Annual Medical Discharges in the UK Regular Armed Forces

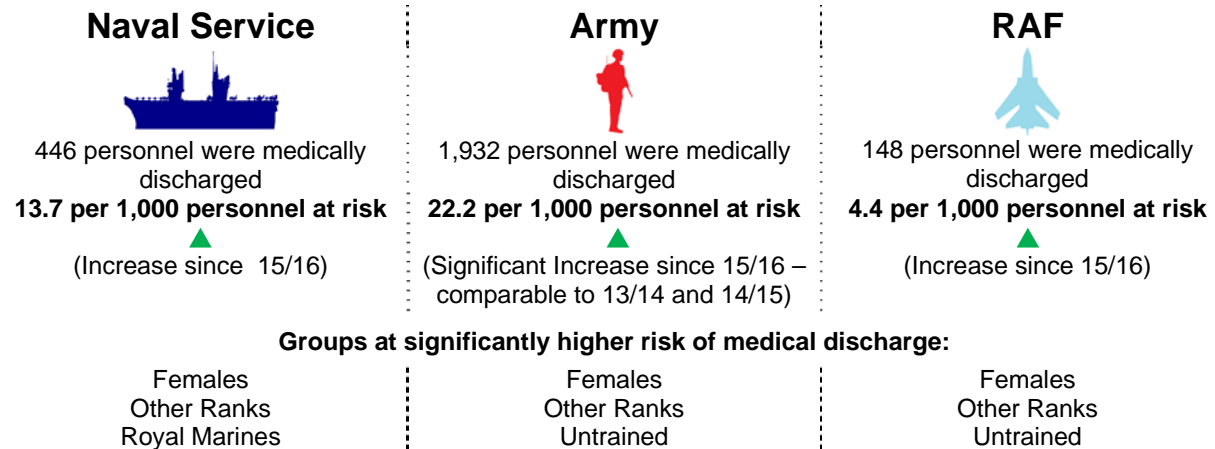## 1 April 2012 to 31 March 2017

Published 13 July 2017

This Official Statistic provides information on medical discharges among UK Regular Service personnel, along with the medical causes leading to the discharge. When a medical condition or fitness issue affects a member of UK Armed Forces personnel, their ability to perform their duties is assessed. If they are unable to perform their duties and alternative employment is not available, personnel can then be medically discharged. Medically discharged personnel leave the Armed Forces prior to the completion of their contract and may be entitled to additional payments as part of their military pension.
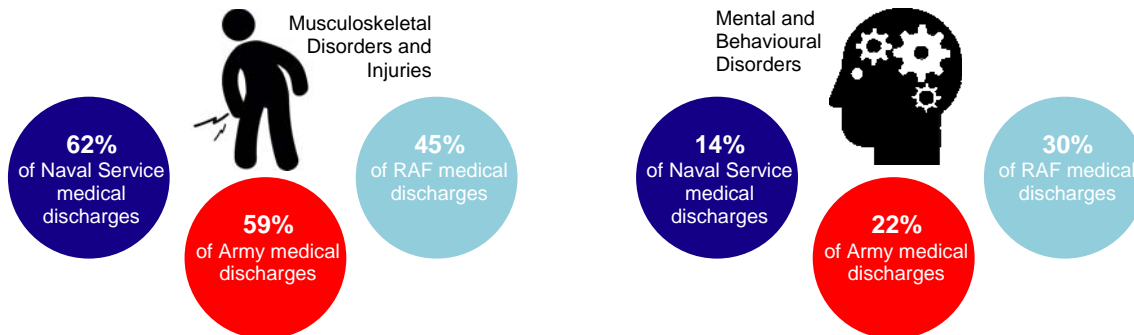
When UK Armed Forces personnel are medically discharged, the medical reason for the discharge is recorded and categorised. It is possible for personnel to be medically discharged for multiple reasons (known as co-morbidity).

Key Points and Trends

Between 1 April 2016 and 31 March 2017 (2016/17):

Naval Service

446 personnel were medically discharged

13.7 per 1,000 personnel at risk

▲

(Increase since 15/16)

Army

1,932 personnel were medically discharged

22.2 per 1,000 personnel at risk

▲

(Significant Increase since 15/16 – comparable to 13/14 and 14/15)

RAF

148 personnel were medically discharged

4.4 per 1,000 personnel at risk

▲

(Increase since 15/16)

Groups at significantly higher risk of medical discharge:

Females	Females	Females
Other Ranks	Other Ranks	Other Ranks
Royal Marines	Untrained	Untrained

For all three Services, the main causes of medical discharges were Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders. This was in line with findings from previous years. There were no statistically significant changes in the proportions of medical discharges due to Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders.

Musculoskeletal Disorders and Injuries

62% of Naval Service medical discharges

59% of Army medical discharges

45% of RAF medical discharges

Mental and Behavioural Disorders

14% of Naval Service medical discharges

22% of Army medical discharges

30% of RAF medical discharges

More than half (one in two) of personnel medically discharged leave as a result of multiple medical conditions.

Contents

Past publications and supplementary tables containing all data presented in this publication, including detailed monthly breakdowns, can be found at

https://www.gov.uk/government/collections/medical-discharges-among-uk-service-personnel-statistics-index.

Introduction

Service personnel with medical conditions or fitness issues which affect their ability to perform their duties will generally be referred to a medical board for a medical examination and review of their medical grading. In clear cut cases where the individual's fitness falls below the Service employment and retention standards[1] the board will recommend a medical discharge. In many cases however, the patient will first be downgraded, to allow for treatment, recovery and rehabilitation. For personnel who do not make a total recovery, the board may recommend the patient is retained as permanently downgraded with limited duties, or they may recommend a medical discharge. The recommendation is then forwarded to personnel administration units or an employment board for ratification or decision and action.

This report provides the Ministry of Defence (MOD), the general public and the media with information on medical discharges in the UK Regular Armed Forces. In addition this information is used to prioritise resources used for the rehabilitation and reintegration of personnel leaving the Armed Forces for medical reasons and to help inform discussions on injury prevention in the Armed Forces.

Each of the three Services are presented separately as comparisons between the Services are considered invalid. This is because practices and protocols for recommending and awarding a medical discharge differ. This is particularly true for untrained personnel.

