours spent on duty

**Figure 16: Working patterns of Junior Officers in the Naval Service, 2017/18 - 2018/19**

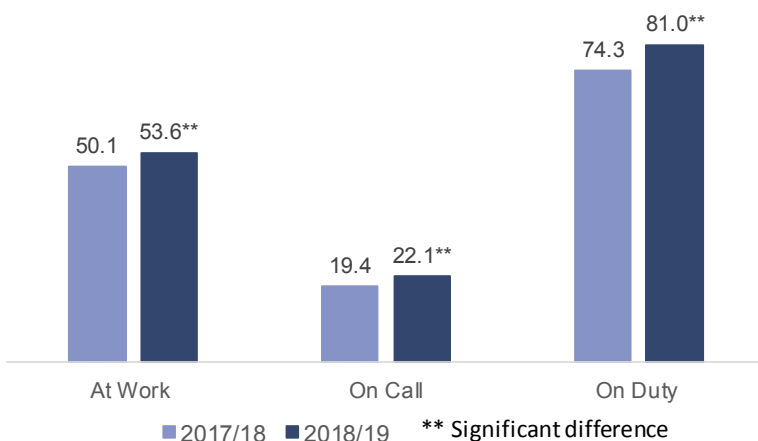


Figure 16 illustrates changes in the number of hours Junior Officers spent at work, on call and on duty, per week since 2017/18. There has been an increase of:

- ⇒ 3.5 hours spent at work
- ⇒ 2.8 hours spent on call
- ⇒ 6.7 hours spent on duty

*r* - This figure has been revised since the 2017/18 CWP publication, for further information please see page 33

## 2.2 Naval Service excessive hours worked and spent on duty, 2018/19

Section 2.2 is based on the 488 Naval Service personnel for whom a full week's data was available, a decrease of 192 in the last year.

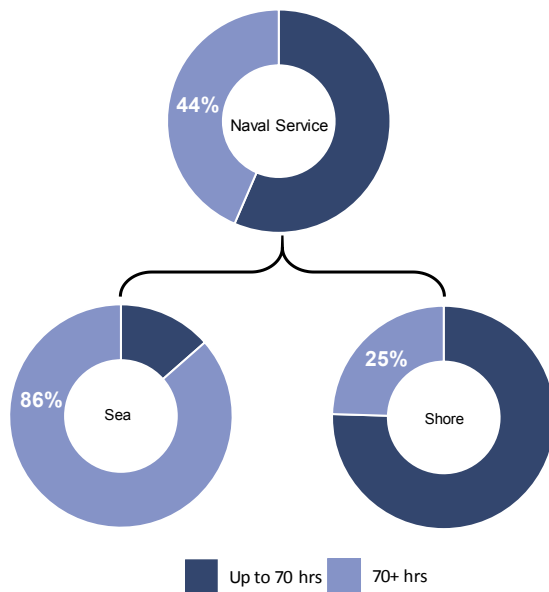
Overall, 44.0 per cent of Naval personnel spent more than 70 hours per week on duty.

A larger proportion of Naval Service personnel located at sea (86.0 per cent) spent more than 70 hours per week on duty than Naval Service personnel on shore, as shown in Figure 17.

### Excessive hours

The proportion of personnel who worked 70 hours or more during the week surveyed.

**Figure 17: Proportion of Naval Service personnel spending more than 70 hours on duty for the week surveyed by location, 2018/19**

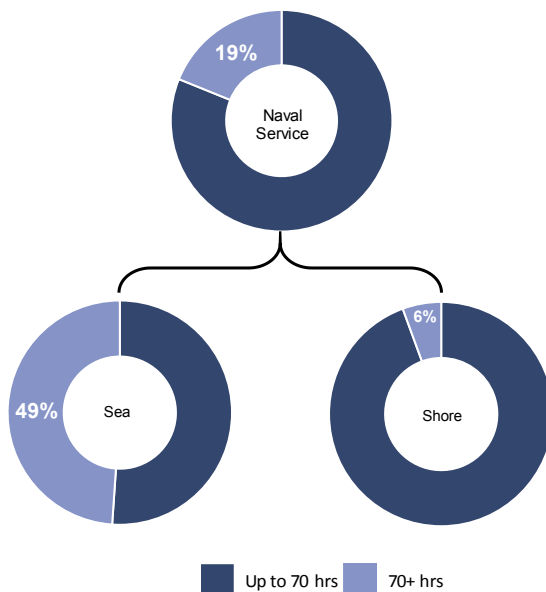


### Data quality note

The results in Figures 17 and 18 are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are intended as an indication of the average working week of Naval Service personnel.

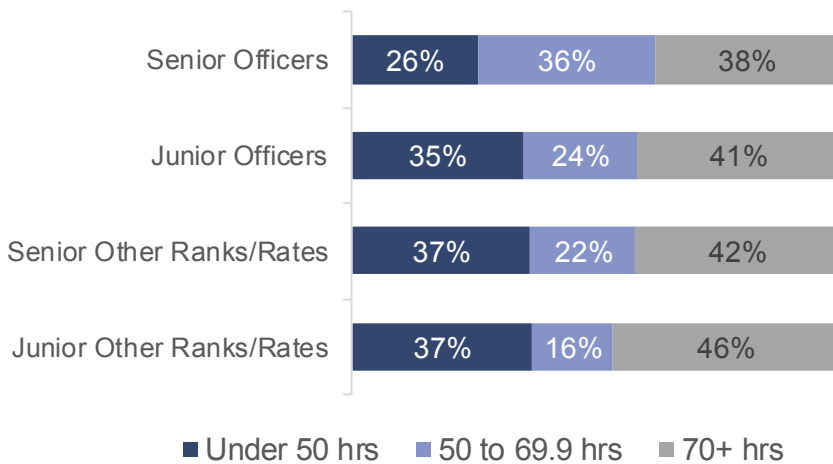
**Figure 18: Proportion of Naval Service personnel spending more than 70 hours at work for the week surveyed by location, 2018/19**

Overall, on average, 19.0 per cent of Naval Service personnel have worked more than 70 hours per week.



A larger proportion of personnel located at sea (49.0 per cent) spent more than 70 hours per week at work compared to shore-based personnel, as shown in Figure 18, this is consistent over time.

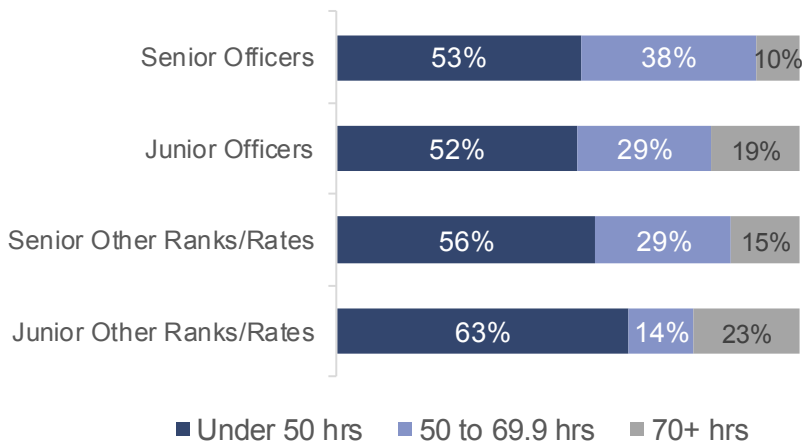
**Figure 19: Distribution of hours on duty of Naval Service personnel, 2018/19**



Junior Other Ranks/Rates have the highest proportion of personnel on duty for more than 70 hours per week (46.0 per cent) whilst Senior Officers have the lowest (38.0 per cent) proportion, as shown in Figure 19.

The proportion of Junior Other Ranks/Rates spending more than 70 hours per week on duty has remained consistent with last year. In comparison, the proportion of Senior Officers spending more than 70 hours per week on duty has increased to 38.0 per cent from 30.0 per cent.

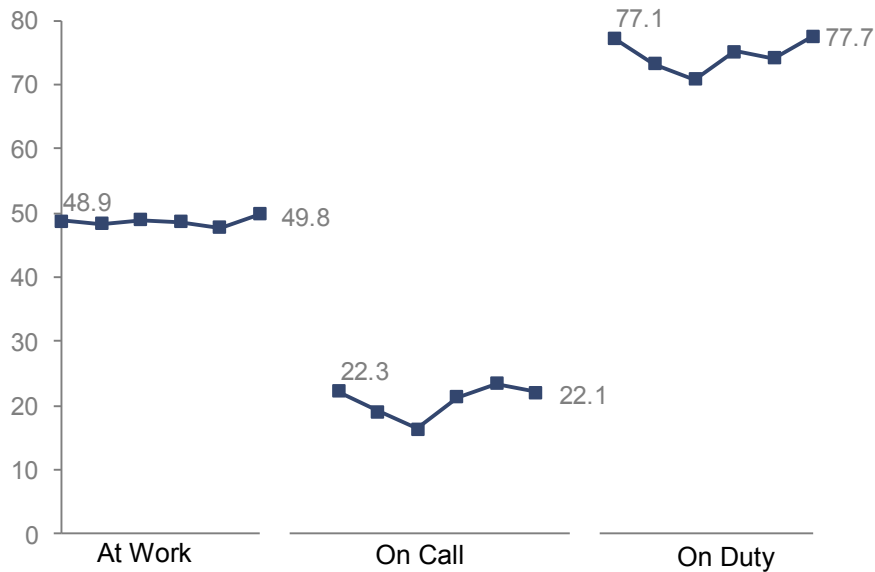
**Figure 20: Distribution of hours at work of Naval Service personnel, 2018/19**



Junior Other Ranks/Rates have the highest proportion of personnel working more than 70 hours per week (23.0 per cent) whilst Senior Officers report the lowest (10.0 per cent), as shown in Figure 20. Since 2017/18 both rank groups have increased by 7.0 and 2.0 percentage point respectively.

