



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 2017/18 along with results from previous years by Service, broad location and rank group.

## Key Points and Trends

### ▼ 44.1 hours Average weekly hours worked by trained, UK regular personnel

In 2017/18

*a decrease of 0.5 hours since 2016/17 (44.7 hours).*

### ▼ 47.8 hours Naval Service personnel have the highest average weekly hours worked

In 2017/18

*a decrease of 0.9 hours since 2016/17 (48.7 hours).*



### ▲ 65.3 hours Average weekly hours spent on duty by trained, UK regular personnel

In 2017/18

*an increase of 1.9 hours since 2016/17 (63.4 hours).*

### ▼ 6% Of trained, UK regular personnel worked excessive hours

In 2017/18

*a decrease of 1.0 percentage point since 2016/17 (7%).*

### ▼ 6.2 hours Average weekly unsociable hours worked by trained, UK regular personnel

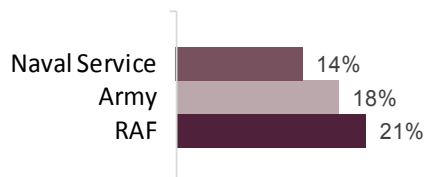
In 2017/18

*a decrease of 0.4 hours since 2016/17 (6.6 hours).*

### ▼ 17% Is the CWP Survey's valid response rate

In 2017/18

*a decrease of 4.0 percentage points since 2016/17 (21%).*



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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 and CWP 2017/18 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 Excel 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 2017/18 was distributed to 21,116 train UK regular personnel between September 2017 to March 2018 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, 3,571 of the returned surveys were considered valid, which represents a response rate of 17%. This is a decrease compared to the 2016/17 Survey when the response rate was 21%.

*Note: throughout the publication, where statistical significant tests applied in order to detect any statistical differences in working patterns between the current year (2017/18) and the previous year (2016/17), 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.*

# Policy Background

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## 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.

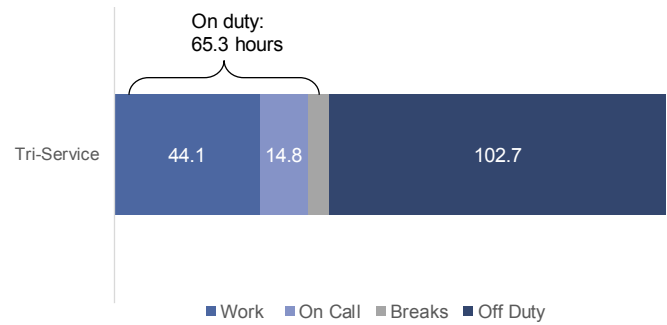
# Section 1: Tri-Service

## 1.1 Working patterns, 2017/18

On average, personnel worked 44.1 hours per week, a decrease of 0.5 hours per week since 2016/17.

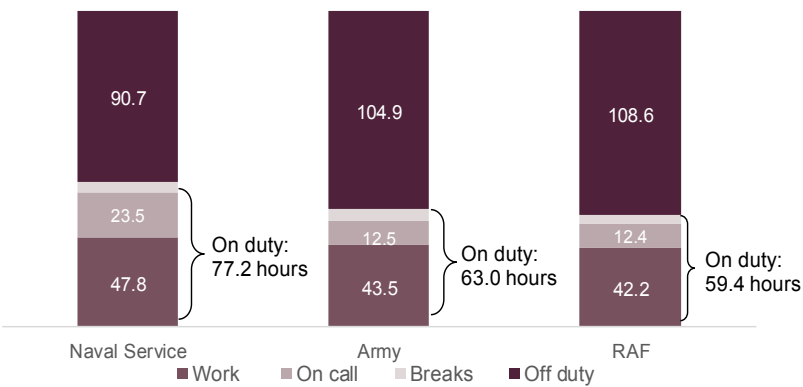
**On Duty**  
On duty comprises time spent at work, on breaks and on call.

Figure 1: Working patterns of personnel, 2017/18



During 2017/18 personnel spent, on average, 65.3 hours per week on duty, as shown in Figure 1. This is an increase of 1.9 hours compared to the 63.4 hours reported last year.

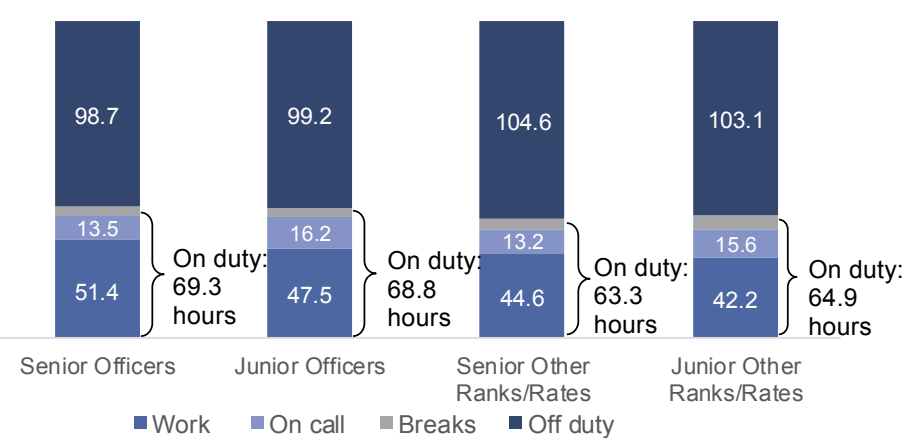
Figure 2: Working patterns of all personnel by Service, 2017/18



On average, Naval Service personnel have spent more time on duty (77.2 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 (7.1 hours) than Naval Service (6.0 hours) and RAF personnel (4.8 hours). However, RAF personnel on average spent most time off duty per week (108.6 hours) compared to the Naval Service (90.7 hours) and the Army personnel (104.9 hours).

Figure 3: Working patterns of personnel by rank group, 2017/18



Senior Officers spent the most time on duty (69.3 hours) than any other rank group, as shown in Figure 3.

Junior Other Ranks/Rates have seen an increase in the amount of hours spent on duty by 3.6 hours compared to the 61.4 hours reported last year.

**Table 1: Working patterns of personnel, 2016-17 - 2017/18**

|                                      | <b>At Work</b><br>2016/17 2017/18 |        | <b>On Call</b><br>2016/17 2017/18 |        | <b>On Duty</b><br>2016/17 2017/18 |        | <b>Key:</b><br>▲ Significant increase<br>from 2016/17<br>▼ Significant decrease<br>from 2016/17 |
|--------------------------------------|-----------------------------------|--------|-----------------------------------|--------|-----------------------------------|--------|---|
|                                      |                                   |        |                                   |        |                                   |        |   |
| <b>Tri-Service</b>                   | 44.7                              | 44.1 ▼ | 13.0                              | 14.8 ▲ | 63.4                              | 65.3 ▲ |   |
| <b>Naval Service</b>                 | 48.7                              | 47.8 ▼ | 21.3                              | 23.5 ▲ | 75.2                              | 77.2 ▲ |   |
| <b>Army</b>                          | 43.8                              | 43.5   | 9.7                               | 12.5 ▲ | 59.7                              | 63.0 ▲ |   |
| <b>RAF</b>                           | 43.0                              | 42.2 ▼ | 13.5                              | 12.4   | 61.6                              | 59.4 ▼ |   |
| <b>Senior Officers</b>               | 51.6                              | 51.4   | 13.5                              | 13.5   | 69.0                              | 69.3   |   |
| <b>Junior Officers</b>               | 48.9                              | 47.5 ▼ | 14.2                              | 16.2 ▲ | 68.3                              | 68.8   |   |
| <b>Senior Other Ranks/<br/>Rates</b> | 45.7                              | 44.6   | 13.1                              | 13.2   | 64.3                              | 63.3   |   |
| <b>Junior Other Ranks/<br/>Rates</b> | 42.4                              | 42.2   | 12.7                              | 15.6 ▲ | 61.4                              | 64.9 ▲ |   |

**Figure 4: Working patterns of personnel, 2016/17 - 2017/18**

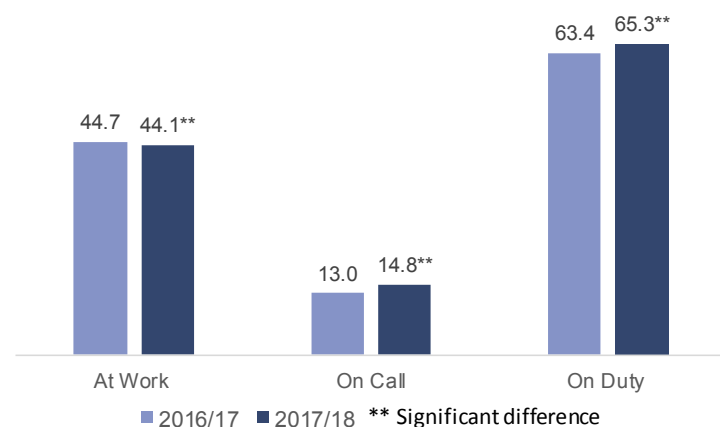
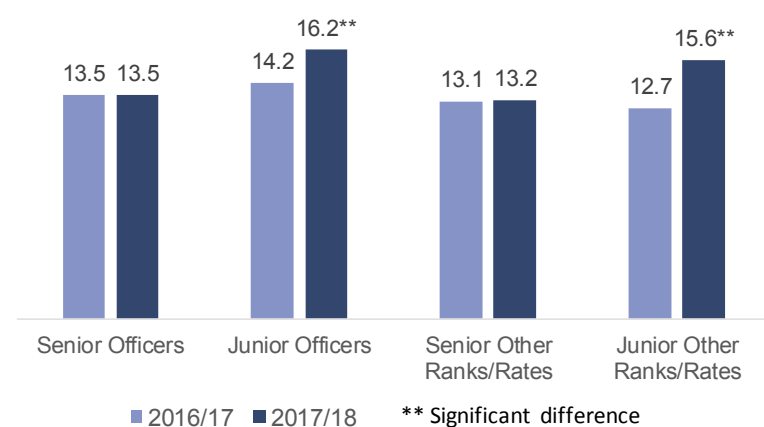


Figure 4 shows that, since 2016/17 on average, there have been changes in the number of hours personnel spend at work, on call and on duty:

- ⇒ 0.5 hours decrease in hours spent at work
- ⇒ 1.8 hours increase in hours spent on call
- ⇒ 1.9 hour increase in hours spent on duty

**Figure 5: Hours spent on call by rank group, 2016/17 - 2017/18**



The number of hours Junior Officers and Junior Other Ranks/Rates spent on call has increased since 2016/17 by 2.0 and 2.8 hours respectively, as shown in Figure 5.

However, the number of hours Junior Officers and Junior Other Ranks/Rates spend at work per week has decreased, by 1.4 and 1.1 hours, respectively within the same time period .

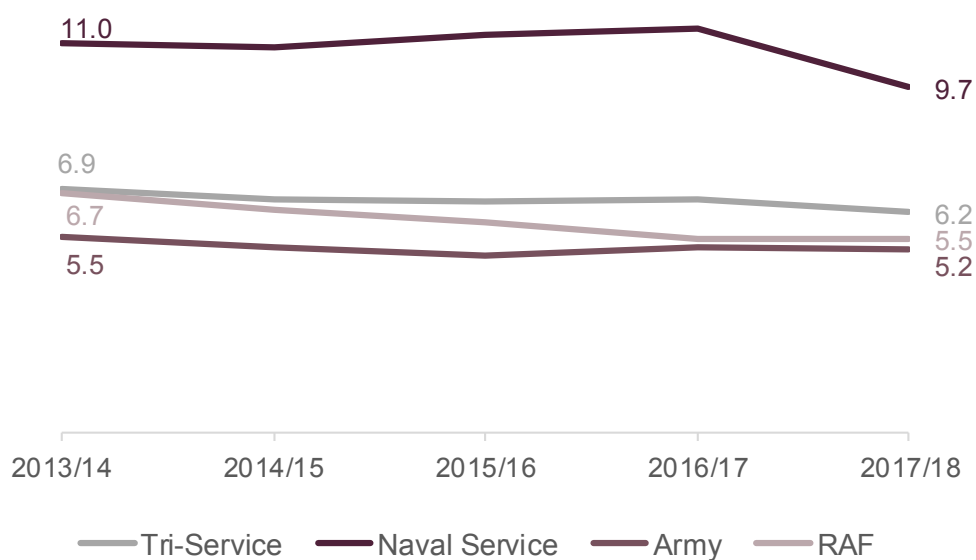
## 1.2 Unsociable hours worked by personnel, 2013/14 - 2017/18

Unsociable hours are described as:

- Any hours worked between 00:00 and 06:00, Monday to Friday
- Any hours worked between 18:00 and 24:00, Monday to Friday
- Any hours worked on Saturday and Sunday

In 2017/18, 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 - 2017/18**



Since 2013/14, the number of unsociable hours per week are the highest for Naval Service personnel (9.7 hours), when compared to Army (5.2 hours) and RAF (5.5 hours) personnel. This is due to 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, 2017/18

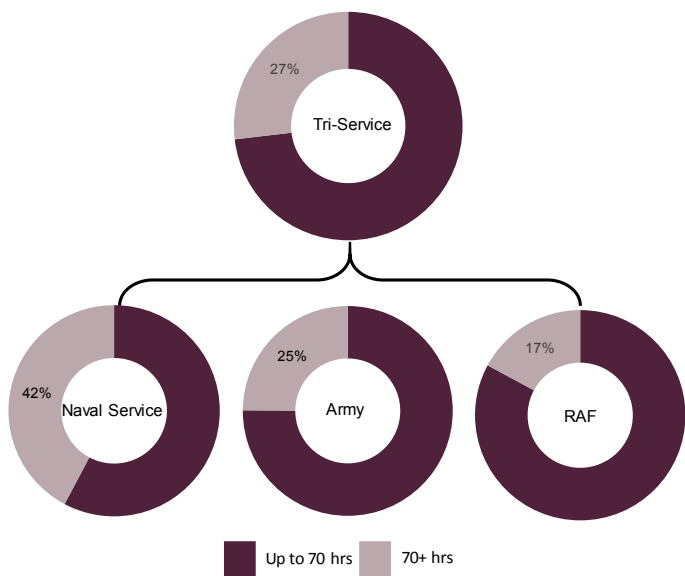
Section 3.2 is based on the 1,922 UK regular personnel for whom a full week’s data was available.