Please note that this report focuses exclusively on medical discharges that have actually occurred; medically downgraded personnel that are retained in Service or exit the forces for any other reason are excluded[2]. Also, as these statistics relate only to the population of personnel who medically discharged, the proportions of medical reasons leading to discharge are not necessarily indicative of the prevalence of such conditions in the entire UK Armed Forces population.

Please note that Defence Statistics (Health) did not receive all Army discharge paperwork confirming cause of medical discharge for 1 April 2013 to 31 March 2017, and Naval Service and RAF paperwork for 1 April 2015 to 31 March 2016. Therefore, cause information for these years should be considered a minimum. Please see the Annual Medical Discharges in the UK Regular Armed Forces Background Quality Report[3] for further information.

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[1] As laid down in JSP 346 and/or the single Services retention standards for their career group.
[2] Official Statistics on UK Service Personnel outflows can be found at https://www.gov.uk/government/collections/uk-armed-forces-monthly-service-personnel-statistics-index.
[3] https://www.gov.uk/government/statistics/uk-service-personnel-medical-discharges-background-quality-report

Executive Summary

Between 1 April 2016 and 31 March 2017, of the UK Regular Armed Forces population:

- 446 Naval Service personnel[4] were medically discharged, equating to 13.7 per 1,000 personnel.
- 1,932 Army personnel were medically discharged, equating to 22.2 per 1,000 personnel (a significant increase compared to the previous year).
- 148 RAF personnel were medically discharged, equating to 4.4 per 1,000 personnel.

For each of the Services, changes in policy and practices influenced the rate of medical discharge. All three Services currently operate a retention positive employment policy, seeking to keep personnel in Service wherever a job exists that can be performed with the limitations imposed by the individual's illness or injury.

Whilst this policy of retention resulted in falls in the rate of medical discharge in previous years, between 1 April 2016 and 31 March 2017, the rate of medical discharges increased in all Services compared to the previous year. This may be a result of limited numbers of roles suitable for ill or injured personnel.

Between 1 April 2016 and 31 March 2017 certain demographic groups were significantly more likely to medically discharge:

- Females in each of the three Services.
- Other Ranks in each of the three Services.
- Royal Marines in the Naval Service only.
- Untrained personnel in the Army and RAF only.

Possible explanations for the higher rates among these demographic groups are explored in the single Service sections of this Official Statistic.

For the last two financial years (1 April 2015 to 31 March 2017) females had a significantly higher rate of medical discharge than males in all three Services, however this has not always been the case; prior to 1 April 2015 there was no significant difference between the male and female discharge rates in the Army. Females in the Naval Service were at a significantly higher risk of medical discharge than males in every year since 1 April 2012 apart from the 2014/15 (1 April 2014 to 31 March 2015). Females in the RAF have been at significantly higher risk than males in every year since 1 April 2013.

For each of the Services, the two most common principal causes of medical discharge were Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders. This finding is likely to be due to the physical demands of the role of the UK Armed Forces and difficulty retaining personnel with severe or enduring mental ill-health given the nature of their role and access to weapons, as well as the commonality of these conditions among the general population. The Canadian military[5] also report Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders as their two most common reasons for medical release.

Between 1 April 2012 and 31 March 2017 there was an increase in the proportion of medical discharges with a cause of Mental and Behavioural Disorders in all Services. This may have been due to anti-stigma campaigns run by the MOD, leading to an increase in awareness regarding mental health issues among UK Armed Forces personnel, Commanding Officers and clinicians. This in turn may have led to greater detection rates.

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[4] Includes Royal Navy and Royal Marines
[5] Poisson, R. (2015). The imperative of military medical research and the duty to protect, preserve, and provide advanced evidence-informed care [online], Journal of Military, Veteran and Family Health; 1(1) available at
http://jmvfh.utpjournals.press/doi/pdf/10.3138/jmvfh.2014-11 accessed on 9 June 2017.

Naval Service

Trends in Medical Discharges

The rate of medical discharges for Naval Service personnel fluctuated between 1 April 2012 and 31 March 2017. In the most recent year, 1 April 2016 to 31 March 2017, there were 446 medical discharges (280 personnel, a rate of 11.2 per 1000 in the Royal Navy, 166 personnel, a rate of 22.4 per 1000 in the Royal Marines), equal to 13.7 medical discharges per 1,000 personnel (**Figure 1**).

▼ The rate of medical discharges fell between 1 April 2007 and 31 March 2010. This was partly due to the Naval Service retaining personnel where an alternative role was available, and where retention was in the best interests of both the individual and the Service. Manpower shortages within the Naval Service resulted in an increase in suitable roles that personnel could transfer into.

▲ The rate of medical discharges rose between 1 April 2010 and 31 March 2012. This may have been a result of the improved management of the recovery care pathway[6], the completion of treatment of personnel injured on operations and the limited number of non-deployable roles available in the Naval Service.

▼ The rate of medical discharges fell between 1 April 2013 and 31 March 2014. During this financial year there was a reduction in the capacity of Naval Service Medical Boards due to a lack of administrative support; this may have contributed to the fall in the rate of medical discharges. Additionally, following the Strategic Defence and Security Review (SDSR), there was a greater need to retain downgraded personnel.

▲ The rate of medical discharges rose between 1 April 2014 and 31 March 2017. This may have been due to an increase in the capacity of Naval Service medical boards. Increased capacity also meant that the medical boards could reduce any backlog of personnel awaiting a formal medical board.