### 2.3 Time series of Naval Service working patterns, 2013/14 - 2018/19

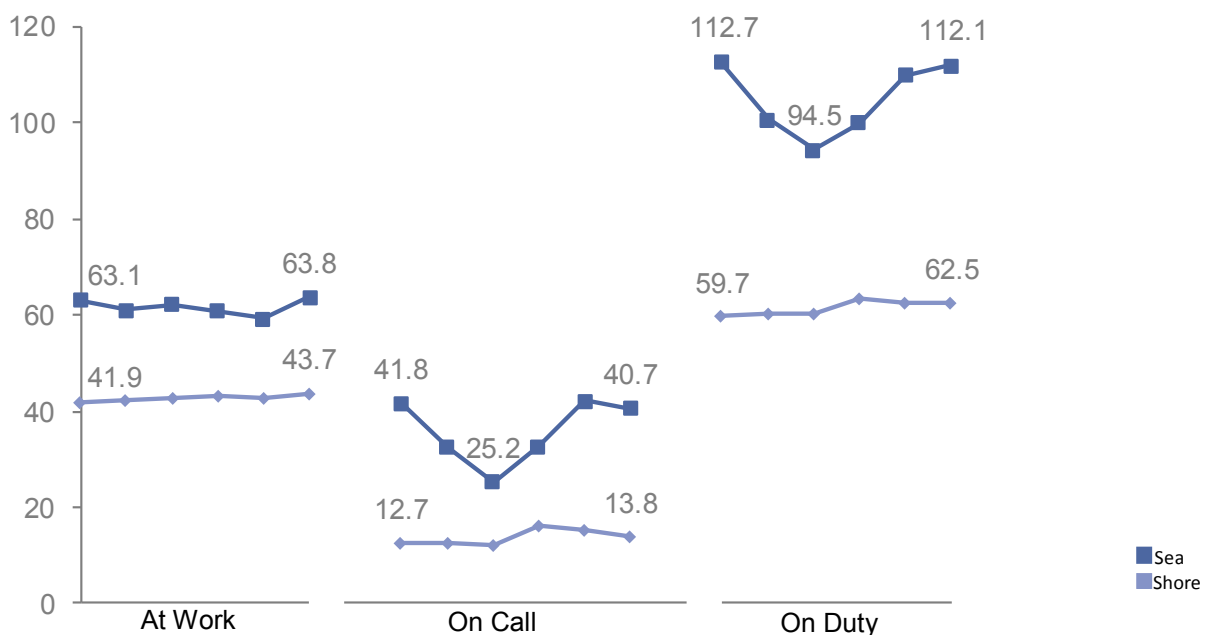
**Figure 21: Average weekly hours Naval Service personnel spent at work, on call and on duty 2013/14 - 2018/19**



Since 2013/14, the number of hours Naval Service personnel have spent:

- ⇒ at work has increased by 1.0 hours per week
- ⇒ on call fell in 2015/16 and is returning to similar hours reported in 2013/14 per week
- ⇒ on duty dropped in 2015/16 to 70.9 hours per week but has since risen to similar hours reported in 2013/14

**Figure 22: Average weekly hours Naval Service personnel spent at work, on call and on duty by location, 2013/14 - 2018/19**



From 2013/14 to 2015/16 there was a large decrease in the number of hours sea-based personnel spent on duty by 18.2 hours per week. Since 2015/16 the number of hours spent on duty has increased to 112.1 hours per week returning to the levels reported in 2013/14. However, for shore-based personnel there has been a gradual increase in hours spent at work, on call and on duty per week.

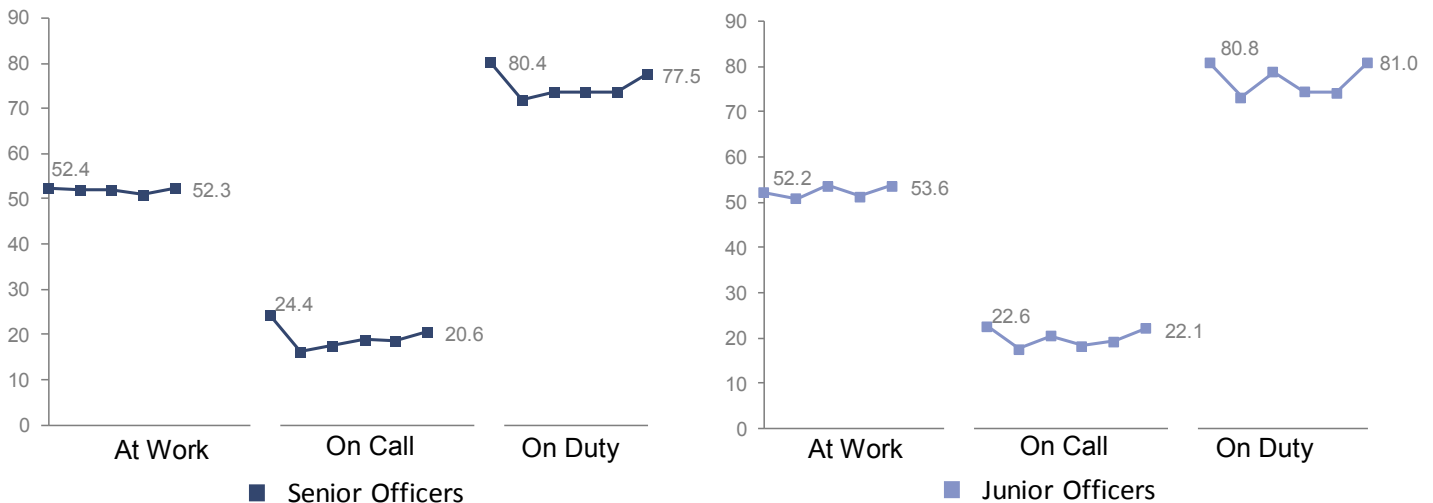
Over the last five years, hours spent at work per week has increased for sea and shore-based personnel by 0.7 and 1.8 hours respectively.

Between 2015/16 and 2017/18, the number of on call hours sea-based personnel recorded had doubled to 42.3 hours per week, but has since decreased.

The number of hours spent on call has fluctuated over the past five years for all rank groups. The variation in time spent on call may be linked to location, suggesting that average hours on call by rank group could be influenced by the proportion of those personnel at sea and shore based locations.

Junior Other Ranks/Rates spent more hours on call (23.7 hours) per week than any other rank group, an increase on the 22.3 reported in 2013/14.

**Figure 23: Average weekly hours Naval Service Officers spent at work, on call and on duty by Officers, 2013/14 - 2018/19**



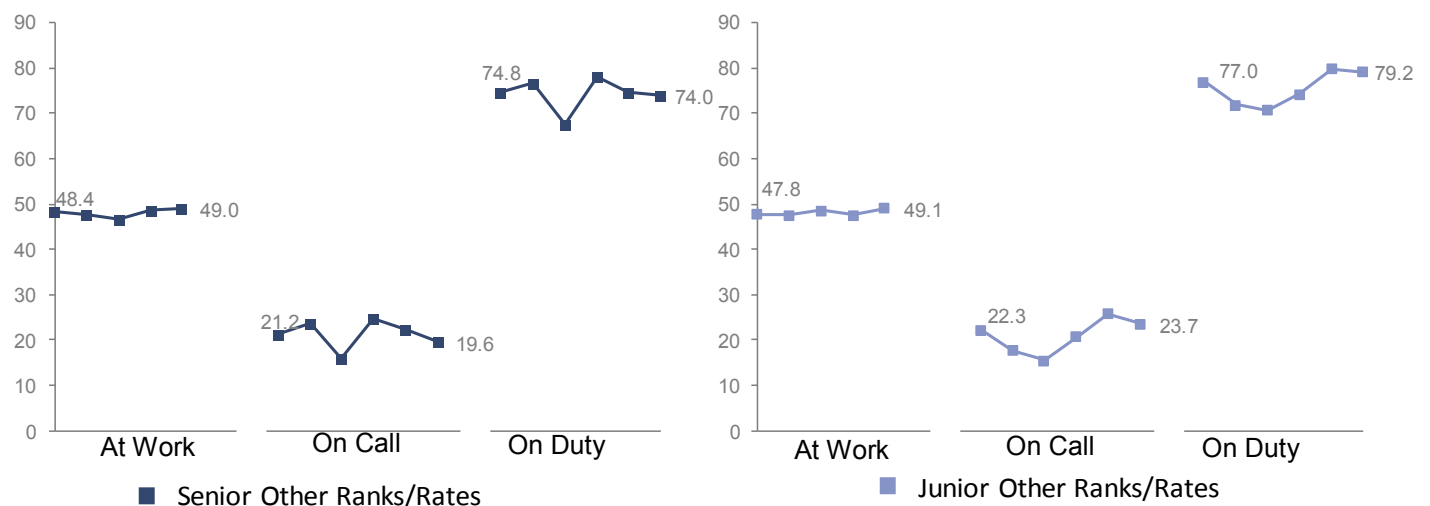
Since 2013/14 Senior Officers have decreased the number of hours spent:

- ⇒ at work by 0.1 hours
- ⇒ on call by 3.8 hours
- ⇒ on duty by 2.9 hours

Since 2013/14 Senior Officers have increased the number of hours spent at work by 0.6 hours but have decreased the number of hours spent:

- ⇒ on call by 1.6 hours
- ⇒ on duty by 0.8 hours

**Figure 24: Average weekly hours Naval Service Other Ranks/Rates spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2018/19**



Since 2013/14, Senior Other Ranks/Rates and Junior Other Ranks/Rates have seen the following changes in the number of hours spent:

- ⇒ at work by an increase of 1.5 and 1.3 hours
- ⇒ on call by a decrease of 0.5 hours and an increase of 1.4 hours
- ⇒ on duty by an increase of 0.2 and 2.2 hours

## Section 3: The Army

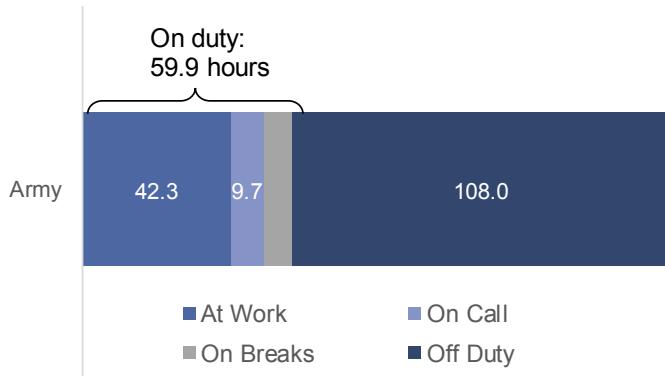
### 3.1 Army working patterns, 2018/19

On average, Army personnel worked 42.3 hours per week, a decrease of 1.2 hours since 2017/18.

#### On Duty

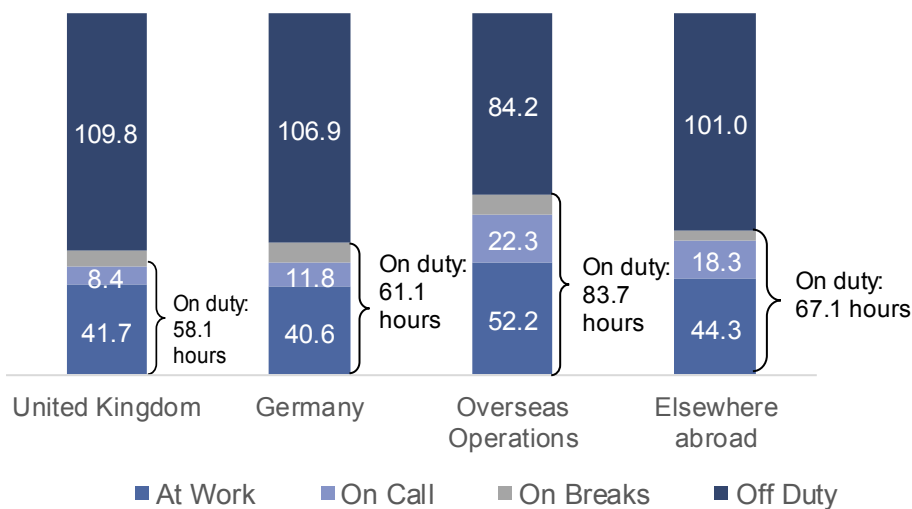
On duty comprises time spent at work, on breaks and on call.