Overall, 27.0 per cent of personnel spent more than 70 hours per week on duty. There is a larger proportion of Naval Service personnel (42.0 per cent) that spent more than 70 hours per week on duty when compared to Army (25.0 per cent) and RAF (17.0 per cent) personnel; this is 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, 2017/18**

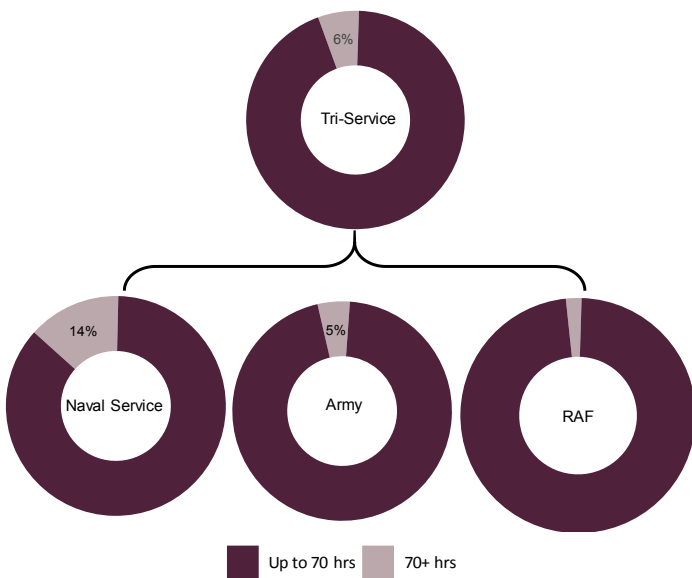


**Data Quality Note**

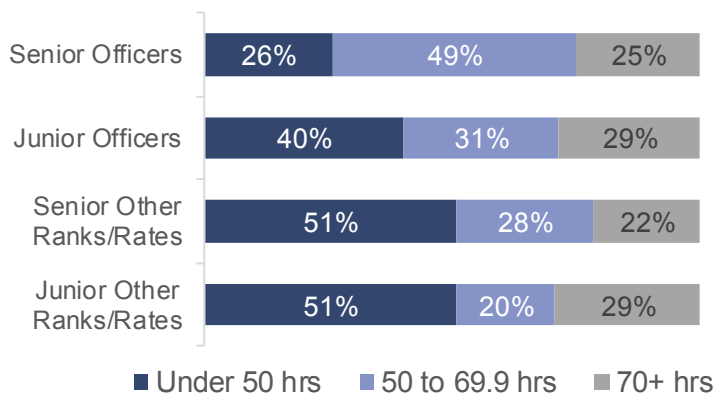
The results in Figures 7 and 8 are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are intended as an indication of the average working week.

Overall, 6.0 per cent of personnel spent more than 70 hours per week at work, as shown in Figure 8.

**Figure 8: Proportion of personnel spending more than 70 hours at work for the week surveyed by Service, 2017/18**



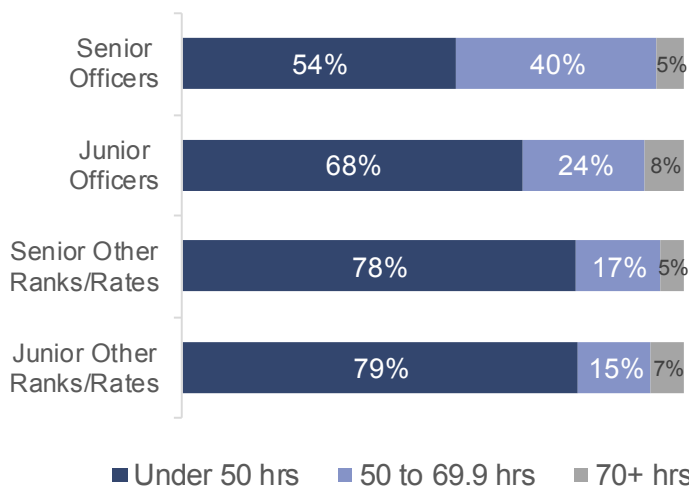
**Figure 9: Distribution of hours on duty of personnel by rank group, 2017/18**



Junior Officers and Junior Other Ranks/Rates report the highest proportion of personnel that have been on duty for 70 or more hours per week (29.0 per cent) whilst Senior Other Ranks/Rates report the lowest (22.0 per cent), as shown in Figure 9.

Since 2016/17, the proportion of Junior Officers (22.0 per cent) and Junior Other Ranks/Rates (24.0 per cent) spending more than 70 hours per week on duty has increased by 7.0 and 5.0 percentage points respectively.

**Figure 10: Distribution of hours at work of personnel by rank group, 2017/18**



Junior Officers report the highest proportion of personnel that have worked more than 70 hours per week (8.0 per cent), whilst Senior Officers and Senior Other Ranks/Rates report the lowest (5.0 per cent), as shown in Figure 10.

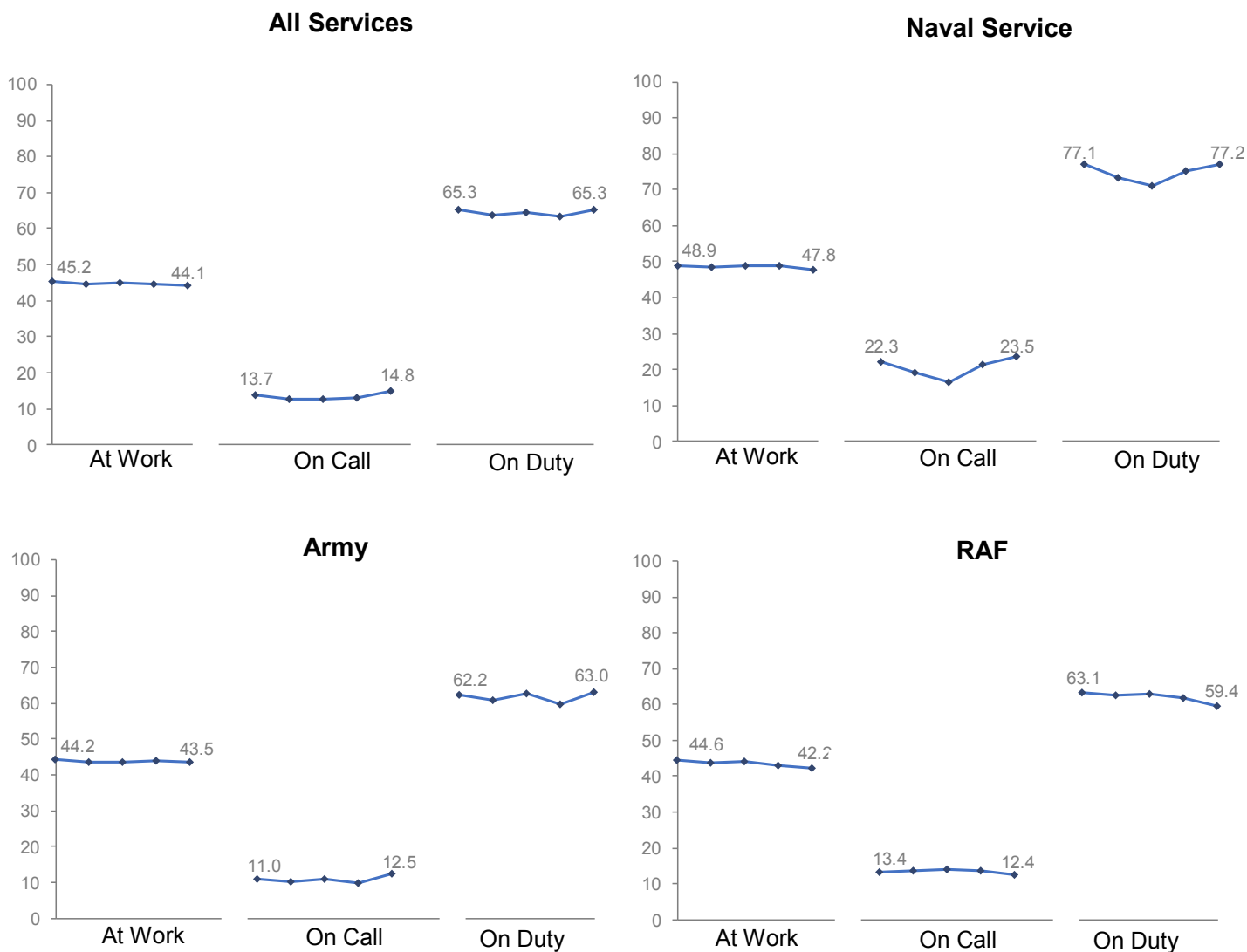
The proportion of Junior Officers spending more than 70 hours per week at work has remained stable within the last year.



## 1.4 Time series of working patterns, 2013/14 - 2017/18

Over the last five years, the number of hours personnel spent on duty (65.3 hours) has remained fairly stable, whilst the number of hours per week spent at work (44.1 hours) has decreased by 1.1 hours and the number of hours spent on call (14.8 hours) has increased by 1.1 hours. This increase is largely driven by the Naval Service (23.5 hours) and Army (12.5) personnel who have increased the numbers of hours spent on call by 1.2 and 1.5 hours respectively, as shown in Figure 11.

**Figure 11: Comparison of average weekly hours spent at work, on call and on duty by Service, 2013/14 - 2017/18**



Over the last five years, Senior Officers, Junior Officers and Senior Other Ranks/Rates have gradually decreased the number of hours on duty spent per week by 2.0, 5.0 and 4.4 hours respectively. However Junior Other Ranks/Rates 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 - 2017/18**



On average, over the last five financial years, Senior Officers and Junior Officer have spent more time at work than Senior Other Ranks/Rates and Junior Other Ranks/Rates.

In 2017/18, Senior Officers and Junior Officers have the lowest recorded hours spent at work per week .

# Section 2: The Naval Service

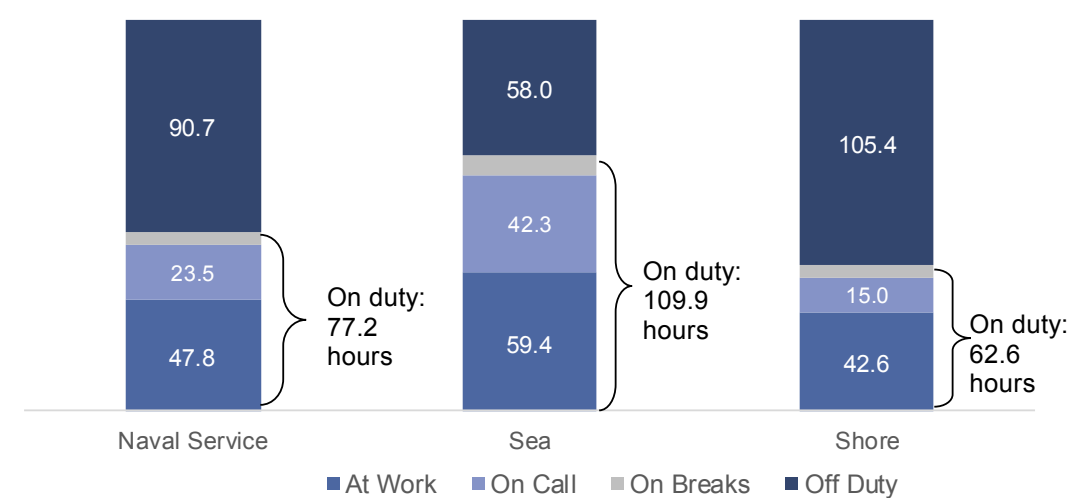
The Naval Service is comprised of the Royal Navy (including Queen Alexandra’s Royal Naval Nursing Service) and the Royal Marines.