Figure 1: UK Regular Naval Service[1] medical discharges by financial year, Numbers and Crude rates per 1,000 personnel at risk
1 April 2007 to 31 March 2017
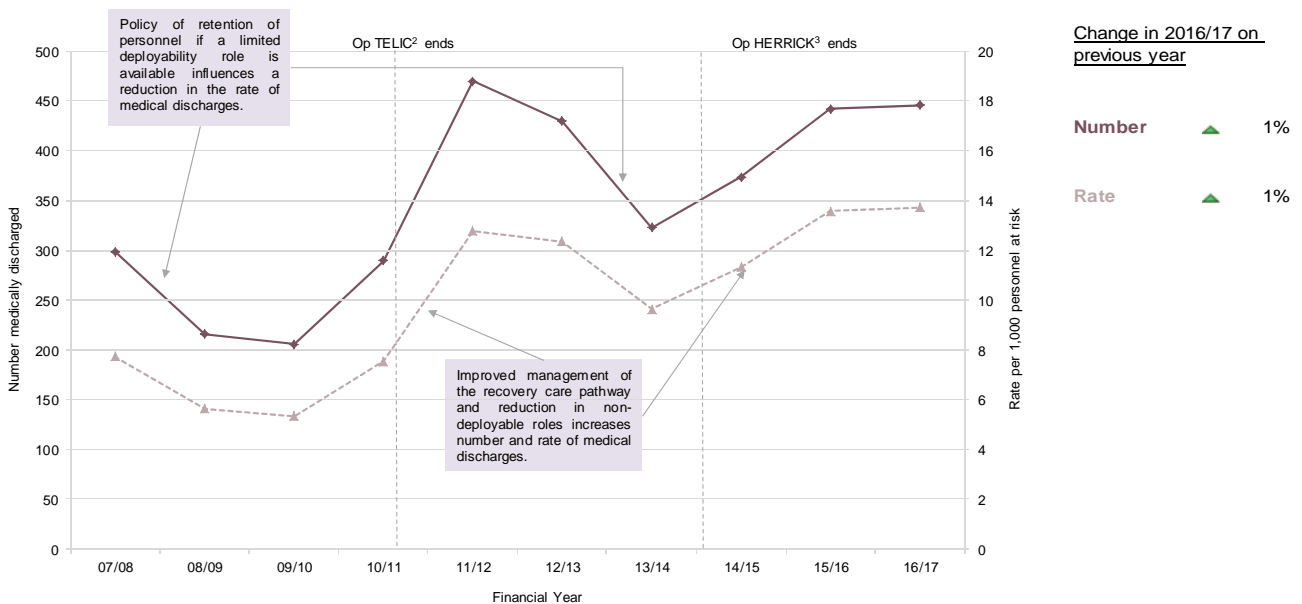
Source: DMICP, FMed 23 and JPA
[1] Naval Service includes Royal Navy and Royal Marines.
[2] Operation TELIC is the name for UK operations in Iraq which began March 2003 and ended on 21 May 2011.
[3] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.

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[6] https://www.gov.uk/government/collections/uk-armed-forces-recovery-capability-wounded-injured-and-sick-in-the-recovery-pathway-statistics

Naval Service Continued

Demographic Risk Groups

This report considers each demographic factor separately for those who have medically discharged. Defence Statistics aim to develop analysis for future reports to investigate how demographic factors may interact.

Between 1 April 2016 and 31 March 2017, the rate of medical discharge was significantly[7] higher for Regular Naval Service personnel within specific demographic groups (**Table 1**):

- Personnel aged 25-34 years.
- Female personnel.
- Other Ranks.
- Royal Marines.

The demographic groups that displayed a high rate of medical discharge between 1 April 2016 and 31 March 2017 were consistent with results seen in the recovery pathway[8,9] which found that female and Other Ranks personnel had higher proportions of personnel under the care of the Naval Service recovery capability.

The lower rate of medical discharges among certain demographic groups may be due to their role requirements; medical conditions that could be managed on land are more problematic at sea due to limited access to medical care. The lower rate of medical discharge among officers and older personnel may be due to more opportunities to be placed in an ashore role with less strict medical requirements, along with longer length of service increasing the likelihood that personnel have specialist skills required in shore-based roles.

The reasons for the significantly higher rate of medical discharges among female Naval Service personnel are unknown; however studies indicate that females may be more likely to approach healthcare services for health concerns, which may lead to a higher rate of reporting[10].

Table 1 can be found for Royal Navy and Royal Marines as individual populations in **Annex A** (page 31).

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[7] Tested using a z-test for proportions at a 95% confidence level
[8] https://www.gov.uk/government/collections/uk-armed-forces-recovery-capability-wounded-injured-and-sick-in-the-recovery-pathway-statistics
[9] Recovery is the non-medical care for those who are wounded, injured or sick
[10] Thompson, A. et al. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study [online], BMC Family Practice; 1(1) available at https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-016-0440-0 accessed on 6 July 2017.

Naval Service Continued

Table 1: UK Regular Naval Service[1] medical discharges by age group[2], gender[2], rank[2] and training status[2], Numbers[3] and Rates per 1,000 personnel at risk
1 April 2016 to 31 March 2017

	2016/17		Rate of UK Regular Naval Service personnel medically discharged
	n	r	
Number of UK Regular Naval Service personnel medically discharged	**446**	**13.7**	
Age			
Aged Under 20	6	4.9	
Aged 20-24	56	9.2	
Aged 25-29+	156	19.4	
Aged 30-34+	134	21.9	
Aged 35-39	46	10.7	
Aged 40-44	31	10.2	
Aged 45-49	14	5.8	
Aged 50 +	3	2.1	
Gender			
Male	384	13.0	
Female*	62	20.5	
Rank			
Officer	22	3.2	
Other Rank*	424	16.5	
Training Status			
Trained	396	13.5	
Untrained	50	15.4	
Service			
Royal Navy	280	11.2	
Royal Marines*	166	22.4	

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[3] In line with JSP 200, numbers fewer than five were not suppressed in demographics tables as Defence Statistics assessed that these figures did not disclose sensitive personal information.
+ Groups found to be at a significantly higher than average risk using a z-test for a single proportion at a 95% confidence level.
* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

Naval Service Continued

Figures 2 to **6** present the Naval Service medical discharges by demographic group from 1 April 2012 to 31 March 2017 with possible explanations for the differences observed.

Figure 2: UK Regular Naval Service[1] medical discharges by age group[2,3] and financial year, Rates per 1,000 personnel at risk

1 April 2012 to 31 March 2017
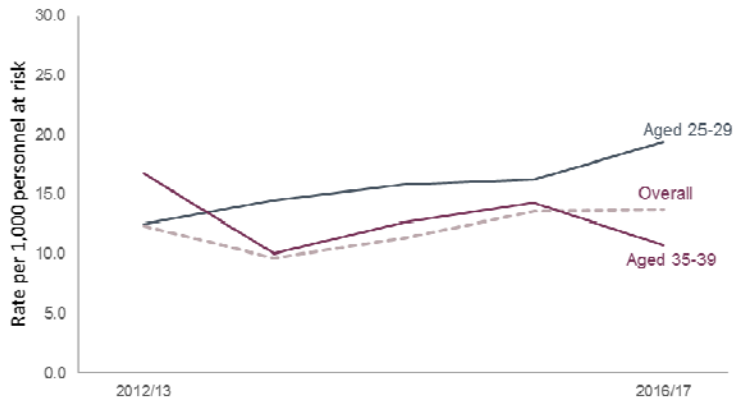
The rate of medical discharge in the Naval Service rose by 1% from 2015/16 to 2016/17. A number of age groups showed different trends to this; the rate of medical discharges among personnel aged 35-39 fell by 25% whereas the rate among personnel aged 25-29 rose by 19% (**Figure 2**). The reasons for these differences are unclear. Other age groups are presented in graphs within the supporting Excel tables.