Figure 25: Army personnel working patterns, 2018/19



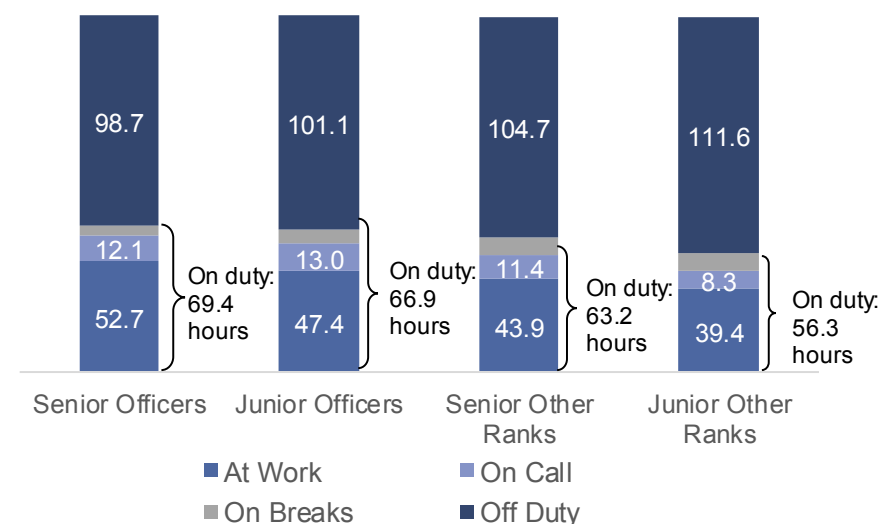
On average, Army personnel spent 59.9 hours on duty, as shown in Figure 25; a decrease compared to the 63.0 hours reported last year. This change is largely driven by a decrease in the average hours spent on call.

Figure 26: Army personnel working patterns by location, 2018/19



On average, personnel who are deployed on overseas operations continue to spend more time on duty (83.7 hours) than those based at other Army locations. This is a reflection of the nature of the work during overseas operations.

Figure 27: Army personnel working patterns by rank group, 2018/19



Senior Officers spend more time on duty (69.4 hours) than any other Army rank group, an increase of 3.9 hours compared to the 65.5 hours reported last year.



**Table 3: Working patterns of Army personnel, 2017/18 - 2018/19**

	At Work		On Call		On Duty	
	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19
<b>Army</b>	43.5 <sup>r</sup>	42.3 ▼	12.5 <sup>r</sup>	9.7 ▼	63.0 <sup>r</sup>	59.9 ▼
<b>United Kingdom</b>	42.8	41.7 ▼	11.0	8.4 ▼	60.7	58.1 ▼
<b>Germany</b>	44.1	40.6 ▼	11.2	11.8	61.5	61.1
<b>Overseas Operations</b>	54.6 <sup>r</sup>	52.2	36.7 <sup>r</sup>	22.3 ▼	101.3 <sup>r</sup>	83.7 ▼
<b>Elsewhere abroad</b>	46.3 <sup>r</sup>	44.3 ▼	19.7 <sup>r</sup>	18.3	73.5 <sup>r</sup>	67.1 ▼
<b>Senior Officers</b>	51.8 <sup>r</sup>	52.7	8.8 <sup>r</sup>	12.1 ▲	65.5 <sup>r</sup>	69.4 ▲
<b>Junior Officers</b>	47.4 <sup>r</sup>	47.4	18.1 <sup>r</sup>	13.0 ▼	71.5 <sup>r</sup>	66.9 ▼
<b>Senior Ranks</b>	44.3 <sup>r</sup>	43.9	9.1 <sup>r</sup>	11.4	59.6 <sup>r</sup>	63.2 ▲
<b>Junior Ranks</b>	41.5 <sup>r</sup>	39.4 ▼	13.6 <sup>r</sup>	8.3 ▼	63.0 <sup>r</sup>	56.3 ▼

**Key:**

- ▲ Significant increase from 2017/18
- ▼ Significant decrease from 2017/18

**Data Quality Note**

Levels of precision are lower (wider confidence intervals, see 'note' on page 2 for more information) for the at work, on call and on duty averages, for personnel deployed on overseas operations.

**Figure 28: Working patterns of Army personnel, 2017/18 - 2018/19**

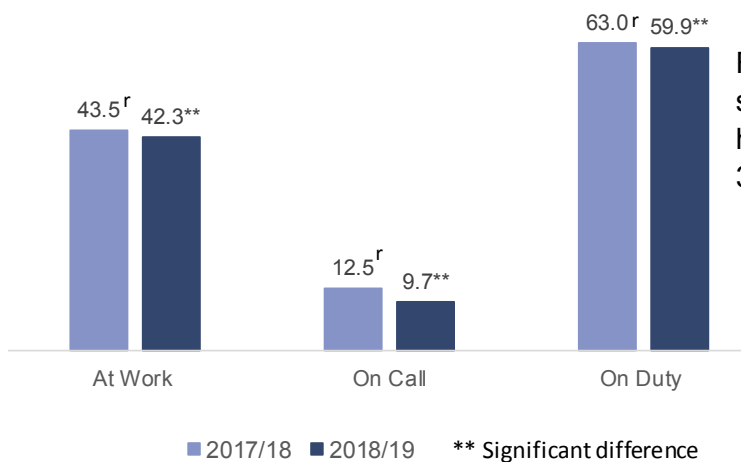
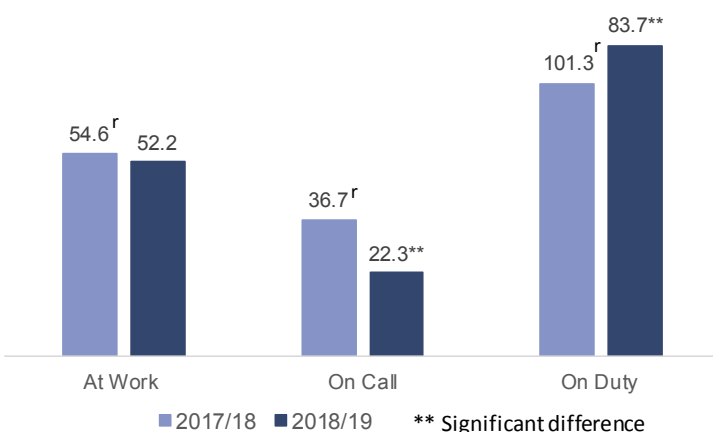


Figure 28 shows that, the number of hours spent at work, on call and on duty per week has decreased since 2017/18 by 1.2, 2.7 and 3.1 hours respectively.

**Figure 29: Working patterns of Army personnel deployed on overseas operations, 2017/18 - 2018/19**



For Army personnel deployed on overseas operations, the number of hours spent on call and on duty has decreased by 14.4 and 17.6 hours respectively since last year, as shown in Figure 29. This can be partly explained by the UK Armed Forces ceasing all combat operations in 2014/15, see Methodology on page 28 for more information. Army personnel on duty based in UK continue to increase the number of hours spent on duty.

r - This figure has been revised since the 2017/18 CWP publication, for further information please see page 33

### 3.2 Army excessive hours worked and spent on duty, 2018/19

Section 3.2 is based on the 357 Army personnel for whom a full week's data was available.

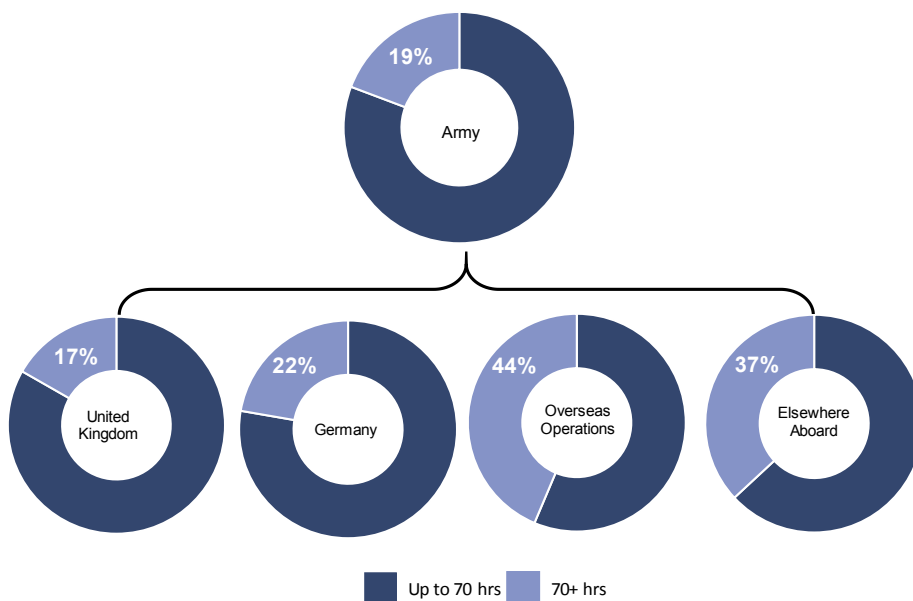
Overall, 19.0 per cent of personnel spent more than 70 hours per week on duty.

A larger proportion of Army personnel deployed on overseas operations (44.0 per cent) spent more than 70 hours per week on duty than Army personnel at any other location, as shown in Figure 30.

#### Excessive hours

Personnel who worked 70 hours or more during the week surveyed.

**Figure 30: Proportion of Army personnel spending more than 70 hours on duty for the week surveyed by location, 2018/19**

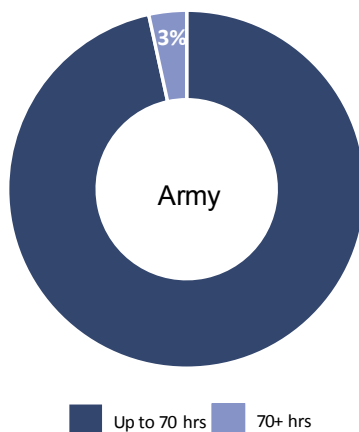


#### Data Quality Note

The results in Figure 30 and 31 are based on a subset of respondents than other Figures in the Army chapter. As such, levels of precision are likely to be lower (wider confidence intervals) and are an indication of the working week of Army personnel.

On average, 3.0 per cent of Army personnel worked more than 70 hours per week, this is a 2.0 percentage point decrease on last year, shown in Figure 31.