## 2.1 Naval Service working patterns, 2017/18

On average, Naval Service personnel worked 47.8 hours per week, a decrease of 0.9 hours since 2016/17.

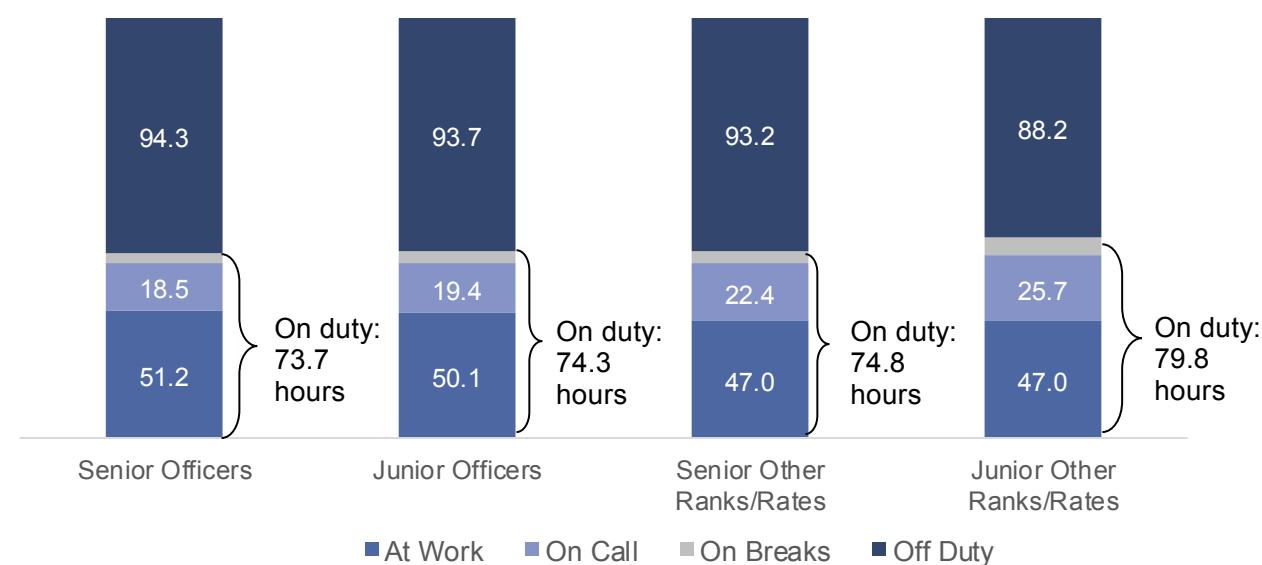
**On Duty**  
On duty comprises time spent at work, on breaks and on call.

Figure 13: Naval Service personnel working patterns by location, 2017/18



In 2017/18, on average, sea-based personnel continue to spend more time on duty (109.9 hours) than shore-based personnel (62.6 hours), as shown in Figure 13.

Figure 14: Naval Service personnel working patterns by rank group, 2017/18



In 2017/18, Junior Other Ranks/Rates spent more time on duty (79.8 hours) than all other rank groups.

**Table 2: Working patterns of Naval Service personnel, 2016/17 - 2017/18**

|                                 | <b>At Work</b><br>2016/17 2017/18 |        | <b>On Call</b><br>2016/17 2017/18 |        | <b>On Duty</b><br>2016/17 2017/18 |         | <b>Key:</b><br><br>▲ Significant increase<br>from 2016/17<br>▼ Significant decrease<br>from 2016/17 |
|---------------------------------|-----------------------------------|--------|-----------------------------------|--------|-----------------------------------|---------|---|
| <b>Naval Service</b>            | 48.7                              | 47.8 ▼ | 21.3                              | 23.5 ▲ | 75.2                              | 77.2 ▲  |   |
| <b>Sea</b>                      | 60.9                              | 59.4   | 32.7                              | 42.3 ▲ | 100.1                             | 109.9 ▲ |   |
| <b>Shore</b>                    | 43.0                              | 42.6   | 16.1                              | 15.0   | 63.7                              | 62.6    |   |
| <b>Senior Officers</b>          | 50.9                              | 51.2   | 18.8                              | 18.5   | 73.4                              | 73.7    |   |
| <b>Junior Officers</b>          | 51.3                              | 50.1   | 18.3                              | 19.4   | 74.5                              | 74.3    |   |
| <b>Senior Other Ranks/Rates</b> | 48.8                              | 47.0 ▼ | 24.6                              | 22.4   | 78.0                              | 74.8 ▼  |   |
| <b>Junior Other Ranks/Rates</b> | 47.7                              | 47.0   | 20.7                              | 25.7 ▲ | 74.2                              | 79.8 ▲  |   |

**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, 2016/17 - 2017/18**

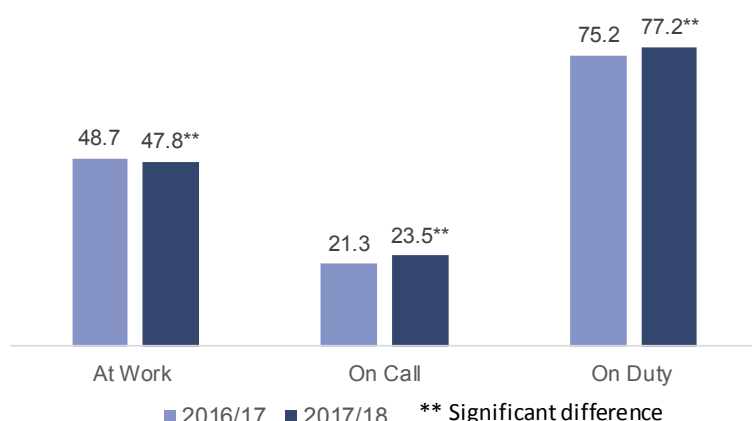


Figure 15 shows that, there have been changes in the number of hours Naval Service personnel spend at work, on call and on duty, per week since 2016/17.

- ⇒ 0.9 hours decrease in hours spent at work
- ⇒ 2.1 hours increase in hours spent on call
- ⇒ 2.1 hours increase in hours spent on duty

**Figure 16: Working patterns of Naval Service personnel who were located at Sea, 2016/17 - 2017/18**

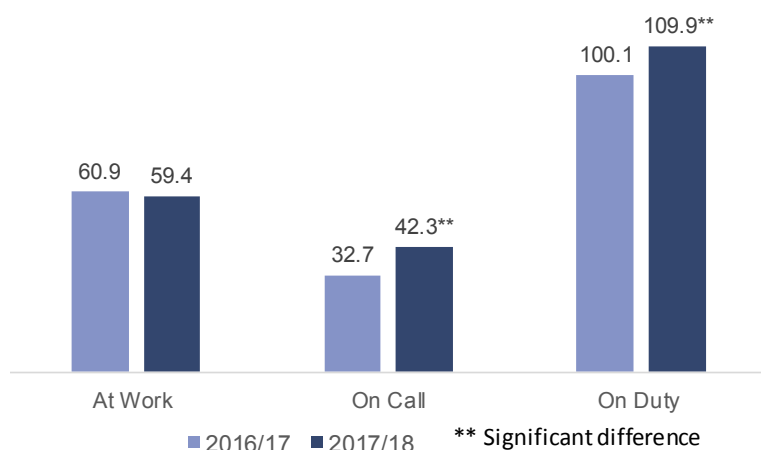


Figure 16 shows that, there have been changes in the hours Naval Service personnel, who were located at Sea, spent at work, on call and on duty, per week since 2016/17.

- ⇒ 9.6 hours increase in hours spent on call
- ⇒ 9.8 hours increase in hours spent on duty

2.2 Naval Service excessive hours worked and spent on duty, 2017/18

Section 2.2 is based on the 680 Naval Service personnel for whom a full week’s data was available.

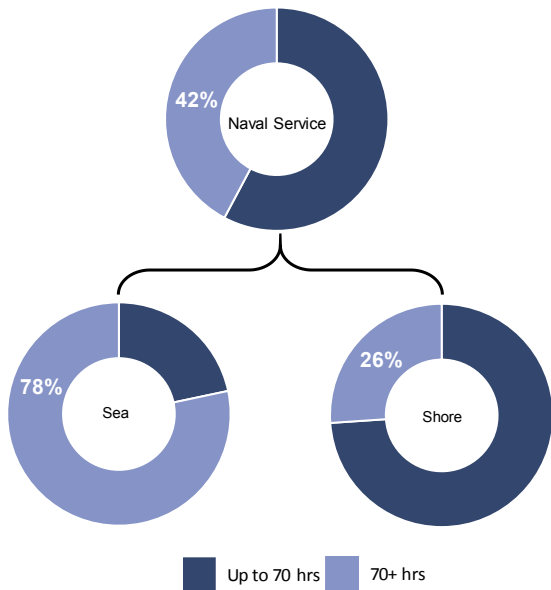
Overall, 42.0 per cent of Naval personnel spent more than 70 hours per week on duty.

A larger proportion of Naval Service personnel located at sea (78.0 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, 2017/18

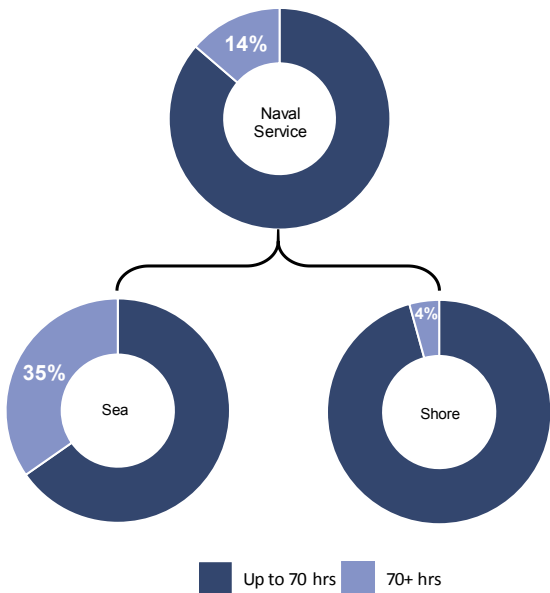


**Data quality note**

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.

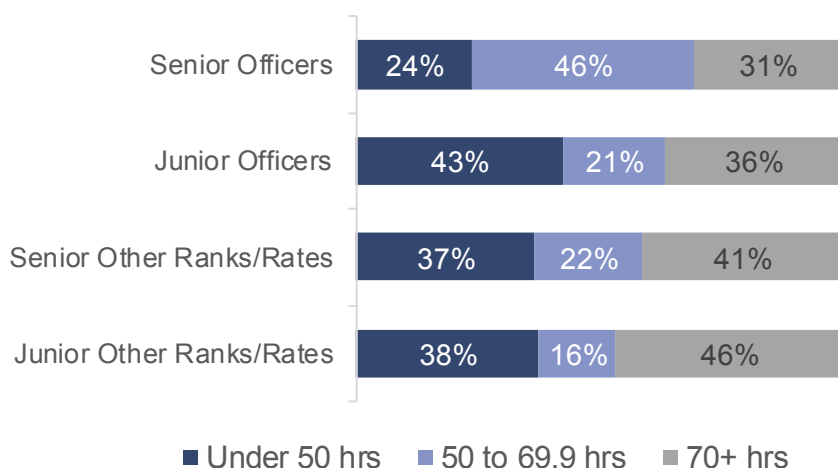
Figure 18: Proportion of Naval Service personnel spending more than 70 hours at work for the week surveyed by location, 2017/18

Overall, on average 14.0 per cent of Naval Service personnel have worked more than 70 hours per week.



A larger proportion of personnel located at sea (35.0 per cent) spent more than 70 hours per week at work compared to shore-based personnel, this is consistent over time, as shown in Figure 18.

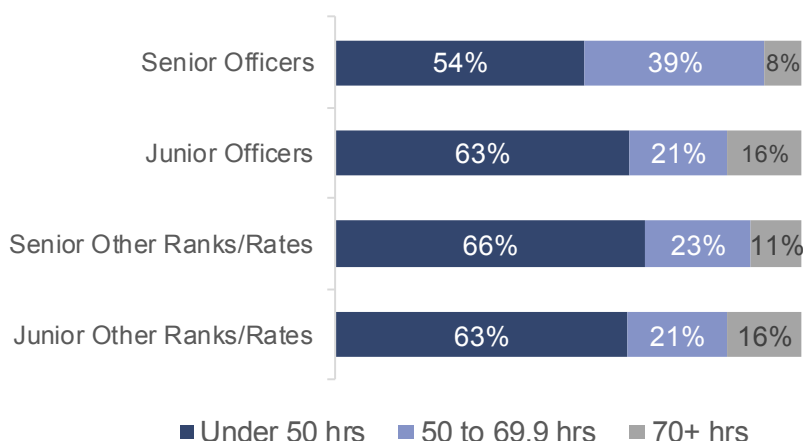
**Figure 19: Distribution of hours on duty of Naval Service personnel, 2017/18**



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 (31.0 per cent), as shown in Figure 19.