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[3] Only the age groups discussed within report commentary are presented for ease of presenting; graphs displaying all age groups can be found within the supporting Excel tables.

Figure 3: UK Regular Naval Service[1] medical discharges by gender[2] and financial year, Rates per 1,000 personnel at risk

1 April 2012 to 31 March 2017

In each of the years presented, with the exception of 2014/15, the rate of medical discharges was significantly higher among females compared to males (**Figure 3**). The reason for the larger increase seen among female medical discharges compared to males between 1 April 2015 and 31 March 2016 is unclear, however the disparity between males and females lessened between 1 April 2016 and 31 March 2017 due to a decrease in the rate of medical discharge of females.

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Figure 4: UK Regular Naval Service[1] medical discharges by rank[2] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017

In each of the years presented, the rate of medical discharges among Other Ranks was significantly higher than Officers. The rate of discharge among Other Ranks since 1 April 2014 has increased at a greater rate than for Officers. This may be a result of a saturation of limited deployability "ashore" roles for Other Ranks personnel (**Figure 4**).

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Figure 5: UK Regular Naval Service[1] medical discharges by training status[2] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017
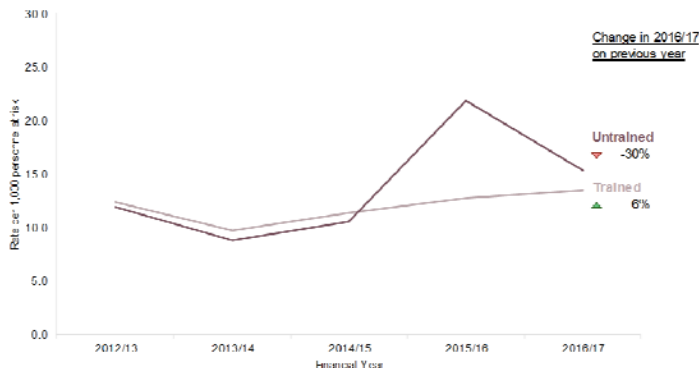
In each of the years presented there was no significant difference in the rate of medical discharges among trained and untrained personnel, with the exception of from 1 April 2015 to 31 March 2016; in that year, the rate of medical discharges among untrained personnel rose by 108% and the rate was significantly higher compared to the rate among trained personnel (**Figure 5**).
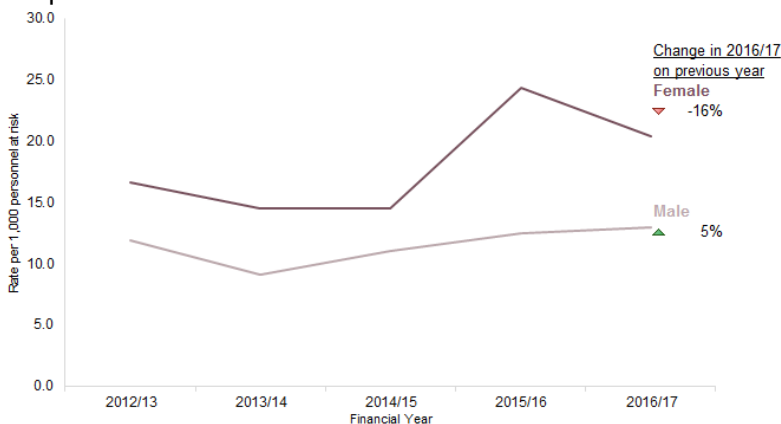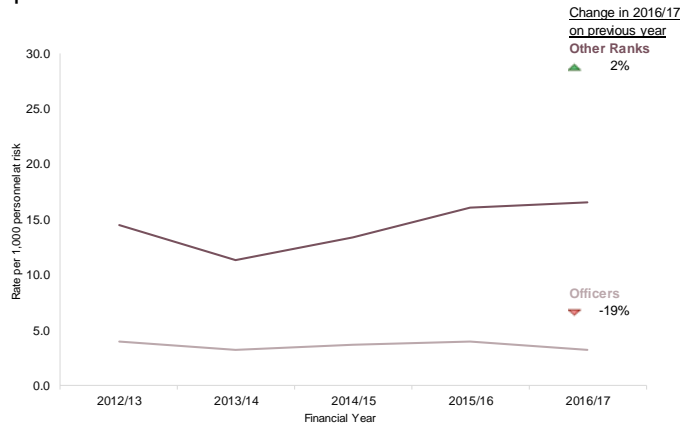
Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

The increase in the rate of medical discharge among untrained personnel between 1 April 2015 and 31 March 2016 was likely to be the result of policy changes where Phase 1 trainees with emergent medical conditions were discharged earlier from the Naval Service. Between 1 April 2015 and 31 March 2016 the rise was due to a combination of Naval Service Phase 1 trainees being discharged through the standard Medical Board of Service (MBOS) route and those being discharged earlier under the new policy not requiring MBOS. So this is unlikely to represent a true increase, rather it reflects the change in policy to decrease the time taken to medically discharge a Naval Service Phase 1 trainee. The subsequent reduction in rate of medical discharges between 1 April 2016 and 31 March 2017 may be due to the clearing of a backlog of untrained personnel between 1 April 2015 and 31 March 2016.