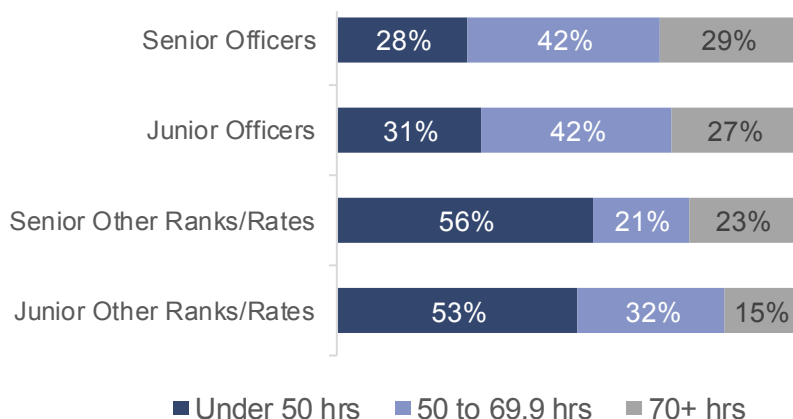
**Figure 31: Proportion of Army personnel spending more than 70 hours at work for the week surveyed, 2018/19**



Under one in five (17.0 per cent) Army personnel deployed on overseas operations spent 70 or more hours per week at work. This is considerably more than the proportion reported for those working in UK, Germany and other locations aboard (all around 3.0 per cent).

The proportion of Army personnel that have worked 70 or more hours per week has decreased in the United Kingdom and Germany by 2.0 and 3.0 percentage points respectively in the last year. However there has been a 3.0 percentage point increase in those working Elsewhere Aboard.

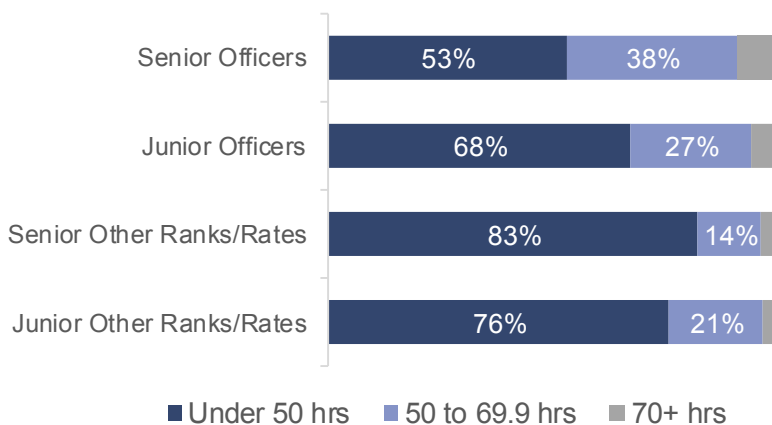
**Figure 32: Distribution of hours on duty for Army personnel by rank group, 2018/19**



Senior Officers report the highest proportion of personnel on duty for more than 70 hours per week (29.0 per cent) whilst Junior Other Ranks/Rates report the lowest (15.0 per cent), as shown in Figure 32.

The proportion of Junior Officers spending more than 70 hours per week on duty has decreased this year to 27.0 per cent from 31.0 per cent reported in 2017/18. However, the proportion of Junior Other Ranks/Rates spending more than 70 hours per week on duty has decreased this year to 15.0 per cent from 28.0 per cent reported in 2017/18.

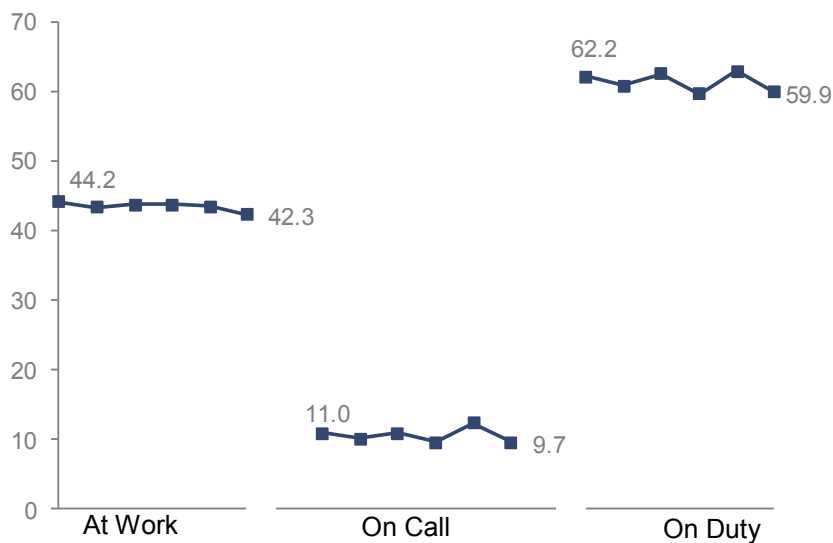
**Figure 33: Distribution of hours at work for Army personnel by rank group, 2018/19**



Although there is little difference across rank groups in the proportion of personnel that work 70 or more hours per week, Other Ranks have a greater proportion that work under 50 hours per week.

### 3.3 Time series of Army working patterns, 2013/14 - 2018/19

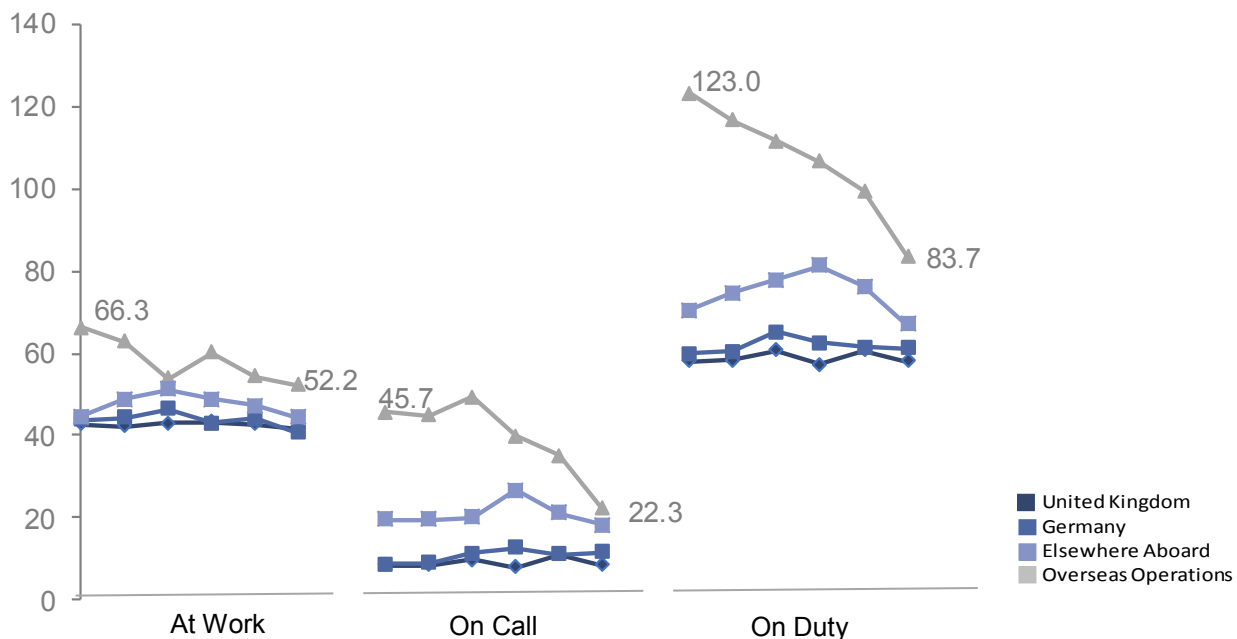
**Figure 34: Army average weekly hours spent at work, on call and on duty, 2013/14 - 2018/19**



Since 2013/14, there has been a decrease in the number of hours Army personnel have spent:

- ⇒ At work by 1.9 hours
- ⇒ On call by 1.3 hours
- ⇒ On duty by 2.3 hours

**Figure 35: Army average weekly hours spent at work, on call and on duty by location, 2013/14 - 2018/19**



Whilst working patterns remain fairly consistent over the last five years for personnel located in the UK and Germany, Figure 35 shows that there have been large decreases for personnel deployed on overseas operations, by:

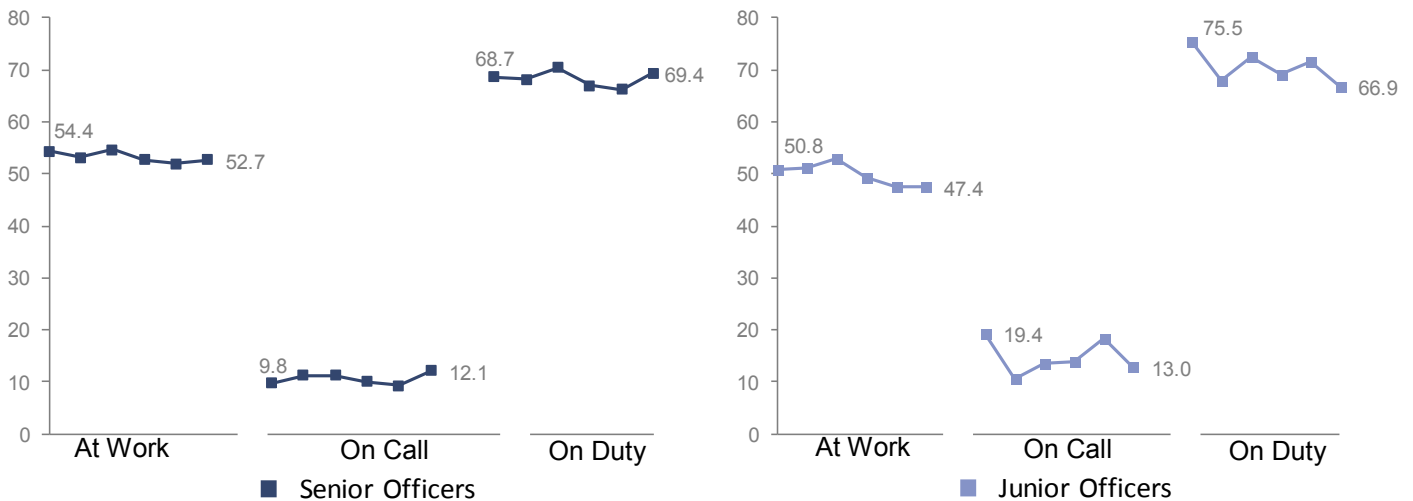
- ⇒ 14.1 hours at work
- ⇒ 23.4 hours on call
- ⇒ 39.3 hours on duty

Army personnel located Elsewhere Aboard have continued to see a decrease in the number of hours spent on duty by 9.1 hours per week in the last year. This is the lowest record reported since 2013/14 .