The proportion of Junior Other Ranks/Rates spending more than 70 hours per week on duty has increased this year to 46.0 per cent from 39.0 per cent reported in 2016/17. The proportion of Senior Officers spending more than 70 hours per week on duty has remained consistent with last year.

**Figure 20: Distribution of hours at work of Naval Service personnel, 2017/18**

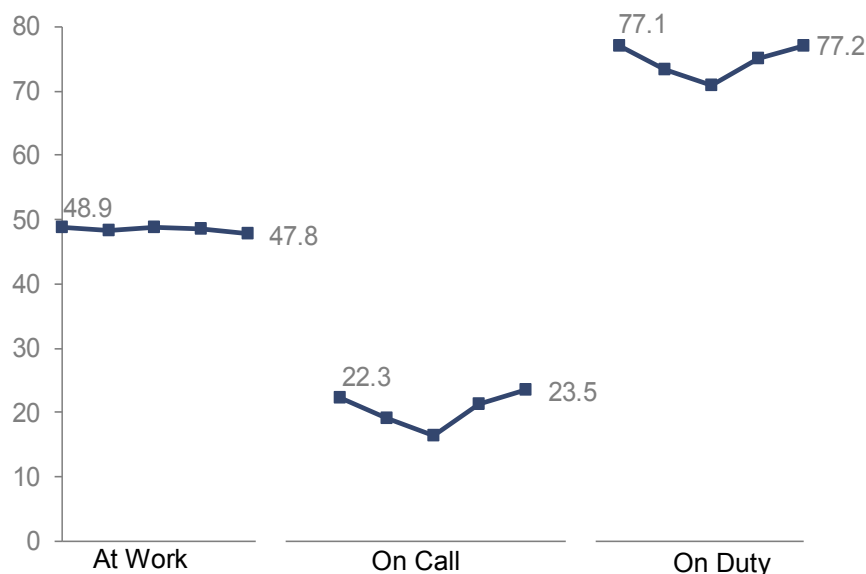


Junior Officers and Junior Other Ranks/Rates have the highest proportion of personnel working more than 70 hours per week (16.0 per cent) whilst Senior Officers report the lowest (8.0 per cent), as shown in Figure 20.

The proportion of Junior Officers spending more than 70 hours per week at work has remained unchanged since last year, however the proportion of Junior Other Ranks/Rates spending more than 70 hours per week has decreased this year to 16.0 per cent from 19.0 per cent in 2016/17.

## 2.3 Time series of Naval Service working patterns, 2013/14 - 2017/18

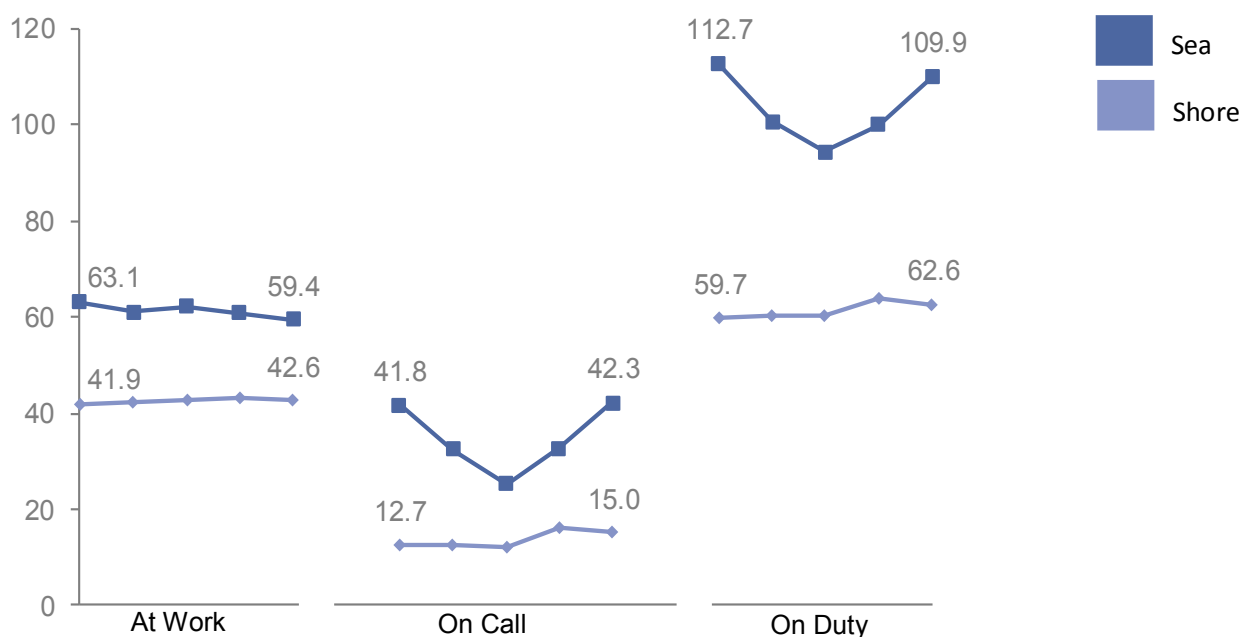
**Figure 21: Average weekly hours Naval Service personnel spent at work, on call and on duty 2013/14 - 2017/18**



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

- ⇒ at work has decreased by 1.1 hours
- ⇒ on call has increased by 1.2 hours
- ⇒ on duty fell in 2015/16 to 70.9 hours per week but has since risen a similar number of 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 - 2017/18**



From 2013/14 to 2015/16 there has been 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 109.9 hours per week. However, for shore-based personnel there has been a gradual increase in hours spent on duty per week by 2.9 hours.

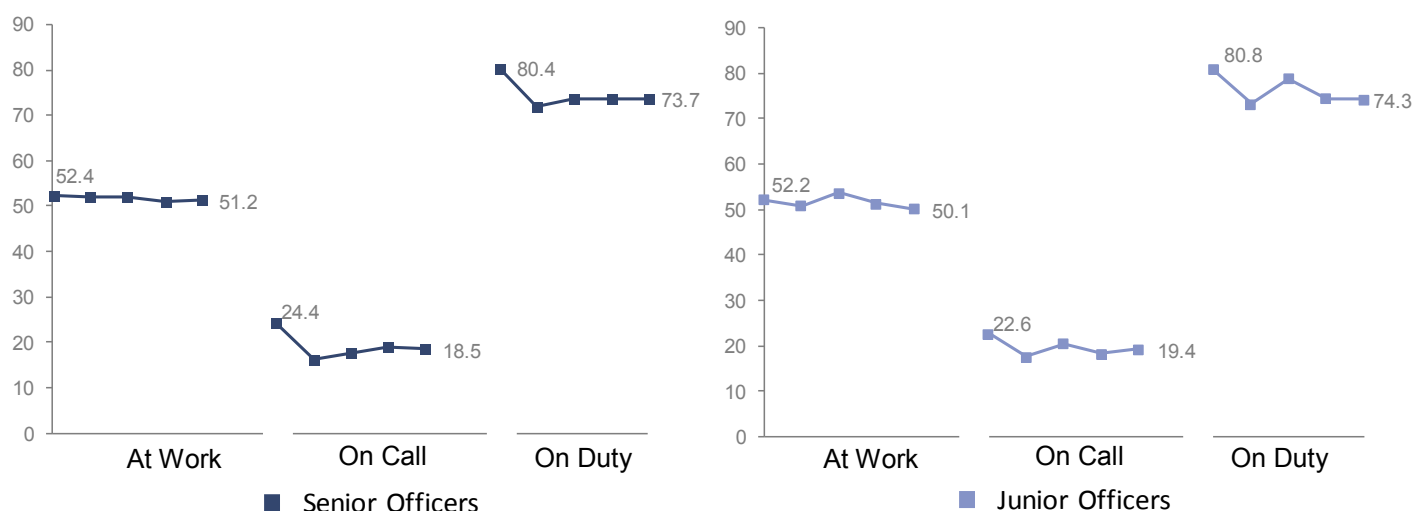
Over the last five years, hours spent at work per week has decreased by 3.7 hours for sea-based personnel but has gradually increased shore-based personnel by 0.9 hours.

Between 2015/16 and 2017/18 sea personnel have seen an increase in the number of hours spent on call per week by 17.0 hours. Sea-based personnel spent 42.3 hours on call per week; this is the highest observed hours in the last five years.

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 could 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 (25.7 hours) per week than any other rank group, an increase on the 22.3 reported in 2013/14.

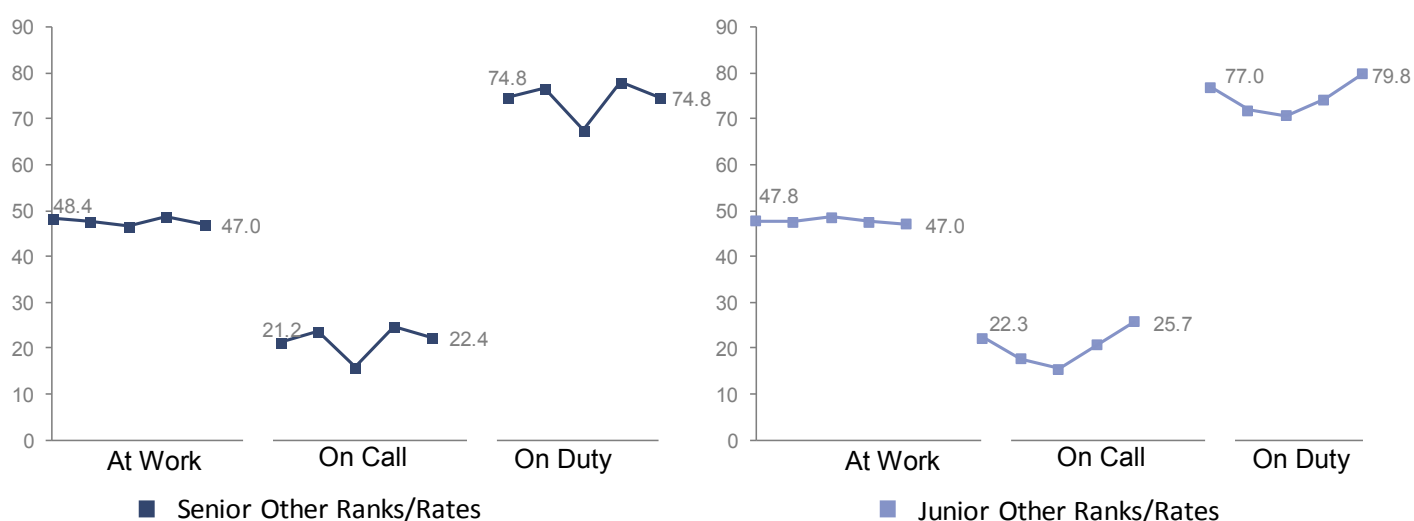
**Figure 23: Average weekly hours Naval Service Officers spent at work, on call and on duty by Officers, 2013/14 - 2017/18**



Since 2013/14 Senior and Junior Officers have respectively decreased the number of hours spent

- ⇒ at work by 1.2 and 2.1 hours
- ⇒ on call by 5.9 and 3.2 hours
- ⇒ on duty by 6.7 and 6.5 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 - 2017/18**



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 a decrease of 1.3 and 0.8 hours
- ⇒ on call by an increase of 1.2 and 3.5 hours
- ⇒ on duty by an increase of 2.8 hours in the Junior Other Ranks/Rates only



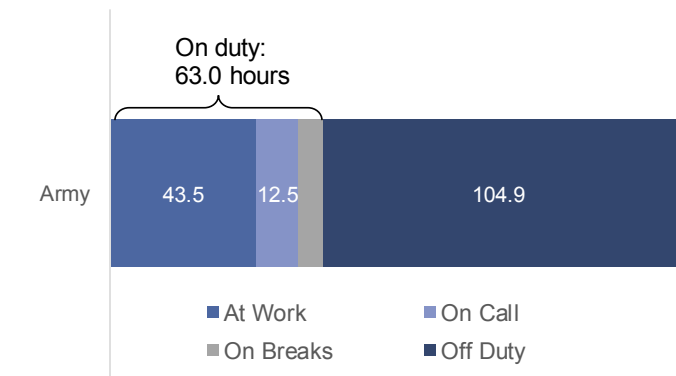
# Section 3: The Army

## 3.1 Army working patterns, 2017/18

On average, Army personnel worked 43.5 hours per week, unchanged from last year.