Figure 6: UK Regular Naval Service medical discharges by Royal Marines/Royal Navy[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017
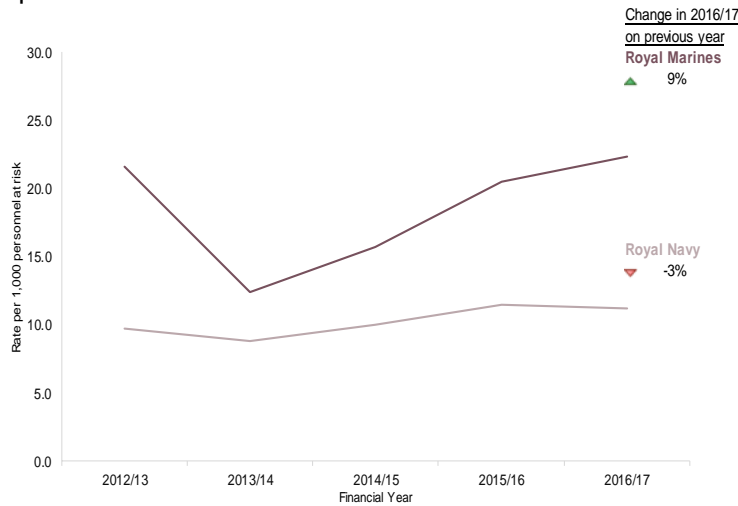
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

From 1 April 2012 to 31 March 2017, the rate of medical discharge among Royal Navy personnel was relatively stable at around 11 per 1,000 personnel at risk. By contrast, the rate of medical discharges for Royal Marines fluctuated, with a peak of 22.4 per 1,000 personnel between 1 April 2016 and 31 March 2017 and a low of 12.4 per 1,000 personnel between 1 April 2013 and 31 March 2014. The fall in the rate of medical discharge between 1 April 2013 and 31 March 2014 is believed to be the result of a reduction in the capacity of Naval Service Medical Boards due to a lack of administrative support (**Figure 6**).

The higher rate of medical discharge among Royal Marines is likely to be due a number of factors:

- A higher standard of physical fitness associated with deployment is required in the Royal Marines.
- Less availability of roles within the Royal Marines for personnel with limited deployabililty compared to the Royal Navy.
- Royal Marines injured on Operations that were medically discharged.

Causes of Medical Discharge

When UK Armed Forces personnel are medically discharged, the medical reason for the discharge is recorded and categorised using a coding system known as ICD-10 (see Glossary). **Table 2** shows this information by principal ICD-10 cause code group (the chapter within which the condition is categorised) and year for the five-year period from 1 April 2012 to 31 March 2017.

Principal cause is the main medical cause leading to the discharge.

Contributory causes include any other conditions identified that may have had an impact on the decision to recommend a medical discharge.

Table 2: UK Regular Naval Service[1] medical discharges by principal ICD-10 cause code group and financial year, Numbers[2] and Percentages[3]
1 April 2012 to 31 March 2017

	All		2012/13		2013/14		2014/15		2015/16		2016/17	
	n	%	n	%	n	%	n	%	n	%	n	%
All medical discharges	2,015		430		323		374		442		446	
All cause coded medical discharges	2,008	100	429	100	323	100	374	100	436	100	446	100
Infectious and parasitic diseases (A00 - B99)	6	<1	~	<1	~	<1	0	0	~	<1	~	<1
Neoplasms (C00 - D48)	24	1	6	1	~	1	~	1	~	<1	6	1
Blood disorders (D50 - D89)	8	<1	~	<1	~	<1	~	<1	0	0	~	<1
Endocrine, nutritional and metabolic diseases (E00 - E90)	32	2	9	2	9	3	6	2	~	1	~	<1
- Of which diabetes (E10-E14)	26	1	8	2	7	2	6	2	~	<1	~	<1
- Of which insulin-dependent (E10)	20	<1	5	1	5	2	6	2	~	<1	~	<1
- Of which non-insulin-dependent (E11)	6	<1	~	<1	~	<1	0	0	0	0	~	<1
Mental and behavioural disorders (F00 - F99)	255	13	45	10	36	11	40	11	72	17	62	14
- Of which mood disorders (F30 - F39)	95	5	18	4	15	5	19	5	25	6	18	4
- Of which depression (F32 & F33)	78	4	16	4	13	4	14	4	18	4	17	4
- Of which neurotic, stress related and somatoform disorders (F40 - F48)	128	6	24	6	13	4	16	4	36	8	39	9
- Of which post-traumatic stress disorder (PTSD) (F431)	63	3	14	3	5	2	5	1	16	4	23	5
- Of which adjustment disorder (F432)	9	<1	~	<1	~	<1	0	0	~	<1	~	<1
Nervous system disorders (G00 - G99)	56	3	11	3	8	2	5	1	16	4	16	4
- Of which epilepsy (G40)	15	<1	5	1	~	<1	~	<1	~	<1	6	1
Eye and adnexa diseases (H00 - H59)	23	1	7	2	~	1	7	2	~	<1	~	<1
- Of which blindness, low vision and visual disturbance (H53 & H54)	5	<1	~	<1	0	0	~	<1	~	<1	~	<1
Ear and mastoid process diseases (H60 - H95)	98	5	25	6	19	6	14	4	21	5	19	4
- Of which hearing loss (H833 & H90 - H91)	87	4	23	5	18	6	14	4	17	4	16	4
- Of which noise-induced hearing loss (H833)	39	2	18	4	9	3	8	2	~	<1	~	<1
- Of which tinnitus (H931)	~	<1	0	0	0	0	0	0	~	<1	~	<1
Circulatory system disorders (I00 - I99)	34	2	6	1	7	2	6	2	10	2	5	1
Respiratory system disorders (J00 - J99)	31	2	~	1	~	2	~	1	10	2	7	2
- Of which asthma (J45 & J46)	28	1	~	<1	5	2	~	1	9	2	6	1
Digestive system disorders (K00 - K93)	66	3	12	3	8	2	14	4	19	4	13	3
Skin and subcutaneous tissue diseases (L00 - L99)	47	2	12	3	6	2	11	3	10	2	8	2
Musculoskeletal disorders (M00 - M99) and injuries (S00 - T98)	1,231	61	256	60	196	61	248	66	253	58	278	62
- Of which injuries and disorders of the knee[4]	326	16	77	18	47	15	71	19	62	14	69	15
- Of which knee pain (M2556)	120	6	25	6	20	6	16	4	24	6	35	8
- Of which back pain (M544-5 & M549)	181	9	39	9	29	9	31	8	39	9	43	10
- Of which low back pain (M544-5)	154	8	33	8	25	8	24	6	34	8	38	9
- Of which injuries and disorders of the ankle and foot[5]	121	6	26	6	17	5	25	7	29	7	24	5
- Of which heat injury (T67)	0	0	0	0	0	0	0	0	0	0	0	0
- Of which cold injury (T68 & T69)	16	<1	~	<1	0	0	~	<1	10	2	~	<1
Genitourinary system diseases (N00 - N99)	13	<1	5	1	~	<1	~	<1	~	<1	~	<1
Pregnancy, childbirth and puerperium (O00 - O99)	0	0	0	0	0	0	0	0	0	0	0	0
Congenital malformations (Q00 - Q99)	6	<1	~	<1	~	<1	0	0	~	<1	~	<1
Clinical and laboratory findings (R00 - R99)	57	3	16	4	10	3	7	2	8	2	16	4
Factors influencing health status (Z00 - Z99)	21	1	8	2	~	<1	6	2	~	<1	~	<1
No details held on principle condition for medical boarding	6		0		0		0		6		0	
Withheld consent	1		1		0		0		0		0	