On average, Officers have spent more time at work and on duty, than Other Ranks/Rates since 2013/14. The number of hours spent on call has fluctuated over the past five years for all rank groups. This variation may be influenced by the proportion of personnel at different locations.

On average, Junior Officers have spent more hours on call (13.0 hours) per week than any other rank group, although this has decreased by 5.2 hours in the last year and 6.4 hours in the last five years. The number of hours worked in 2018/19 were the lowest observed over the last five years for all rank groups apart from Senior Officers.

**Figure 36: Army average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2018/19**



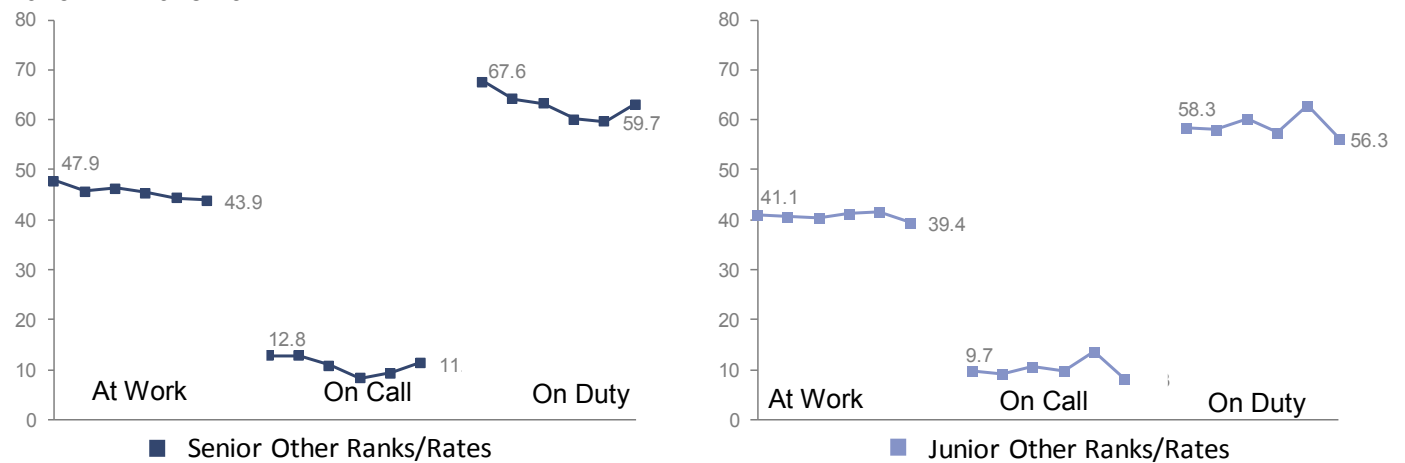
Since 2013/14, Senior Officers changes in the amount of hours spent:

- ⇒ At work by 1.7 hour per week decrease
- ⇒ On call by 2.4 hour per week increase
- ⇒ On duty by 0.7 hour per week increase

Since 2013/14, there has been a decrease in the number of hours Junior Officers have spent:

- ⇒ At work by 3.4 hours per week
- ⇒ On call by 6.4 hours per week
- ⇒ On duty by 8.6 hours per week

**Figure 37: Army average weekly hours spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2018/19**



Since 2013/14, there has been a respective decrease in the amount of hours Senior and Junior Other Ranks/Rates has spent:

- ⇒ At work by 3.9 and 1.7 hours per week
- ⇒ On call by 1.4 and 1.3 hours per week
- ⇒ On duty by 4.4 and 2.0 hours per week

## Section 4: The RAF

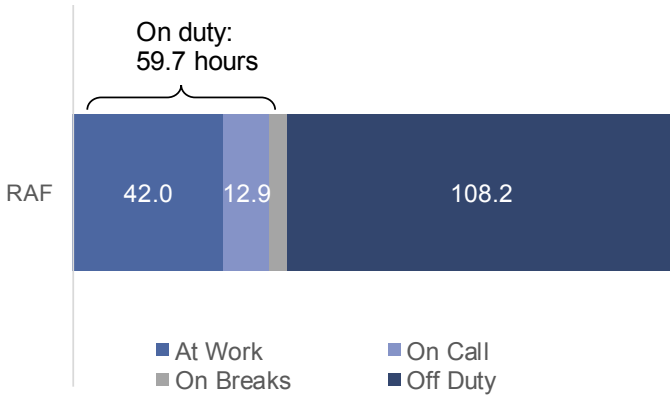
### 4.1 RAF working patterns, 2018/19

On average, RAF personnel worked 42.0 hours per week, which has remain relatively stable since last year.

#### On Duty

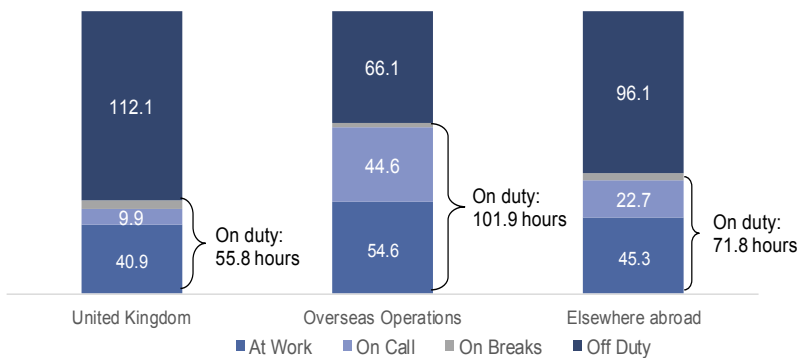
On duty comprises time spent at work, on breaks and on call.

Figure 38: RAF working patterns, 2018/19



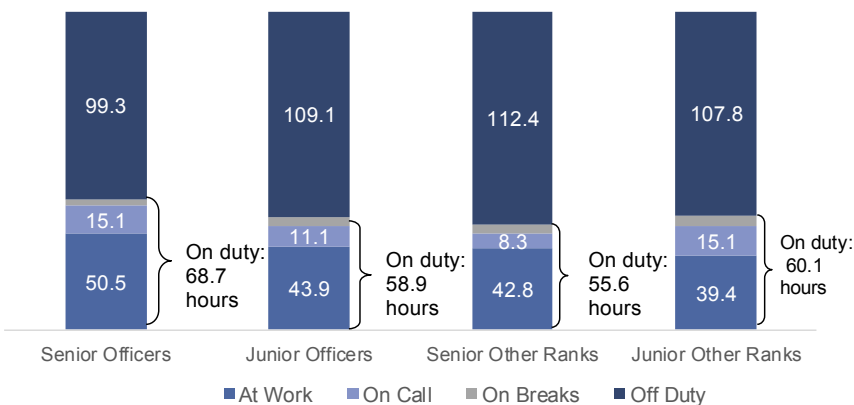
On average, RAF personnel have spent 59.7 hours on duty, this has remained relatively stable since last year.

Figure 39: RAF working patterns by location, 2018/19



On average, personnel who are deployed on overseas operations continue to spend more time on duty (101.9 hours) than those based at other RAF locations. This is a reflection of the nature of work during overseas operations.

Figure 40: RAF working patterns by rank group, 2018/19



Senior Officers have spent more time on duty (68.7 hours) than any other RAF rank group. This is driven by Senior Officer spending more hours at work than any other rank group.

**Table 4: Working patterns of RAF personnel by rank group, 2017/18 - 2018/19**

	At Work		On Call		On Duty		Key:
	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	
<b>RAF</b>	42.2 <sup>r</sup>	42.0	12.4 <sup>r</sup>	12.9	59.4 <sup>r</sup>	59.7	▲ Significant increase from 2017/18 ▼ Significant decrease from 2017/18
<b>United Kingdom</b>	41.3	40.9	10.0	9.9	56.1	55.8	
<b>Overseas Operations</b>	53.1 <sup>r</sup>	54.6	45.5 <sup>r</sup>	44.6	103.6 <sup>r</sup>	101.9	
<b>Elsewhere abroad</b>	44.9 <sup>r</sup>	45.3	16.6	22.7 ▲	65.6	71.8 ▲	
<b>Senior Officers</b>	50.6 <sup>r</sup>	50.5	16.4 <sup>r</sup>	15.1	70.4 <sup>r</sup>	68.7	
<b>Junior Officers</b>	45.5 <sup>r</sup>	43.9 ▼	10.2 <sup>r</sup>	11.1	59.7 <sup>r</sup>	58.9	
<b>Senior Ranks</b>	43.0 <sup>r</sup>	42.8	12.5 <sup>r</sup>	8.3 ▼	60.0 <sup>r</sup>	55.6 ▼	
<b>Junior Ranks</b>	39.4 <sup>r</sup>	39.4	12.0 <sup>r</sup>	15.1 ▲	56.7 <sup>r</sup>	60.1 ▲	

**Data Quality Note**  
Levels of precision are lower (wider confidence intervals, see 'note' on page 2 for more information) for the at work, on call and on duty averages, for personnel deployed on overseas operations.

**Figure 41: Working patterns of RAF personnel, 2017/18 - 2018/19**

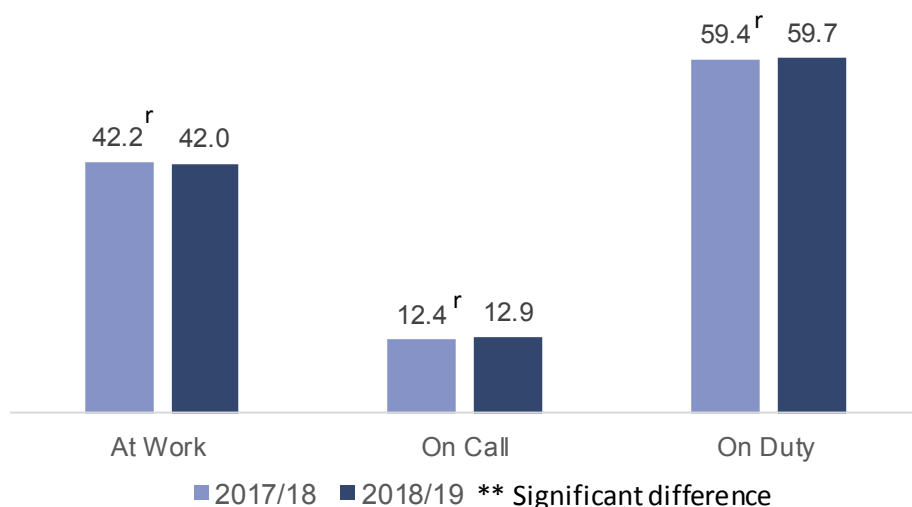
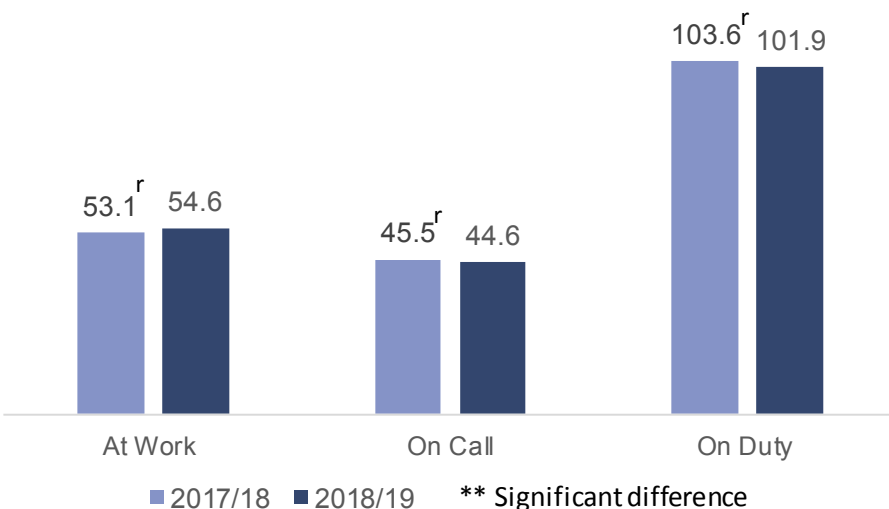


Figure 41 shows that, on average, the hours spent at work (42.0 hours), on call (12.9 hours) and on duty (59.7 hours) has remained relatively stable since 2017/18.