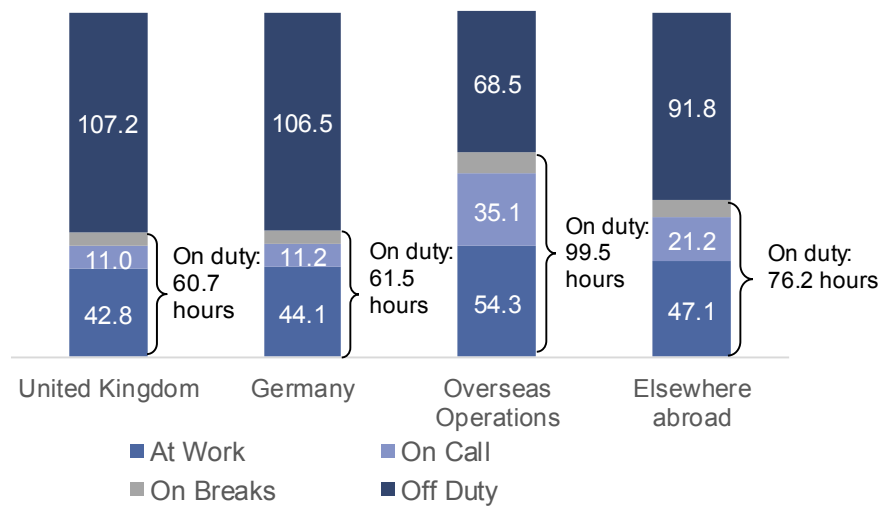
**On Duty**  
On duty comprises time spent at work, on breaks and on call.

Figure 25: Army personnel working patterns, 2017/18



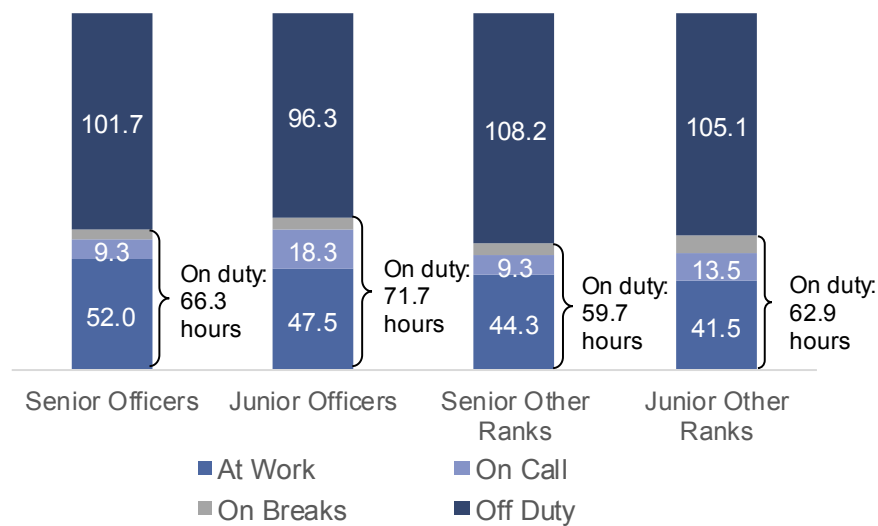
On average, Army personnel spent 63.0 hours on duty, as shown in Figure 25; an increase of 3.4 hours compared to the 59.7 hours reported last year. This change is largely driven by an increase in the average hours spent on call.

Figure 26: Army personnel working patterns by location, 2017/18



On average, personnel who are deployed on overseas operations continue to spend more time on duty (99.5 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, 2017/18



Junior Officers spend more time on duty (71.7 hours) than any other Army rank group, an increase of 2.4 hours compared to the 69.3 hours reported last year.

**Table 3: Working patterns of Army personnel, 2016-17 - 2017/18**

|                            | <b>At Work</b> |         | <b>On Call</b> |         | <b>On Duty</b> |         |
|----------------------------|----------------|---------|----------------|---------|----------------|---------|
|                            | 2016/17        | 2017/18 | 2016/17        | 2017/18 | 2016/17        | 2017/18 |
| <b>Army</b>                | 43.8           | 43.5    | 9.7            | 12.5 ▲  | 59.7           | 63.0 ▲  |
| <b>United Kingdom</b>      | 43.2           | 42.8    | 8.0            | 11.0 ▲  | 57.4           | 60.7 ▲  |
| <b>Germany</b>             | 43.2           | 44.1    | 12.9           | 11.2    | 62.5           | 61.5    |
| <b>Overseas Operations</b> | 60.1           | 54.3 ▼  | 39.9           | 35.1    | 106.6          | 99.5 ▼  |
| <b>Elsewhere abroad</b>    | 48.8           | 47.1 ▼  | 26.6           | 21.2 ▼  | 81.3           | 76.2 ▼  |
| <b>Senior Officers</b>     | 52.7           | 52.0    | 10.0           | 9.3     | 67.0           | 66.3    |
| <b>Junior Officers</b>     | 49.5           | 47.5 ▼  | 13.8           | 18.3 ▲  | 69.3           | 71.7 ▲  |
| <b>Senior Ranks</b>        | 45.3           | 44.3    | 8.3            | 9.3     | 60.1           | 59.7    |
| <b>Junior Ranks</b>        | 41.4           | 41.5    | 9.7            | 13.5 ▲  | 57.4           | 62.9 ▲  |

**Key:**

- ▲ Significant increase from 2016/17
- ▼ Significant decrease from 2016/17

**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, 2016/17 - 2017/18**

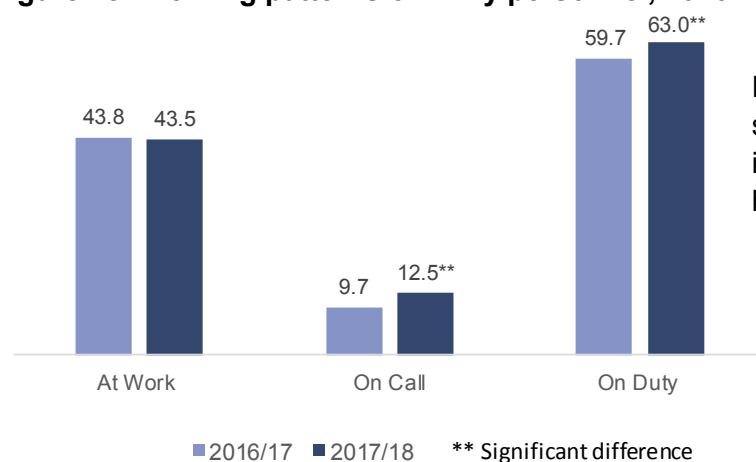
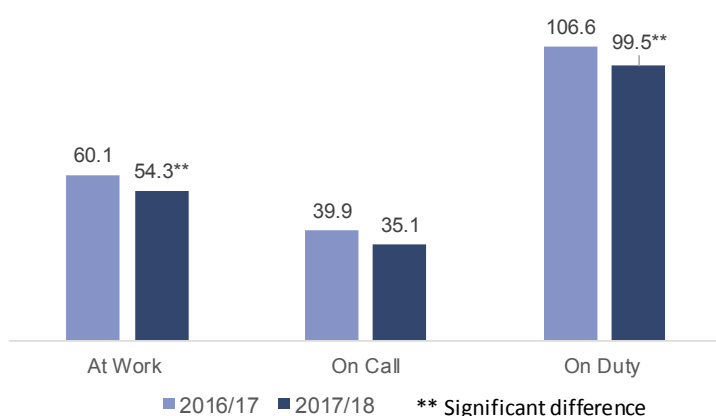


Figure 28 shows that, the number of hours spent on call and on duty per week has increased since 2016/17 by 2.8 hours and 3.4 hours respectively.

**Figure 29: Working patterns of Army personnel deployed on overseas operations, 2016/17 - 2017/18**



For Army personnel deployed on overseas operations, the number of hours spent, on call and on duty has decreased by 5.3 and 7.1 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 policy background on page 3 for more information. Army personnel on duty based in UK continue to increase the number of hours spend on duty.

3.2 Army excessive hours worked and spent on duty, 2017/18

Section 3.2 is based on the 761 Army personnel for whom a full week’s data was available.

Overall, 25.0 per cent of personnel spent more than 70 hours per week on duty.

A larger proportion of Army personnel deployed on overseas operations (68.0 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, 2017/18

**Data Quality Note**  
The results in Figure 30 and 31 are based 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.

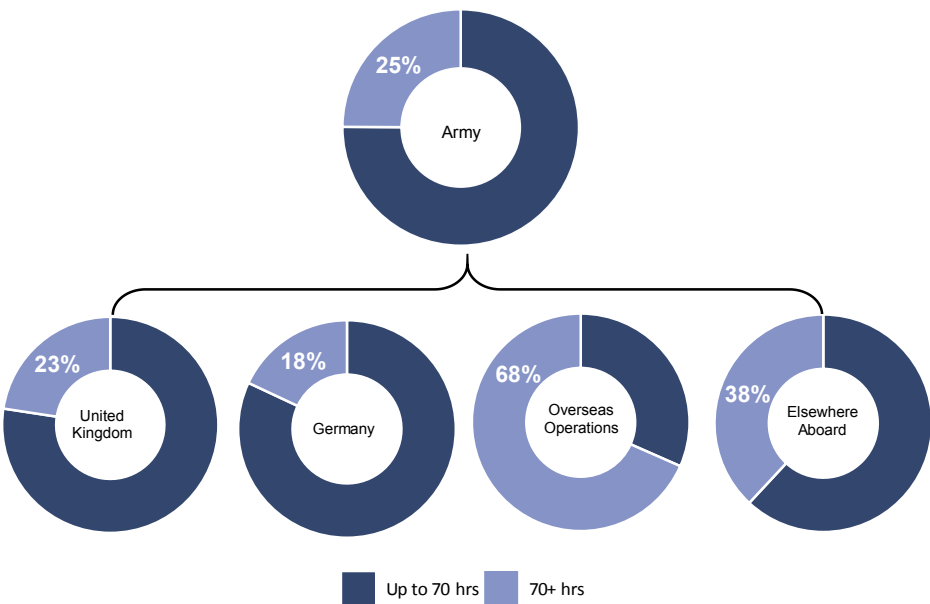
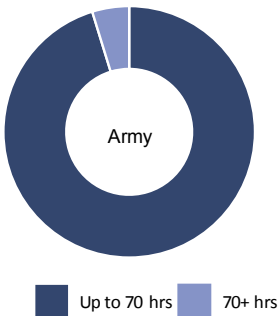


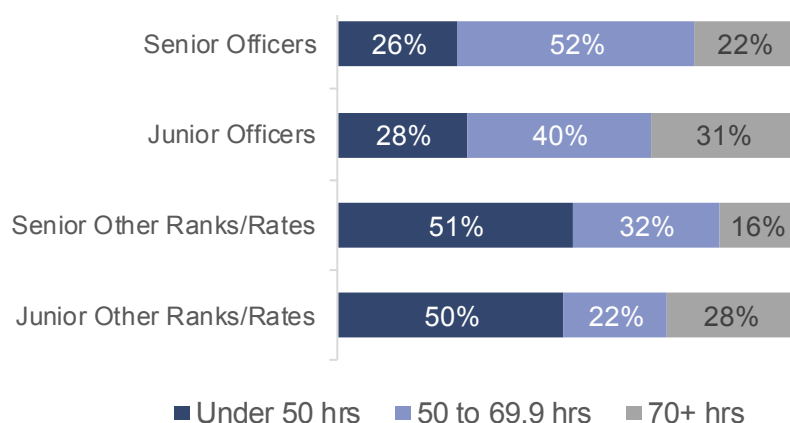
Figure 31: Proportion of Army personnel spending more than 70 hours at work for the week surveyed, 2017/18

Overall, on average 5.0 per cent of Army personnel worked more than 70 hours per week, this is unchanged on last year, shown in Figure 31.



One in five (20.0 per cent) of Army personnel deployed on overseas operations spend 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 4.0 per cent).

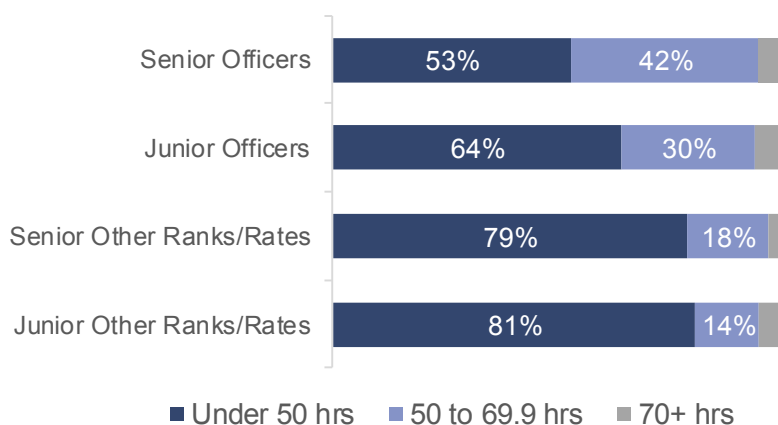
**Figure 32: Distribution of hours on duty for Army personnel by rank group, 2017/18**



Junior Officers report the highest proportion of personnel on duty for more than 70 hours per week (31.0 per cent) whilst Senior Other Ranks/Rates report the lowest (16.0 per cent), as shown in Figure 32.