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] ~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. Please see background quality report for more information.
[3] Data presented as "<1%" represent a percentage of cause coded medical discharges of greater than 0% but smaller than 1%.
[4] Injuries and disorders of the knee have been compiled using ICD-10 codes, please see annex for specific codes.
[5] Injuries and disorders of the ankle and foot have been compiled using ICD-10 codes, please see annex for specific codes.

Table 2 can be found for Royal Navy and Royal Marines as individual populations in **Annex A**

Naval Service Continued

Between 1 April 2012 and 31 March 2017, Musculoskeletal Disorders and Injuries were the largest cause of Naval Service medical discharges, accounting for between 58% and 66% of all medical discharges. The proportion of discharges for this cause rose by 4% in 2016/17 compared to the previous year (**Figure 7**).

The proportion of discharges for Mental and Behavioural Disorders saw a decrease of 3% in 2016/17 compared to the previous year. This was driven by a reduction in Mood Disorders and Musculoskeletal Disorders and Injuries forming a greater proportion of medical discharges.

The percentage of medical discharges for Ear and Mastoid Process Diseases in 2016/17 (n = 19, 4%) remained comparable to percentages seen in previous years. As with the previous reporting year, hearing loss accounted for 84% of medical discharges due to Ear and Mastoid Process Diseases (n = 16).

Figure 7: UK Regular Naval Service[1] medical discharges by principal ICD-10 cause code group and financial year, Percentage of all medical discharges
1 April 2012 to 31 March 2017
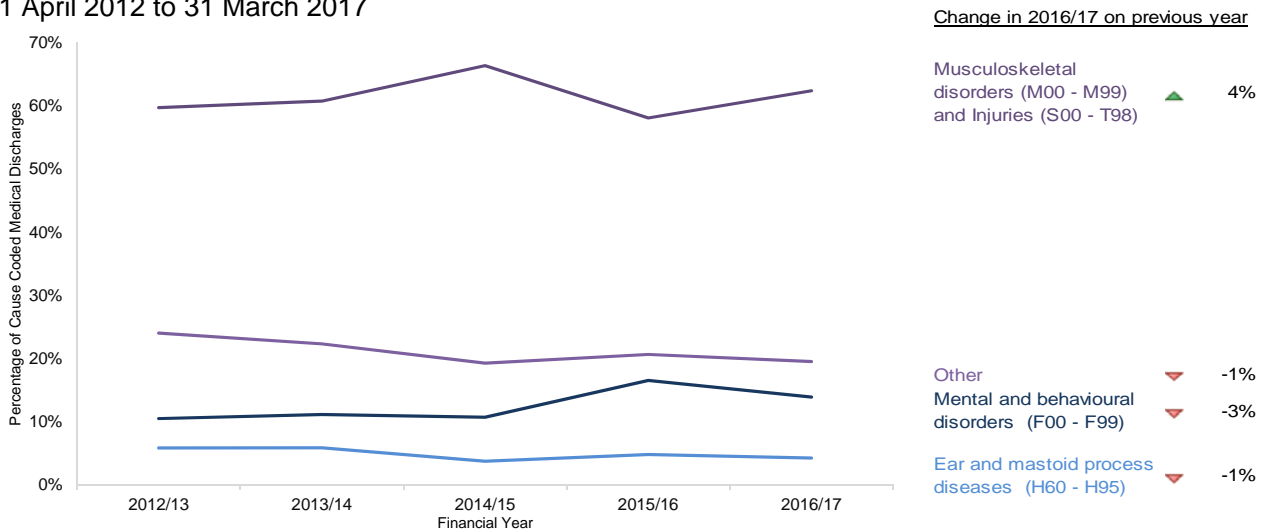
Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.

In 2016/17 the most common principal cause of medical discharge was Musculoskeletal Disorders and Injuries (n = 278, 62%) and the second highest cause of medical discharge was Mental and Behavioural Disorders (n = 62, 14%) (**Figure 8**). This was in line with previous years. This finding is consistent with the Canadian military[11]; however Mental and Behavioural Disorders were responsible for a larger proportion of personnel released from the Canadian military than the UK Armed Forces.

The greatest proportions of Musculoskeletal Disorders and Injuries were linked to the leg (below and including the knee) and the back. The high percentage of medical discharges due to injuries and disorders of the knee is likely to be a result of the physical activity required in many portions of the Naval Service; training on uneven ground carrying heavy loads, adopting firing positions, climbing ladders and working on a moving platform aboard ship.