**Figure 42: Working patterns of RAF personnel who are deployed on overseas operations, 2017/18 - 2018/19**



For RAF personnel who are deployed on overseas operations, the number of hours spent on duty has decreased slightly. However, there has been a small decrease in the amount of hours spent on call since last year shown in Figure 42. This can be partly explained by the UK Armed Forces ceasing all combat operations in 2014/15, see methodology on page 28 for more information.

*r* - This figure has been revised since the 2017/18 CWP publication, for further information please see page 33

## 4.2 RAF excessive hours worked and spent on duty, 2018/19

Section 4.2 is based on the 286 RAF personnel for whom a full week's data was available.

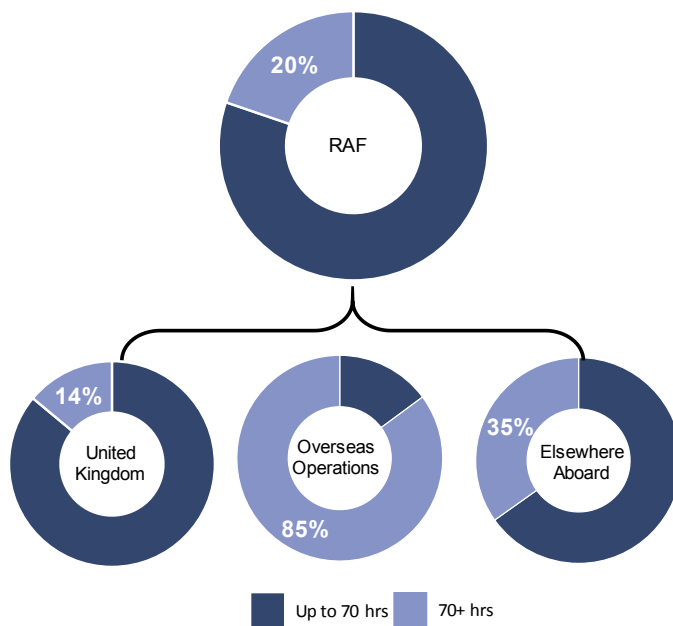
Overall, 20.0 per cent of RAF personnel spent more than 70 hours per week on duty.

A larger proportion of RAF personnel deployed on overseas operations (85.0 per cent) spent more than 70 hours per week on duty than RAF personnel at any other location. This is an increase of 24.0 percentage points since last year.

### Excessive hours

Personnel who worked 70 hours or more during the week surveyed.

**Figure 43: Proportion of RAF personnel spending 70 hours or more on duty for the week surveyed by location in 2018/19**

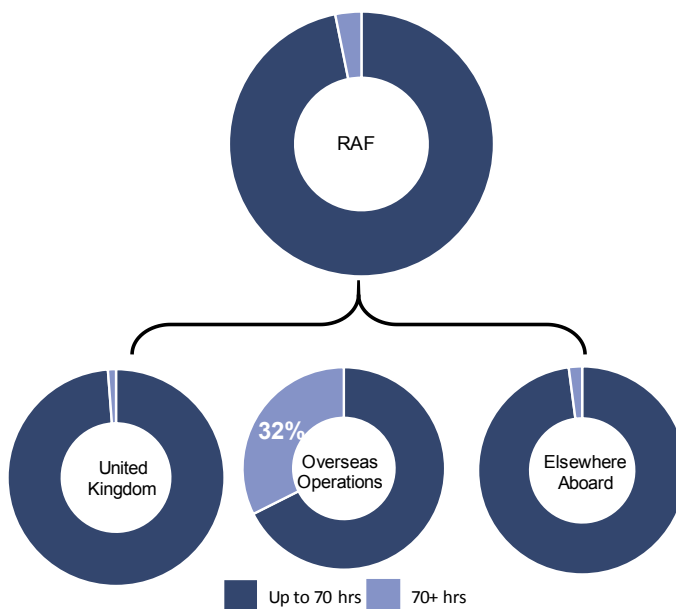


### Data Quality Note

The results in Figure 43 and 44 are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are an indication of the working week of RAF personnel.

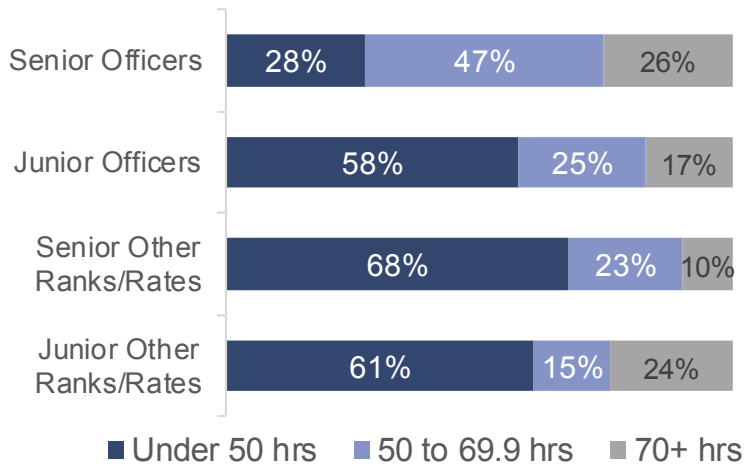
**Figure 44: Proportion of RAF personnel spending more than 70 hours at work for the week surveyed by location, 2018/19**

Overall, 3.0 per cent of RAF personnel worked more than 70 hours per week. A larger proportion of personnel deployed on overseas operations have worked more than 70 hours compared to other RAF locations. This is consistent over time.



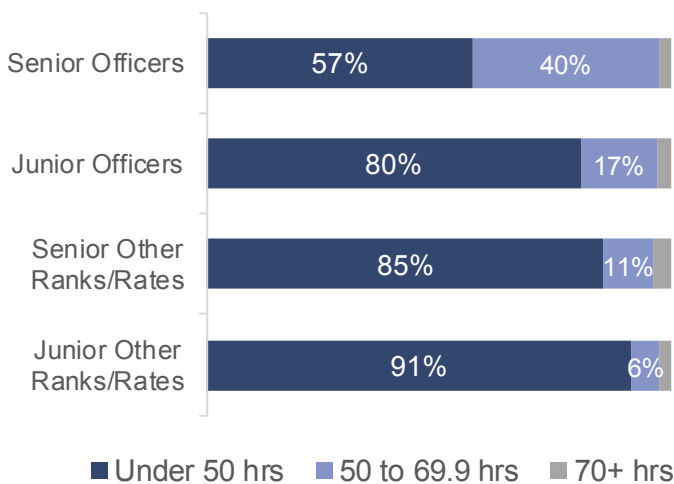


**Figure 45: Distribution of hours on duty of RAF personnel by rank group, 2018/19**



Senior Officers have the highest proportion of personnel who were on duty for more than 70 hours per week (26.0 per cent), as shown in Figure 45. This is consistent with last year.

**Figure 46: Distribution of hours at work of RAF personnel by rank group, 2018/19**

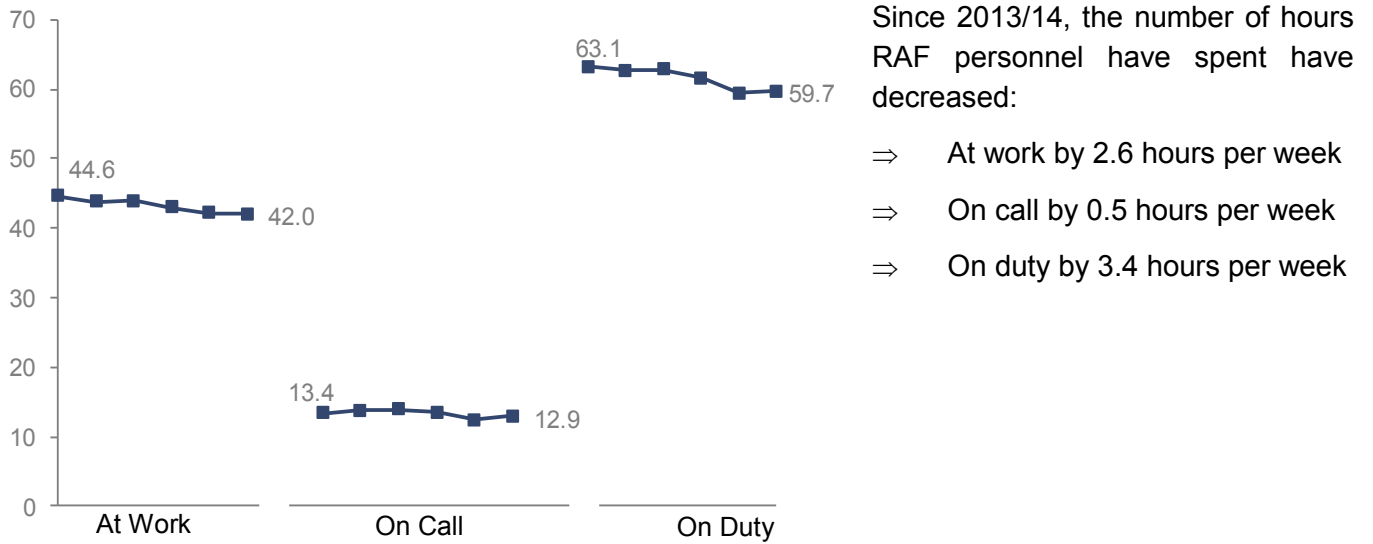


Although there is little difference across rank groups in the proportion of personnel that work 70 or more hours per week, the Other Ranks have a greater proportion that work under 50 hours per week and Senior Officers have the greatest proportion of personnel that work between 50 to 69.9 hours per week.