The proportion of Junior Officers spending more than 70 hours per week on duty has increased this year to 31.0 per cent from 20.0 per cent reported in 2016/17. However the proportion of Senior Other Ranks/Rates spending more than 70 hours per week on duty has decreased this year to 16.0 per cent from 20.0 per cent reported in 2016/17.

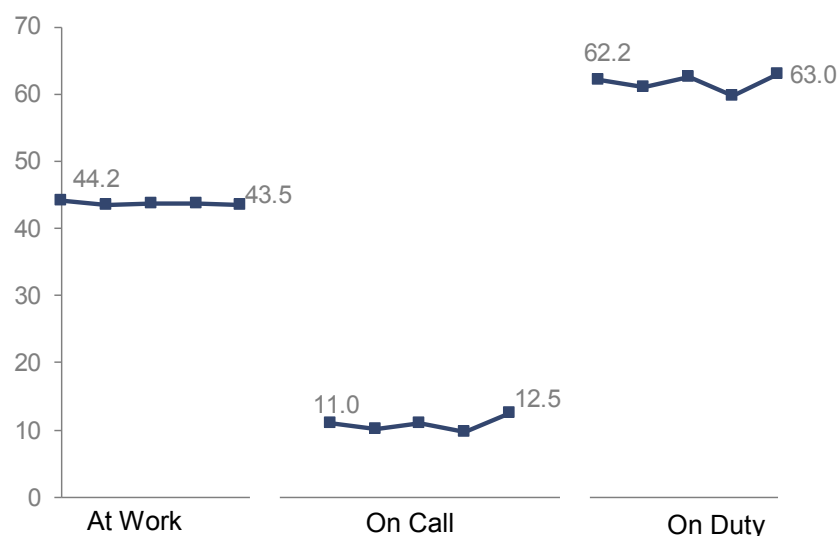
**Figure 33: Distribution of hours at work for Army personnel by rank group, 2017/18**



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.

### 3.3 Time series of Army working patterns, 2013/14 - 2017/18

**Figure 34: Army average weekly hours spent at work, on call and on duty, 2013/14 - 2017/18**

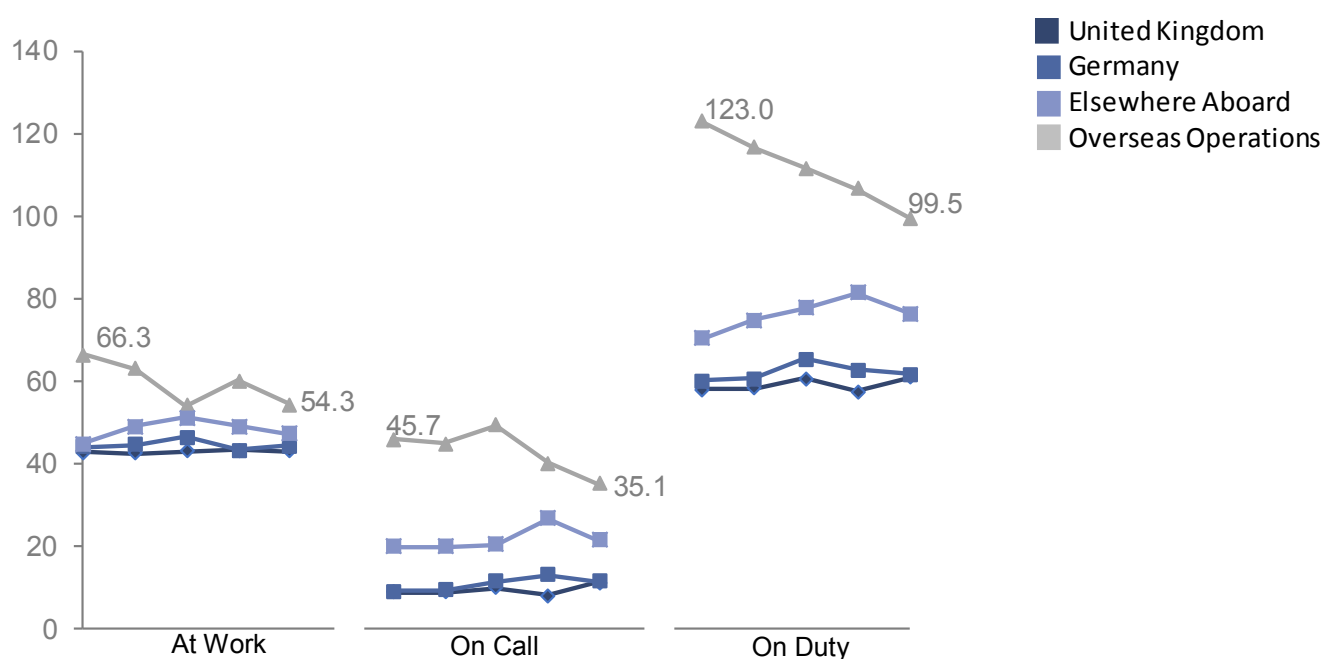


Since 2013/14, the number of hours Army personnel have spent

⇒ on call has increased by 1.5 hours

⇒ on duty has decreased by 0.8 hours

**Figure 35: Army average weekly hours spent at work, on call and on duty by location, 2013/14 - 2017/18**



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

⇒ 12.1 hours at work

⇒ 10.6 hours on call

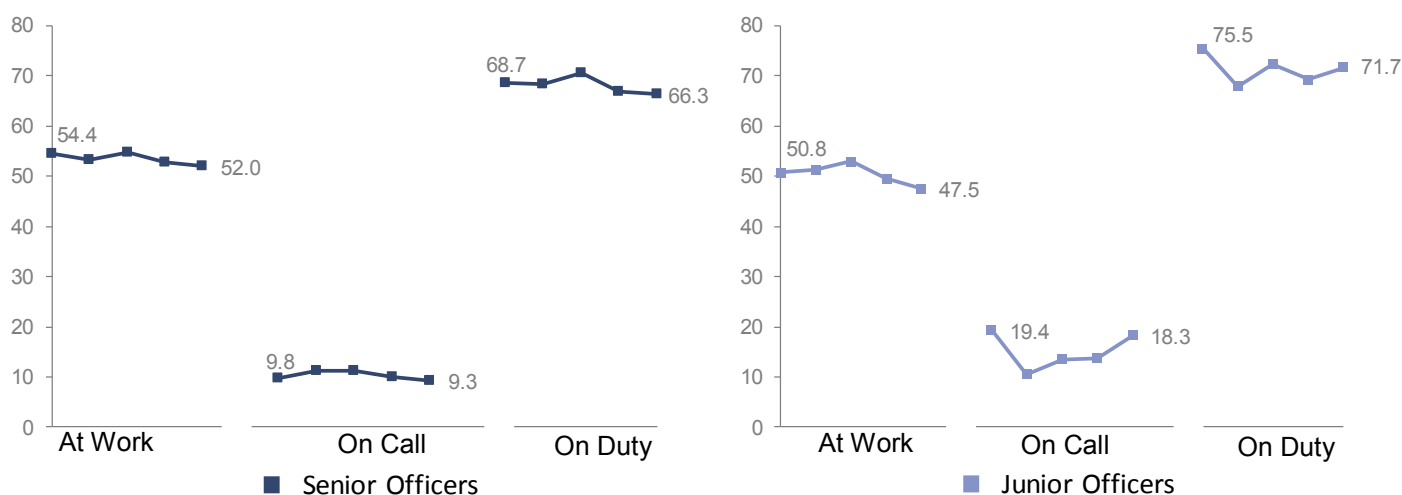
⇒ 23.5 hours on duty

Army personnel in located “elsewhere aboard” have seen a decrease in the number of hours spent on duty by 5.1 hours per week in the last year, returning to a similar number of hours reported in 2015/16 .

On average, Officers have spent more time at work and on duty, on average 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 (18.3 hours) and on duty (71.7 hours) per week than any other rank group. These have decreased by 1.1 and 3.8 hours respectively within the last five years. The number of hours worked in 2017/18 were the lowest observed over the last five years for all rank groups apart from Junior Other Ranks/Rates.

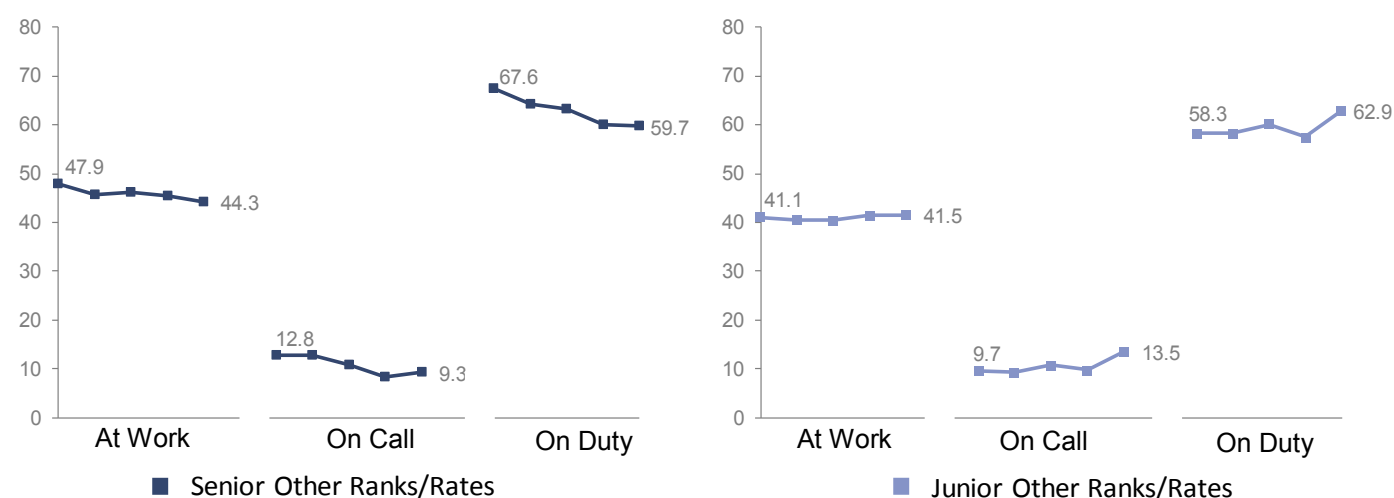
**Figure 36: Army average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2017/18**



Since 2013/14, Senior Officers and Junior Officers have seen respective decreases in the amount of hours spent:

- ⇒ at work by 2.4 and 3.3 hours
- ⇒ on call by 0.4 and 1.1 hours
- ⇒ on duty by 2.4 and 3.8 hours

**Figure 37: Army average weekly hours spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2017/18**



Since 2013/14, Senior Other Ranks/Rates have seen a decrease of:

- ⇒ 3.6 hours at work
- ⇒ 3.5 hours on call
- ⇒ 7.9 hours on duty

Since 2013/14, Junior Other Ranks/Rates have seen an increase of:

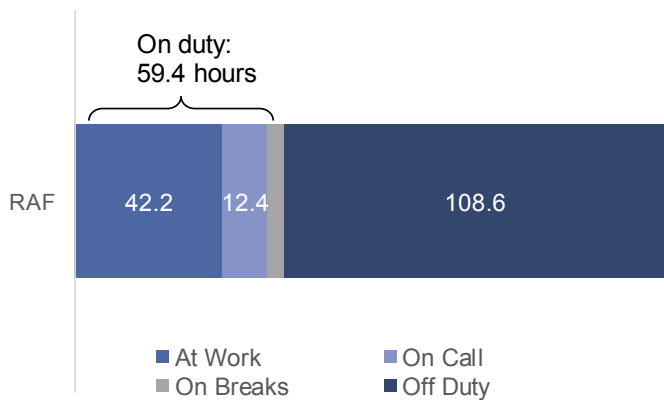
- ⇒ 0.4 hours at work
- ⇒ 3.8 hours on call
- ⇒ 4.6 hours on duty

# Section 4: The RAF

## 4.1 RAF working patterns, 2017/18

On average, RAF personnel worked 42.2 hours per week, a decrease of 0.8 hours since 2016/17.