The majority of medical discharges for Mental and Behavioural Disorders in 2016/17 were the result of Neurotic, Stress and Somatoform Disorders (n = 39, 63%) and Mood Disorders (n = 18, 29%). These findings were broadly comparable to initial assessments seen at MoD Specialist

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[11] Poisson, R. (2015). The imperative of military medical research and the duty to protect, preserve, and provide advanced evidence-informed care [online], Journal of Military, Veteran and Family Health; 1(1) available at http://jmvfh.utpjournals.press/doi/pdf/10.3138/jmvfh.2014-11 accessed on 9 June 2017.
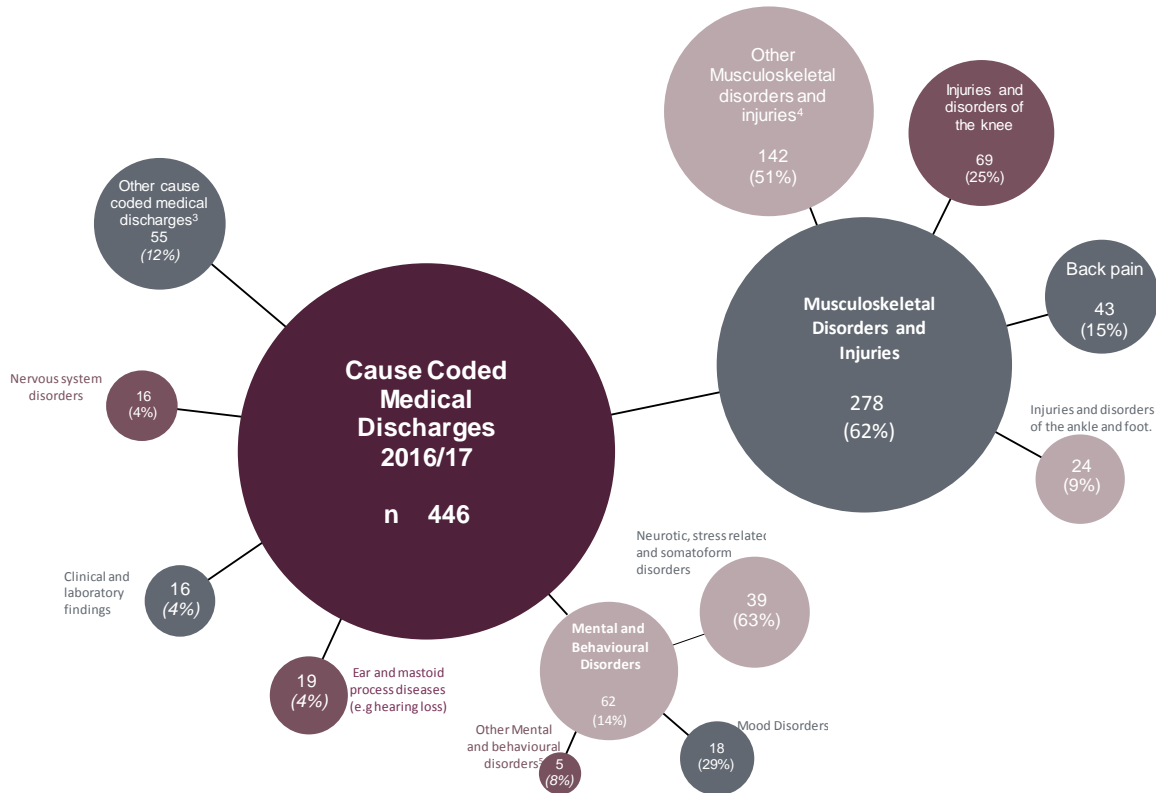
Naval Service Continued

Mental Health Services with Neurotic and Mood disorders being the most prevalent disorders among serving Naval Service personnel[12].

Clinical and Laboratory Findings include symptoms and abnormal results of clinical tests. Ill-defined conditions are also recorded in this chapter of ICD-10. Personnel may be medically discharged for these reasons where symptoms influence their ability to perform their duties, or when it is in the best interest of both the individual and the Service for treatment and examinations to be carried out prior to resuming Service.

Figure 8: UK Regular Naval Service[1] medical discharges by principal ICD-10 cause code group, Numbers and Percentages[2]
1 April 2016 to 31 March 2017

Source: DMICP, FMed 23 and JPA
[1] Includes Royal Navy and Royal Marines.
[2] Due to rounding, percentages might not add to 100%.
[3] Includes 13 cause code groups; each accounting for a maximum of 3% of all Naval Service cause coded medical discharges
[4] Clinical and Laboratory Findings are often used by clinicians to record unusual clinical findings and symptoms.

When personnel are medically discharged, multiple medical conditions can be recorded; these are listed as either "principal" or "contributory". When considering both the **principal and contributory** causes of discharge in the Naval Service in 2016/17:

- Musculoskeletal Disorders and Injuries remained the most common cause, accounting for two thirds of all cause coded discharges (n = 278, 62%).
- Mental and Behavioural Disorders remained the second highest cause (n = 62, 14%).
- Ear and Mastoid process diseases were the third greatest cause of discharge (n = 19, 4%).

Previously, Nervous System Disorders were the third highest principal and contributory cause of medical discharge.

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[12] Please see the "UK armed forces mental health annual statistics: financial year 2016/17" Official Statistic publication
https://www.gov.uk/government/collections/defence-mental-health-statistics-index
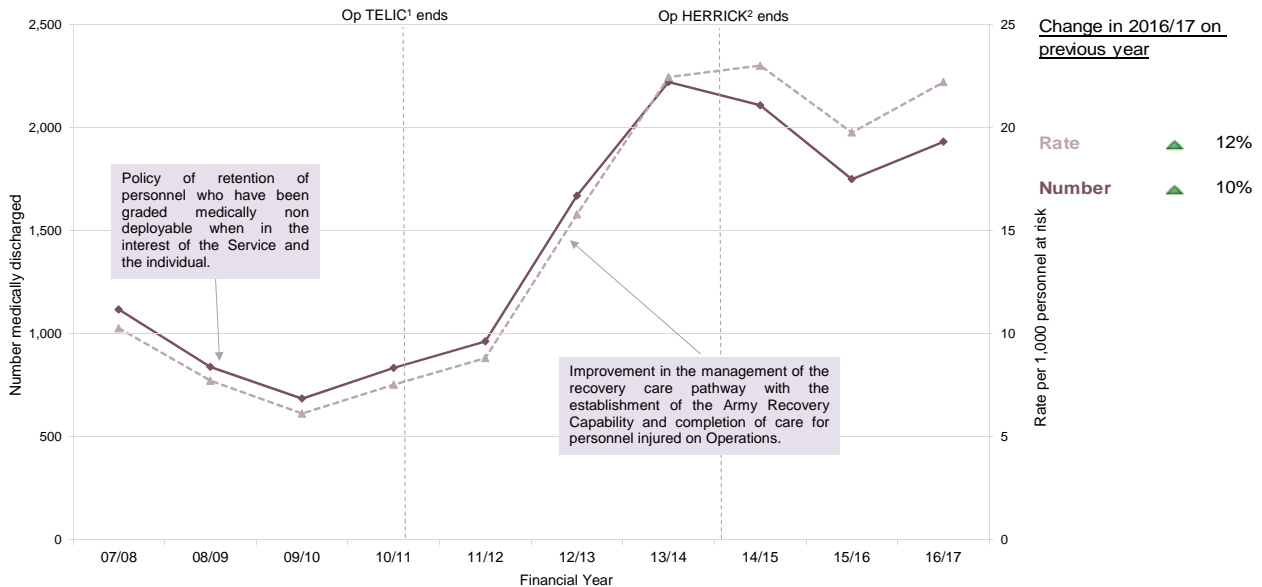
Army