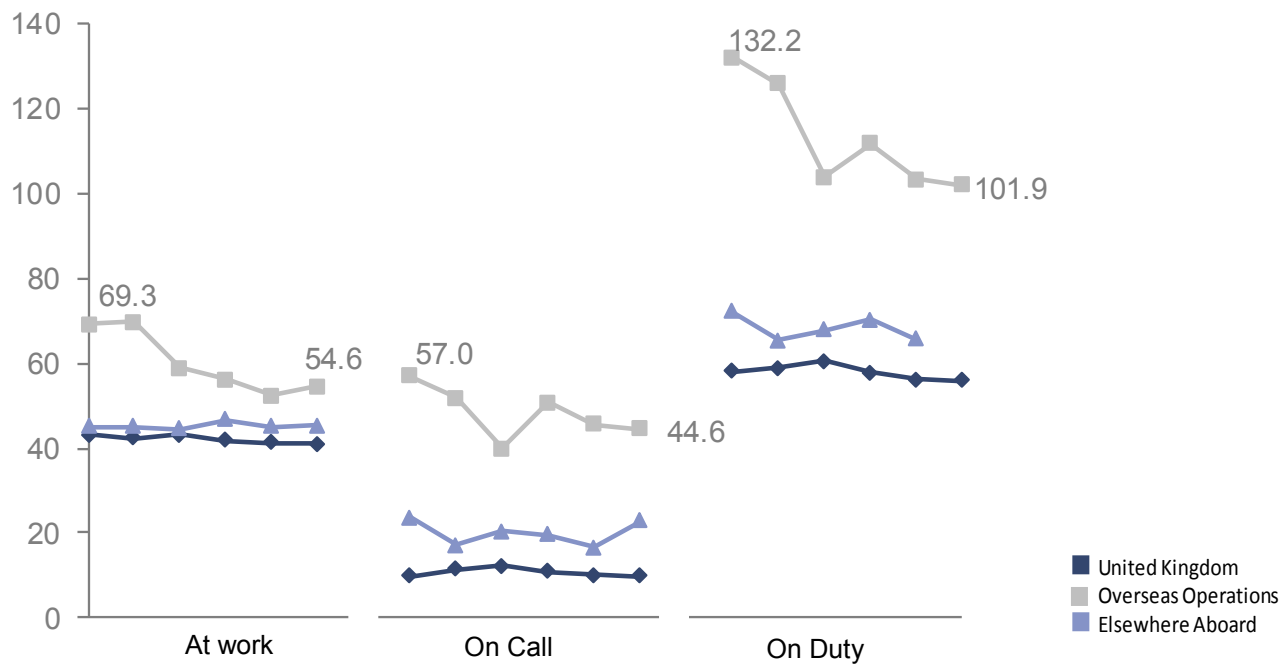
### 4.3 Time series of RAF working patterns, 2013/14 - 2018/19

Since 2013/14, there have been decreases in the number of hours worked, spent on call and on duty per week by RAF personnel.

**Figure 47: RAF average weekly hours spent at work, on call and on duty, 2013/14 - 2018/19**



**Figure 48: RAF average weekly hours spent at work, on call and on duty by location, 2013/14 - 2018/19**

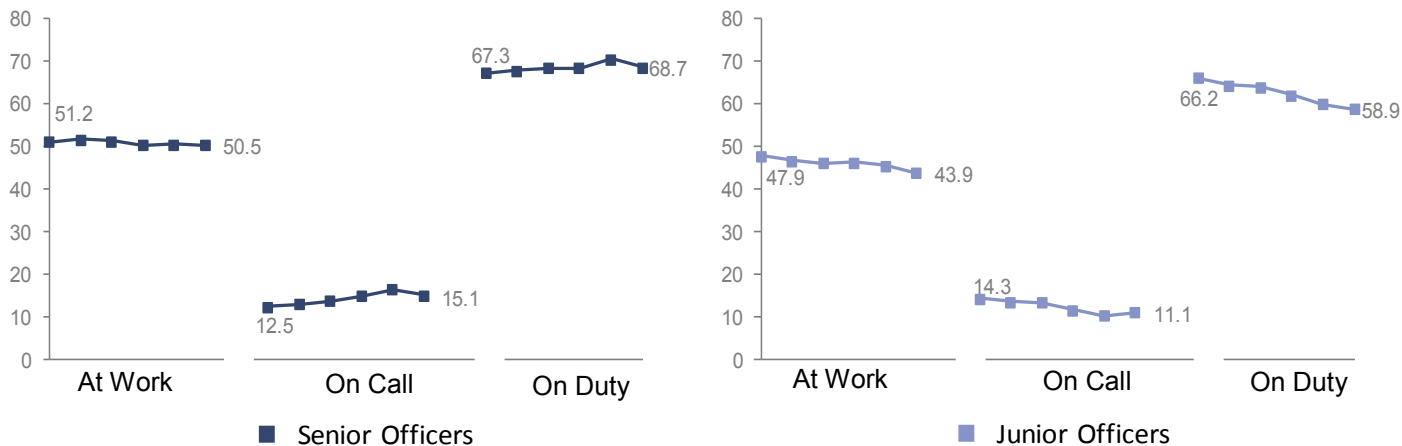


Hours spent on overseas operations have largely decreased over the last five years, by:

- ⇒ 14.7 hours per week at work
- ⇒ 12.5 hours per week on call
- ⇒ 30.3 hours per week on duty

Since 2013/14 Officers have spent more time at work and on duty on average, than Other Ranks/Rates. The average weekly hours spent on call has fluctuated over the past five years for all rank groups. The variation in time spent on call could be influenced by the proportion of personnel at different locations, suggesting that average hours on call differs by rank group.

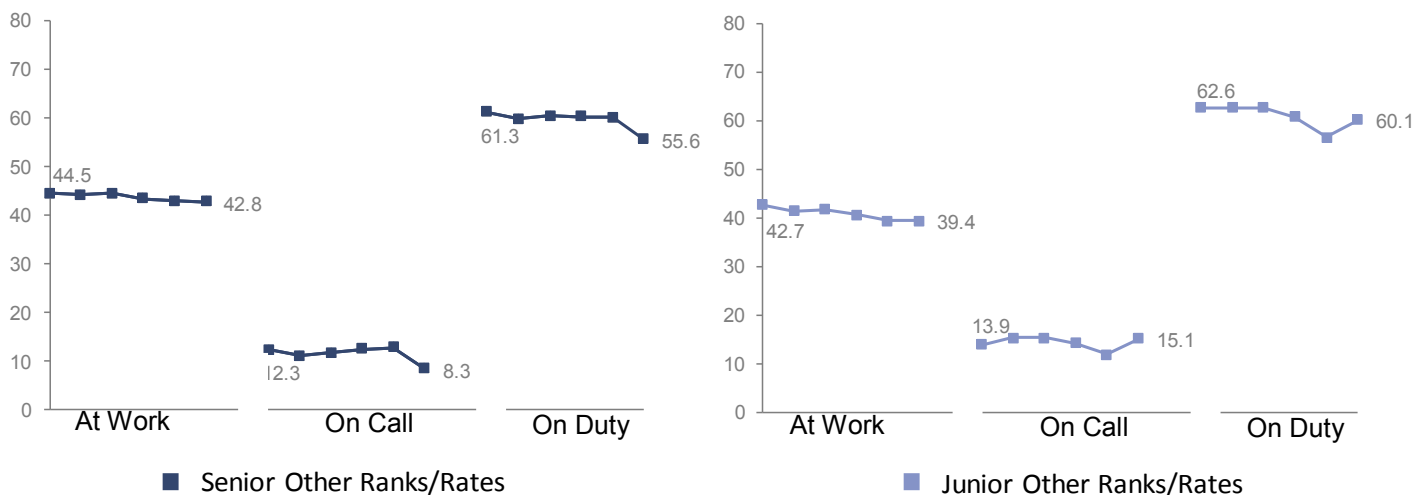
**Figure 49: RAF average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2018/19**



Since 2013/14, the amount of hours Senior Officers have spent at work has remained relatively stable but the amount of hours that Junior Officers have spent at work has decreased by 4.1 hours per week.

Within the same time period, Senior Officers have increased the amount of hours they spend on call and on duty by 2.6 and 1.4 hours respectively. On the other hand, Junior Officers have seen decreases in the amount of hours spent on call and on duty by 3.2 and 7.3 hours respectively, as shown in Figure 49.

**Figure 50: RAF average weekly hours spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2018/19**



Since 2013/14, Senior Other Ranks/Rates and Junior Other Ranks/Rates have seen decreases in the amount of hours spent at work and on duty (1.7 and 3.3 hours and 5.7 and 2.5 hours respectively).

Senior Other Ranks/Rates have seen decreases in the amount of hours spent on call (4.0 hours) whereas Junior Other Ranks/Rates have increased the amount of hours spent on call by 1.2 hours, as shown in Figure 50.

# Methodology

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## The questionnaire

CWP is a paper survey. Half the personnel in the sample were sent a questionnaire in October 2018, the other half were sent a questionnaire in February 2018. Data collection ran from October 2018 to May 2019.

The CWP questionnaire includes a seven day diary; each day is divided into four periods of six hours. Respondents were asked to indicate time spent at 'work', 'on breaks', 'on call' and 'off duty' for each of these periods. Personnel were provided with guidance on how different activities should be recorded.

The survey is confidential rather than anonymous. An individual's unique Service number is used to allow responses to be linked to demographic data held on the Joint Personnel Administration System (JPA). Personally identifiable data are only available to a small group of civilian researchers working on the analysis and report production.

## The sample and respondents

The target population are members of the UK regular personnel who were full-time, trained strength. It excluded untrained personnel, those on long term absence, Special Forces, Gurkhas, reservists and personnel ranked above OF6. There were a number of other minor exclusions arising from the practicalities of running the survey e.g. those with invalid address data. Address data for personnel in the sample were obtained from the JPA.

A 'valid response' refers to a returned questionnaire with at least one usable day within the 7 day diary. The 2018/19 response rates can be seen in Table 5 below:

**Table 5: Valid response rates by Service 2018/19**

	Sample size	Valid responses	Valid response rate
<b>Tri-Service</b>	<b>24,470</b>	<b>2,724</b>	<b>11%</b>
Naval Service	9,678	1,063	11%
Army	9,684	979	10%
RAF	5,108	682	13%

The total CWP sample consisted of 24,470 personnel. A stratified simple random sampling process was used to select the sample. Stratification was by Service (Naval Service, Army and RAF), rank group (Senior Officers, Junior Officers, Senior Ranks/Rates and Junior Ranks/Rates) and broad location. For the Naval Service the locations were at sea and shore. For the Army the locations were United Kingdom, Germany, overseas Operations, and elsewhere abroad. For the RAF, the locations were United Kingdom, overseas Operations and elsewhere abroad.