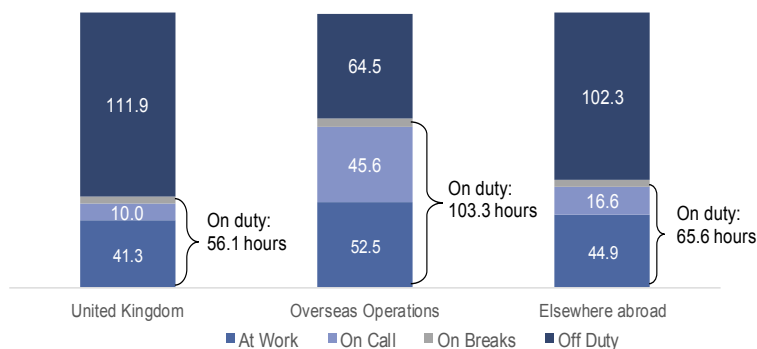
Figure 38: RAF working patterns, 2017/18



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

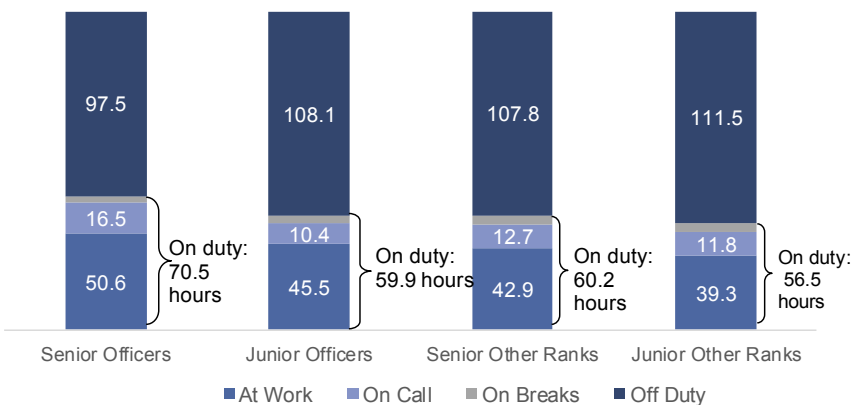
On average, RAF personnel have spent 59.4 hours on duty, a decrease from the 61.6 hours reported last year. This change is largely driven by the hours spent on call.

Figure 39: RAF working patterns by location, 2017/18



On average, personnel who are deployed on overseas operations continue to spend more time on duty (103.3 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, 2017/18



Senior Officers have spent more time on duty (70.5 hours) than any other RAF rank group. This is driven by Senior Officer spending more hours at work than any other RAF rank group.

**Table 4: Working patterns of RAF personnel by rank group, 2016-17 - 2017/18**

|                            | <b>At Work</b> |         | <b>On Call</b> |         | <b>On Duty</b> |         | <b>Key:</b>  |
|----------------------------|----------------|---------|----------------|---------|----------------|---------|--|
|                            | 2016/17        | 2017/18 | 2016/17        | 2017/18 | 2016/17        | 2017/18 |  |
| <b>RAF</b>                 | 43.0           | 42.2 ▼  | 13.5           | 12.4    | 61.6           | 59.4 ▼  | ▲ Significant increase from 2016/17<br>▼ Significant decrease from 2016/17 |
| <b>United Kingdom</b>      | 41.9           | 41.3    | 10.7           | 10.0    | 57.8           | 56.1    |  |
| <b>Overseas Operations</b> | 56.2           | 52.5 ▼  | 50.7           | 45.6    | 111.7          | 103.3 ▼ |  |
| <b>Elsewhere abroad</b>    | 46.5           | 44.9 ▼  | 19.5           | 16.6    | 70.4           | 65.6 ▼  |  |
| <b>Senior Officers</b>     | 50.3           | 50.6    | 15.0           | 16.5    | 68.5           | 70.5    |  |
| <b>Junior Officers</b>     | 46.3           | 45.5    | 11.8           | 10.4    | 62.1           | 59.9    |  |
| <b>Senior Ranks</b>        | 43.3           | 42.9    | 12.4           | 12.7    | 60.3           | 60.2    |  |
| <b>Junior Ranks</b>        | 40.6           | 39.3    | 14.2           | 11.8    | 60.7           | 56.5 ▼  |  |

**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, 2016/17 - 2017/18**

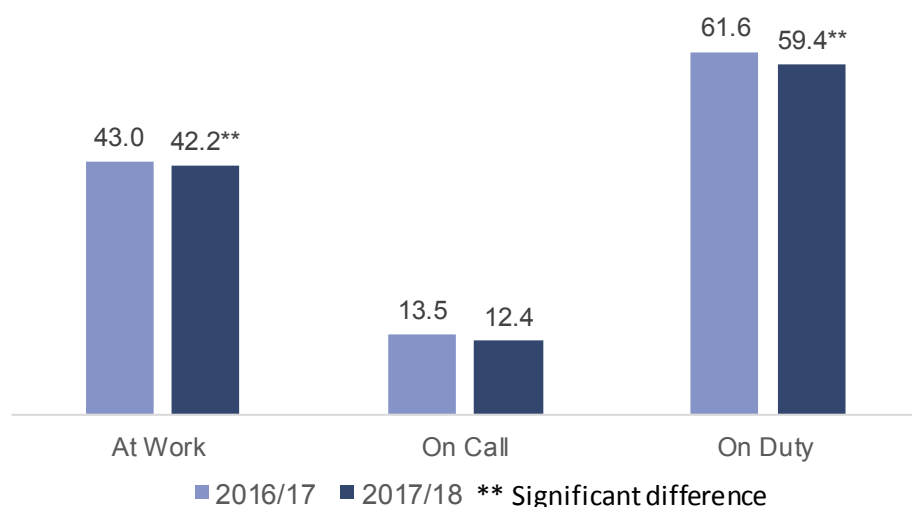
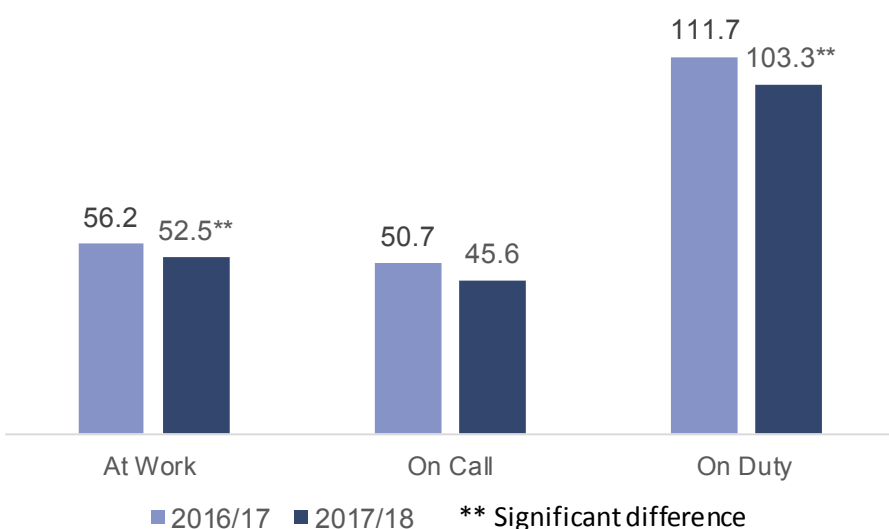


Figure 41 shows that, on average, the hours spent at work (42.2 hours) and on duty (59.4 hours) per week has decreased since 2016/17 (0.8 and 2.2 hours respectively).

**Figure 42: Working patterns of RAF personnel who are deployed on overseas operations, 2016/17 - 2017/18**



For RAF personnel who are deployed on overseas operations, the number of hours spent at work and on duty has decreased since last year by 3.7 and 8.4 hours respectively, shown in Figure 42. This can be partly explained by the UK Armed Forces ceasing all combat operations in 2014/15, see policy background on page 3 for more information.



4.2 RAF excessive hours worked and spent on duty, 2017/18

Section 4.2 is based on the 481 RAF personnel for whom a full week’s data was available.

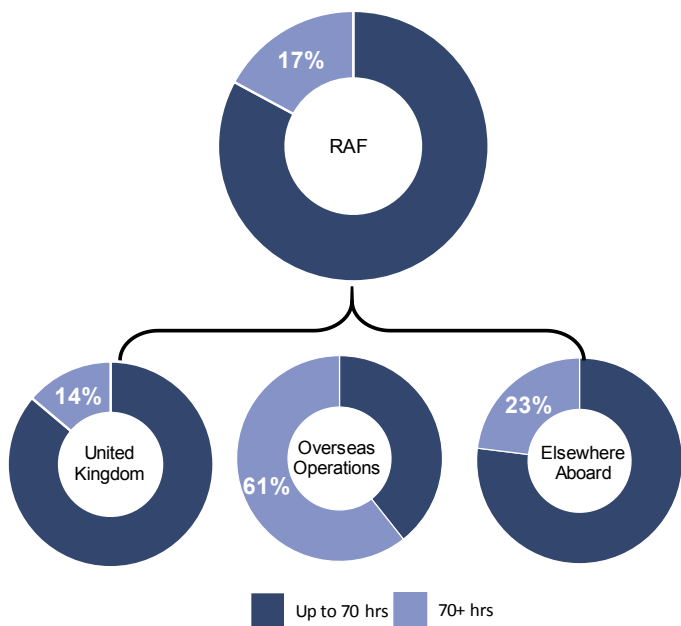
Overall, 17.0 per cent of personnel spent more than 70 hours per week on duty.

A larger proportion of RAF personnel deployed on overseas operations (61.0 per cent) spent more than 70 hours per week on duty than RAF personnel at any other location.

**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 2017/18

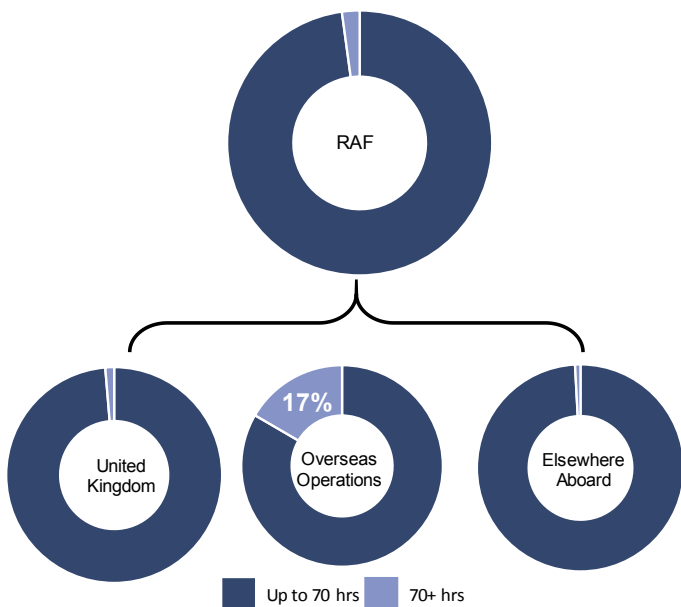


**Data Quality Note**

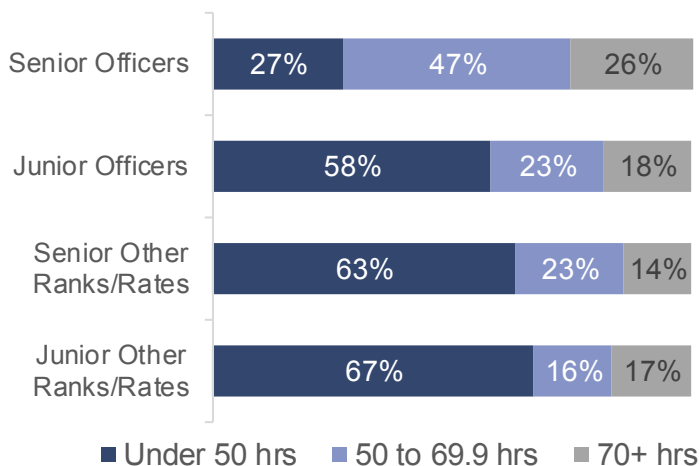
The results in Figure 43 and 44 are based a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are an indication of the working week of RAF personnel.

Figure 44: Proportion of RAF personnel spending more than 70 hours at work for the week surveyed by location, 2017/18

Overall, 2.0 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.



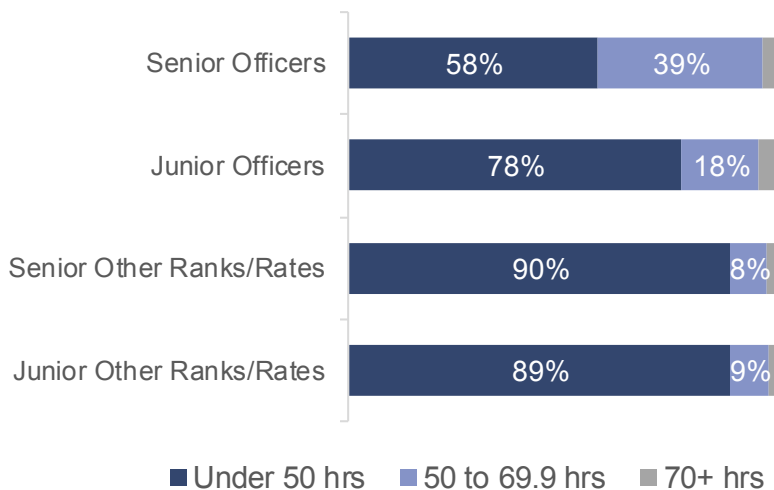
**Figure 45: Distribution of hours on duty of RAF personnel by rank group, 2017/18**



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.