The sample was designed to provide sufficient responses to yield estimates with a margin of error of +/- 0.50 hours for each single Service average weekly hours worked. This was met for the RAF, who had a margin or error of +/- 0.47 hours, but not for the Naval Service (who had a margin of error of +/- 0.69 hours) or the Army (who had a margin or error of +/- 0.58 hours).

For the total and the three single Services, levels of precision were lower (wider confidence intervals) for on duty and on call averages.

For the Army and RAF, the CWP survey measures the working patterns of personnel deployed on overseas Operations. On the 27th October 2014, the UK Armed Forces ceased all combat Operations in Afghanistan and withdrew the last of its combat troops ([MOD Annual Report and Accounts 2014-2015](#)). The end of combat Operations in Afghanistan has led to a reduction in the number of personnel deployed on overseas Operations, which in turn has led to a decrease in the number of personnel deployed on overseas Operations being sampled to complete the CWP survey. Table 6 below shows how the number of returned and valid CWP questionnaires has declined for personnel on overseas Operations since 2013/14. Therefore, Army and RAF figures for the location category overseas Operations should be treated with caution.

It should also be noted that because of the decrease in number of valid CWP surveys from Army and RAF personnel on overseas Operations, the confidence intervals for the average weekly hours at work, on call and on duty for this group are wider than personnel based at any other location.

**Table 6: Number of personnel deployed on overseas Operations returning a valid Continuous Working Patterns questionnaire, broken down by Service**

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
<b>Army</b>	545	164	109	143	122	55
<b>RAF</b>	325	199	144	189	139	38
<b>Total</b>	<b>870</b>	<b>363</b>	<b>253</b>	<b>332</b>	<b>261</b>	<b>93</b>

### Weighting the data

Due to the sample design and the differences in prevalence of non-response between Service, rank group and broad location, the distribution of characteristics among CWP respondents does not reflect the distribution of the trained, regular UK Armed Forces population. Therefore, responses have been weighted by Service, rank group and broad location in order to correct for the bias caused by over or under representation.

The weights are calculated simply by:

$$\frac{\text{Population size of strata (p)}}{\text{Number of responses within strata (r)}}$$

Weighting in this way assumes missing data are missing at random (MAR) only within strata. This means we assume that within strata, the working patterns of non-respondents do not differ (on average) to the working patterns of respondents.

If those who did not respond have different working patterns to those who did, then the observations in this report will not be representative of the working patterns of trained, regular UK Armed Forces, rather, the observations would only represent the working patterns of the responding population.

Non-response that is directly related to individual working patterns will lead to bias within these survey results. For example, those busiest and hence working longer hours may be less likely to complete the survey.

### Analysis

The automated data cleaning rules are set out below:

1. If a respondent has recorded they are on annual leave or sick leave but has also filled in some hours, we ignore the hours and assume the leave marker is true.
2. For Monday to Friday, if a respondent has recorded they are on duty but has not filled out any hours in the boxes, we change the leave marker to show them as being on annual leave. Anyone on annual leave will not be used in the calculations, as we are only interested in people who were working a 'normal' week, with no annual leave.

3. On Saturday and Sunday, if a respondent has recorded they are on duty but has not filled out any hours in the boxes, we change the leave marker to show them as being on weekend leave (we feel that this is a reasonable assumption to make).
4. On Saturday and Sunday, if a respondent has recorded they are on weekend leave we make sure they have 24 hours off duty recorded for that day.
5. If a respondent has recorded they were on weekend leave from Monday to Friday (not a valid option on the questionnaire), we change the leave code to show annual leave.
6. If the total hours for a day add up to between 23 and 25 hours then we allow that day in the calculations without cleansing. We see this as an acceptable margin of error. Any totals that fall outside this margin will not be used in the calculations.

Many personnel returned questionnaires which included leave days or days that had to be discarded because of inconsistent or missing data. If analysis was restricted to only those questionnaires that cover a full working week, results would be based on much less data and confidence intervals would be considerably wider. The methodology used is based upon a 'notional' week made up of the average Monday, the average Tuesday, ..., the average Sunday.

Therefore, by calculating the average working hours separately for each day, as much of the data as possible is used.

### **Overseas Operations**

In October 2014, UK combat Operations in Afghanistan came to an end and therefore MOD withdrew the last of its combat troops in Afghanistan, for more information please see, [MOD Annual Report and Accounts 2014-2015](#). As a result, the number of personnel deployed on operations has since reduced, which in turn has led to a decrease in the number of personnel being sampled to complete the survey who are deployed overseas .

### **Germany**

In line with the announcement of the Strategic Defence and Security Review (SDSR) of 2010, the [Army Basing Plan](#) was introduced by the [Army Basing Programme \(ABP\)](#) to rebase the British Army from Germany to the UK by 2020. In turn, the withdrawal of Army units from Germany may have had an impact on the working patterns of Army personnel who are deployed in Germany.

### **Statistical comparisons**

In order to detect any statistical differences in working patterns between the current year and the previous year, a series of z-tests were conducted at the 95% confidence level. This is a fairly stringent level and means that there should be a less than 5% (5 in 100) chance that differences observed in the CWP results are not representative of the Armed Forces as a whole. This reduces the likelihood of wrongly concluding that there has been an actual change based on the survey results, which only cover a sample of the Armed Forces.

If a statistical difference is found it means that the difference between years is unlikely to be the result of random variation and is therefore indicative of a genuine change in hours spent at 'work', 'on duty' or 'on call' between 2016/17 and 2017/18. It does not mean that the change is necessarily large or substantively "important".

It is important to note that the absence of a statistically significant difference between years does not necessarily mean that no difference is expected to exist between populations. Simply that, given the number of respondents, the detected difference is too small for us to be confident that a difference of this size could not have arisen due to chance variation in the survey process.

# Glossary

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**Armed Forces Pay Review Body (AFPRB)** Provides independent advice to the Prime Minister and the Secretary of State for Defence on pay and changes for members of the Naval, Military and Air Forces of the Crown.

**Breaks** Are meal breaks during periods of work.

**Excessive hours** Refers to a working week of 70 hours or more.

**Joint Personnel Administration (JPA)** Is the system used by the Armed Forces to deal with matters of pay, leave and other personal administrative tasks.

**Junior Officers** Armed Forces personnel with a NATO Rank of OF1 to OF2.

**Junior Ranks/Rates** Armed Forces personnel with a NATO Rank of OR1 to OR4.

**Missing at random (MAR)** Statistical theory that states those who did not respond to a question do not differ from those who did respond.

**MOD** Ministry of Defence.

**NATO** North Atlantic Treaty Organisation.

**Naval Service** Comprises the Royal Navy (including Queen Alexandra's Royal Naval Nursing Service) and the Royal Marines combined.

**Non-response** Refers either to a person who although sampled and sent a questionnaire did not provide details of their working patterns, or to a respondent who did not complete a question.

**Off duty** Not at work, on breaks or on call.

**Officers** In the CWP survey, this refers to Officers with a NATO Rank of OF1 to OF6.

**On call** Includes all time when available as necessary, including all time away at sea, time spent on exercise (including periods of stand down) and fully kitted for immediate call out.

**On duty** All time spent at work, on breaks and on call.

**Ranks/Rates** Ranks are members of the Royal Marines, Army and RAF who are not Officers. The equivalent group in the Royal Navy are known as 'Ratings'.

**RAF** Royal Air Force.

**RM** Royal Marines.

# Glossary

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**Senior Officers** Armed Forces personnel with a NATO Rank of OF3 to OF6.

**Senior Ranks/Rates** Armed Forces personnel with a NATO Rank of OR6 to OR9.

**Single Services** Naval Service, Army and RAF.

**Statistically significant** Refers to the result of a statistical test in which there is evidence of a change in average weekly hours spent at work, on call or on duty between the 2015/16 survey and the 2016/17 survey.

**Statistical tests** Refers to those tests which are carried out to see if any evidence exists for a change in working patterns between the 2015/16 survey and the 2016/17 survey.

**Trained strength** Trained strength comprises military personnel who have completed Phase 1 and Phase 2 training:

- Phase 1 training includes all new entry training to provide basic military skills
- Phase 2 training includes initial individual specialisation, sub-specialisation and technical training following Phase 1 training prior to joining the trained strength.

**Unsociable hours** Are any hours worked between 00:00 and 06:00 Monday to Friday, any hours worked between 18:00 and 24:00 Monday to Friday, and any hours worked on Saturday and Sunday.

**Work** Includes all time spent on core activities, secondary duties, compulsory fitness training, organised sports and representational activities, but excludes breaks.

**Weighting** Refers to weights that are applied to the respondent data set (by Service, rank group and broad location) in order to make the data more representative of the population of interest.

**z-test** Statistical tests based on a standardised distribution which allows comparison between years for populations of different sizes.



## Further Information

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### Rounding

Where rounding has been used, totals and sub-totals have been rounded separately and so may not equal the sums of their rounded parts.

### Revisions

There are no planned revisions of this report. Amendments to figures for earlier years may be identified during the annual compilation of this report.

This year the number of responses in Elsewhere Aboard and Overseas Operations for the Army and RAF has fallen considerably and is more sensitive to change. For example, Army personnel who were based in Overseas Operations spent 22.3 hours per week on call which is a decrease on the 36.7<sup>r</sup> hours that was reported last year.

In 2012/13, there were changes to the location question in the Army and RAF survey questionnaire, where Northern Ireland and Falkland Islands were removed. This impacted on the formula which calculates those personnel who were located Elsewhere Aboard and on Overseas Operations.

Previously, those that indicated they were on Operations/Exercise for a particular day but did not indicate their location as Overseas Operations were counted in the Elsewhere Aboard location for the Army but removed in the RAF.

The formula is now modified to move Army and RAF respondents into the Overseas Operations category for the day they indicated that they were on Operations/Exercise (Question 1 of each day in the survey questionnaire). This change only happened if their location was Elsewhere Aboard, there is no effect to those who were based in Great Britain.

As a result of this, revisions have been made and have very little impact on the results because there are so few cases where personnel are based Elsewhere Aboard (like Cyprus) but is on Operations/Exercise for a day.

These revision will be addressed in one of two ways:

Where the number of figures updated in a table is small, figures will be updated and those which have been revised will be identified with the symbol "r". An explanation for the revision will be given in the footnotes to the table.

Where the number of figures updated in a table is substantial, the revisions to the table, together with the reason for the revisions, will be identified in the commentary at the beginning of the relevant chapter/section, and in the commentary above affected tables. Revisions will not be identified by the symbol "r" since where there are a large number of revisions in the table this could make them more difficult to read.

## Contact us

Defence Statistics welcome feedback on our statistical products. If you have any comments or questions about this publication or about our statistics in general, you can contact us as follows:

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