The proportion of Senior Officers spending more than 70 hours per week on duty has increased this year to 26.0 per cent from 22.0 per cent in 2016/17.

**Figure 46: Distribution of hours at work of RAF personnel by rank group, 2017/18**

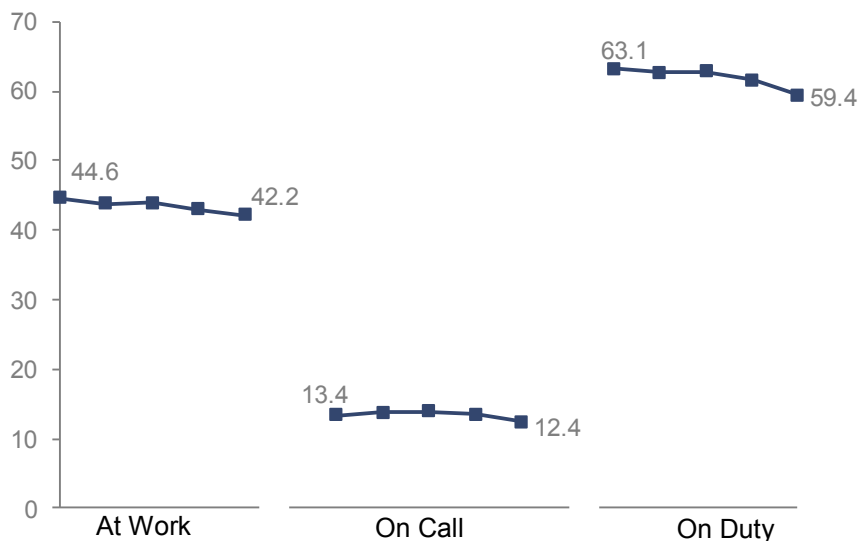


Although there is little difference across rank groups in the proportion of personnel that work 70 or more hours per week, the Junior Officers and Other Ranks have a greater proportion that work under 50 hours per week.

### 4.3 Time series of RAF working patterns, 2013/14 - 2017/18

Since 2013/14, there have been decreases in the number of hours worked, spent on call and on duty per week by RAF personnel. The figures reported in 2017/18 are the lowest observed in the last five years.

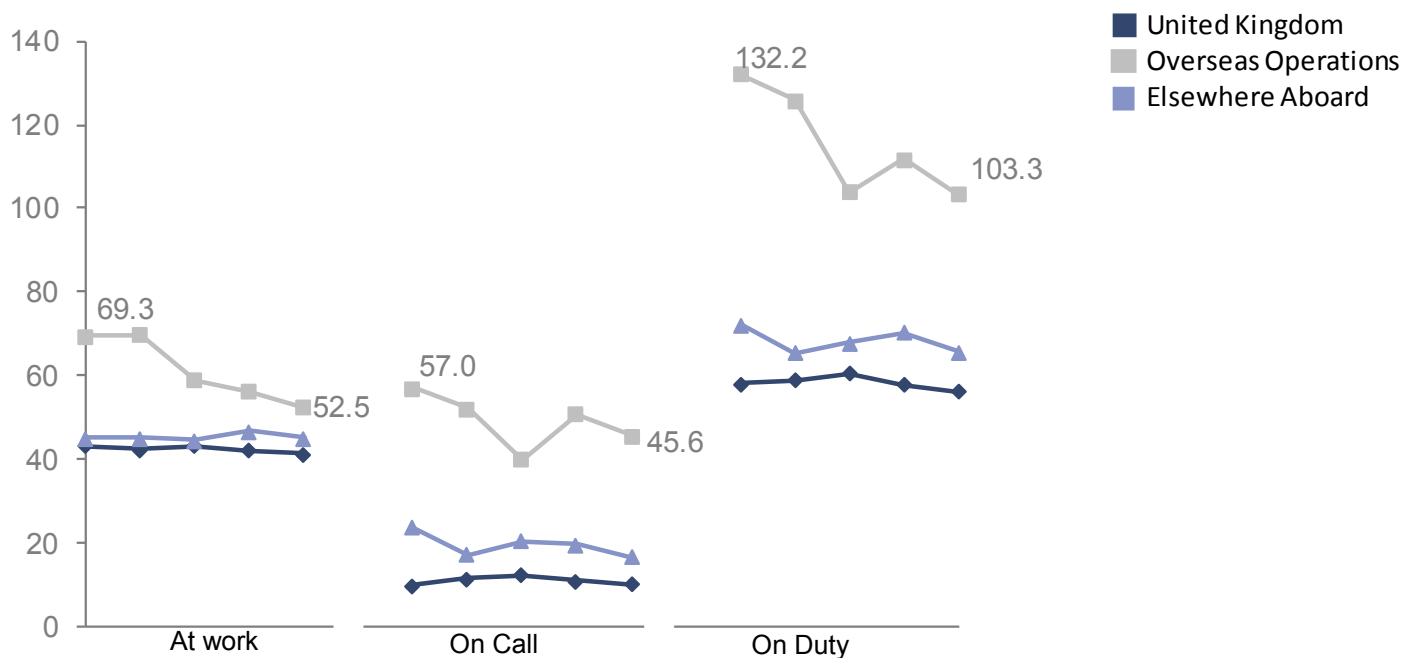
**Figure 47: RAF average weekly hours spent at work, on call and on duty, 2013/14 - 2017/18**



Since 2013/14, the number of hours RAF personnel have spent have decreased:

- ⇒ at work by 2.4 hours
- ⇒ on call by 1.0 hour
- ⇒ on duty by 3.7 hours

**Figure 49: RAF average weekly hours spent at work, on call and on duty by location, 2013/14 - 2017/18**

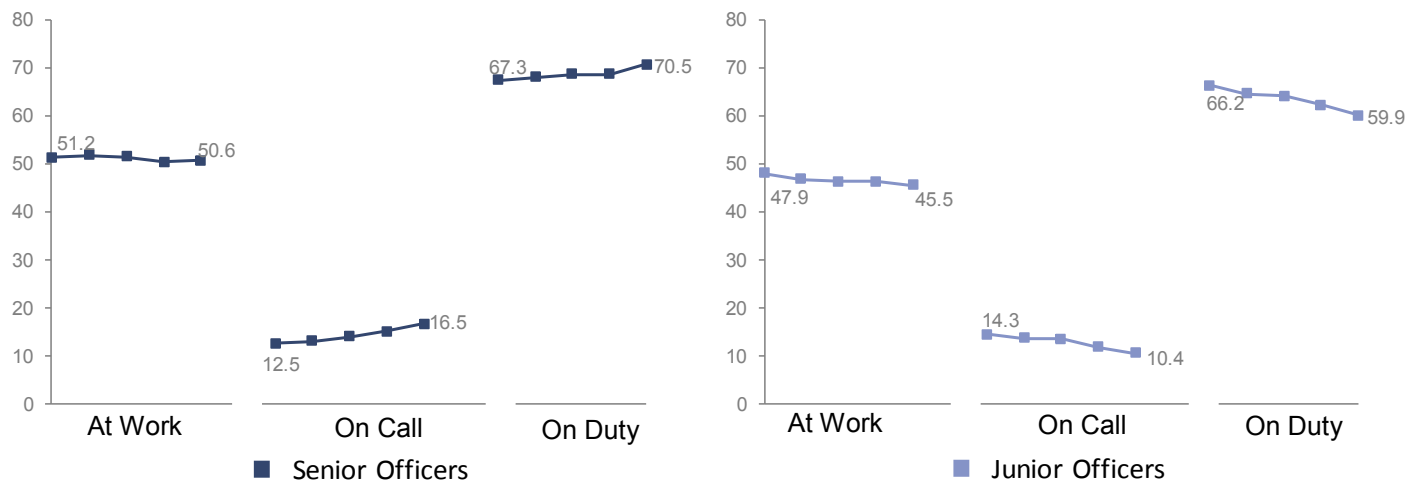


Hours spent on overseas operations have largely decreased over the last five years, by

- ⇒ 16.8 hours at work
- ⇒ 11.4 hours on call
- ⇒ 28.9 hours 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 those personnel at different locations, suggesting that average hours on call by rank group.

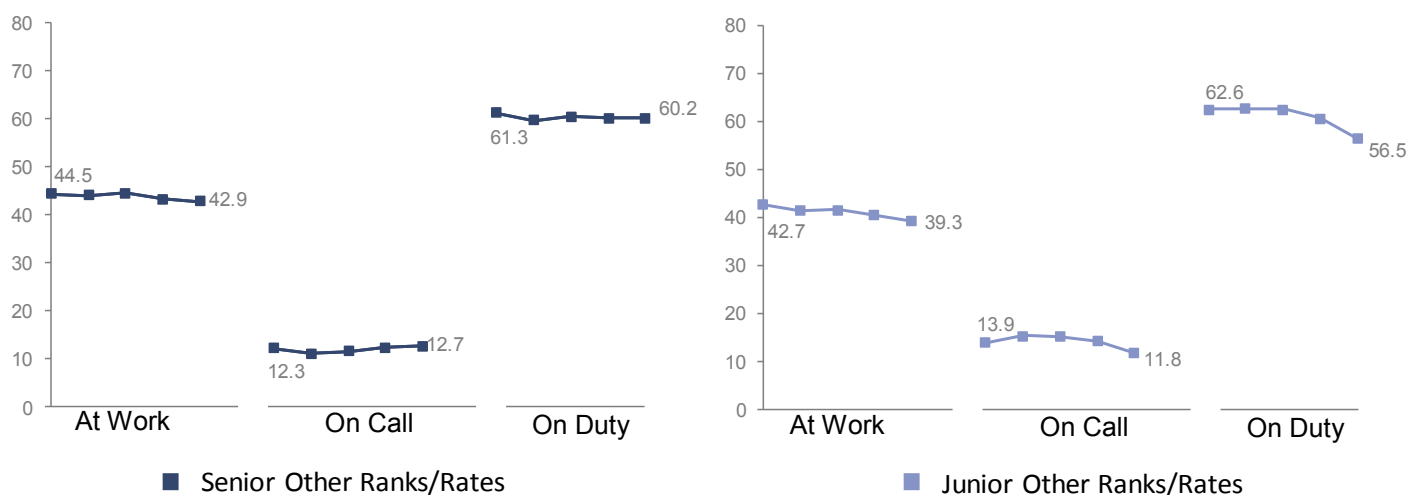
**Figure 50: RAF average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2017/18**



Since 2013/14, Senior Officers and Junior Officers have seen decreases in the amount of hours spent at work by 0.6 and 2.5 hours respectively.

Within the same time period, Senior Officers have increased the amount of hours they spend on call and on duty by 4.1 and 3.2 hours respectively. Junior Officers have seen decreases in the amount of hours spent on call and on duty by 3.9 and 6.3 hours respectively, as shown in Figure 50.

**Figure 51: RAF average weekly hours spent at work, on call and on duty by Other Ranks/Rates,, 2013/14 - 2017/18**



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, (1.6 and 3.3 hours and 1.1 and 6.1 hours respectively).

Senior Other Ranks/Rates have seen increases in the amount of hours spent on call (0.4 hours) whereas Junior Other Ranks/Rates have decreased the amount of hours spent on call by 2.1 hours, as shown in Figure 51.

# Methodology

## The questionnaire

CWP is a paper survey. Half the personnel in the sample were sent a questionnaire in September 2017, the other half were sent a questionnaire in February 2018. Data collection ran from September 2017 to April 2018.

The CWP questionnaire includes a 7 day diary; each day is divided into four periods of 6 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 2017/18 response rates can be seen in Table 5 below:

**Table 5: Valid response rates by Service 2016/17**

|                    | Sample size   | Valid responses | Valid response rate |
|--------------------|---------------|-----------------|---------------------|
| <b>Tri-Service</b> | <b>21,116</b> | <b>3,571</b>    | <b>17%</b>          |
| Naval Service      | 9,425         | 1,350           | 14%                 |
| Army               | 7,648         | 1,367           | 18%                 |
| RAF                | 4,043         | 854             | 21%                 |

The total CWP sample consisted of 21,116 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, and 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    |
|--------------|------------|------------|------------|------------|------------|
| <b>Army</b>  | 545        | 164        | 109        | 143        | 122        |
| <b>RAF</b>   | 325        | 199        | 144        | 189        | 139        |
| <b>Total</b> | <b>870</b> | <b>363</b> | <b>253</b> | <b>332</b> | <b>261</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.

## 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 regular planned revisions of this report. Amendments to figures for earlier years may be identified during the annual compilation of this report. This 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 a table this could make them more difficult to read.

Occasionally updated figures will be provided to the editor during the course of the year. Since this Bulletin is published electronically, it is possible to revise figures during the course of the year. However to ensure continuity and consistency, figures will only be adjusted during the year where it is likely to substantially affect interpretation and use of the figures.

### 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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