Trends in Medical Discharges

Between 1 April 2016 and 31 March 2017, there were 1,932 medical discharges, equal to 22.2 medical discharges per 1,000 personnel, The rate of medical discharges for Army personnel fluctuated between 1 April 2012 and 31 March 2017 (**Figure 9**).

▼ The rate fell between 1 April 2007 and 31 March 2010. This may have been due to the policy of retaining personnel graded as medically non-deployable in cases where this was in the best interests of both the individual and the Service.

▲ Between 1 April 2010 and 31 March 2015 the rate of medical discharge within Army personnel more than trebled (6.1 to 23.0 per 1,000 personnel). This is likely to be the result of improved management of the recovery care pathway with the establishment of the Army Recovery Capability (ARC). The ARC were established to manage the transition of ill and injured personnel either back to active Service, or back to civilian life. Additionally, it may be the result of the completion of treatment of personnel injured in Iraq and Afghanistan, plus increased restriction of non-deployable roles within the Army.

▲ Although the rate fell from 23.0 to 19.8 per 1,000 personnel between 2014/15 and 2015/16, in the most recent year (2016/17), the rate increased by 12% to 22.2 per 1,000 personnel.

Figure 9: UK Regular Army medical discharges by financial year, Numbers and Crude rates per 1,000 personnel at risk
1 April 2007 to 31 March 2017

Source: DMICP, FMed 23 and JPA
[1] Operation TELIC is the name for UK operations in Iraq which began March 2003 and ended on 21 May 2011.
[2] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.

13

Army Continued

Demographic Risk Groups

This report considers each demographic factor separately for those who have medically discharged. Defence Statistics aim to develop analysis for future reports to investigate how demographic factors may interact.

Between 1 April 2016 and 31 March 2017, the rate of medical discharge was significantly higher for Regular Army personnel within specific demographic groups (**Table 3**):

- Personnel under 25 years of age and aged 30-34.
- Female personnel.
- Other Ranks
- Untrained personnel.

The demographic groups that displayed a higher rate of medical discharge between 1 April 2016 and 31 March 2017 were consistent with results seen in the recovery pathway[13],[14] which found that personnel aged under 25 and aged 30-39, females and Other Ranks had higher proportions of personnel under the care of the Army Recovery Capability (ARC).

Please note that on 1 October 2016 the definition of Army Trained personnel changed so as to include UK Regular Forces and Gurkha personnel who had completed Phase 1 training (basic Service training) but not necessarily Phase 2 training (trade training). Previously, "Trained" referred to personnel who had completed both Phase 1 and Phase 2 training. In order to remain consistent with previous Medical Discharge Official Statistics, this report has renamed "Trained" personnel to "Trade Trained" and includes personnel who completed both Phase 1 and Phase 2 training (please see Glossary for full definition).

Table 3: UK Regular Army medical discharges by age group[1], gender[1], rank[1] and training status[1], Numbers[2] and Rates per 1,000 personnel at risk
1 April 2016 to 31 March 2017

	2016/17		Rate of UK Regular Army personnel medically discharged
	n	r	
Number of UK Regular Army personnel medically discharged	1,932	22.2	
Age			
Aged Under 20[+]	197	34.3	
Aged 20-24[+]	492	25.4	
Aged 25-29	503	23.2	
Aged 30-34[+]	395	24.7	
Aged 35-39	195	15.3	
Aged 40-44	83	12.4	
Aged 45-49	38	12.4	
Aged 50 +	29	18.1	
Gender			
Male	1,735	21.9	
Female*	197	26.0	
Rank			
Officer	66	5.1	
Other Rank*	1,866	25.2	
Training Status			
Trade Trained	1,363	17.3	
Untrained*	569	70.7	

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[2] In line with JSP 200, numbers fewer than five were not suppressed in demographics tables as Defence Statistics assessed that these figures did not disclose sensitive personal information.
[+] Groups found to be at a significantly higher than average risk using a z-test for a single proportion at a 95% confidence level.
* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

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[13] https://www.gov.uk/government/collections/uk-armed-forces-recovery-capability-wounded-injured-and-sick-in-the-recovery-pathway-statistics
[14] Recovery is the non-medical care for those who are wounded, injured or sick

Army Continued

Figures 10 to **13** present the Army medical discharges by demographic group from 1 April 2012 to 31 March 2017 with possible explanations for the differences observed.

Figure 10: UK Regular Army medical discharges by age group[1,2] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017
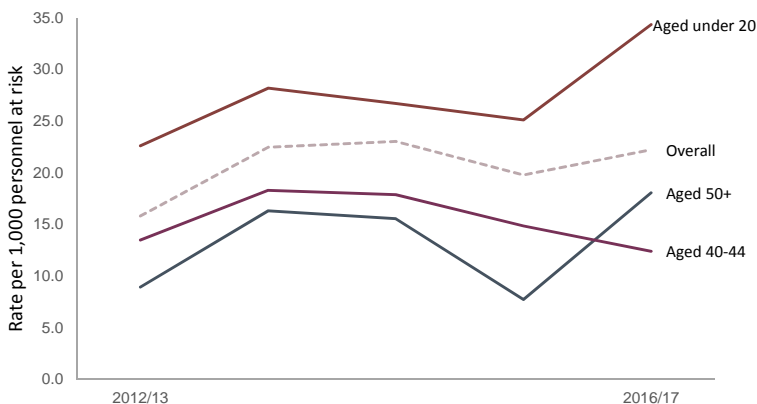
Source: DMICP, FMed 23 and JPA
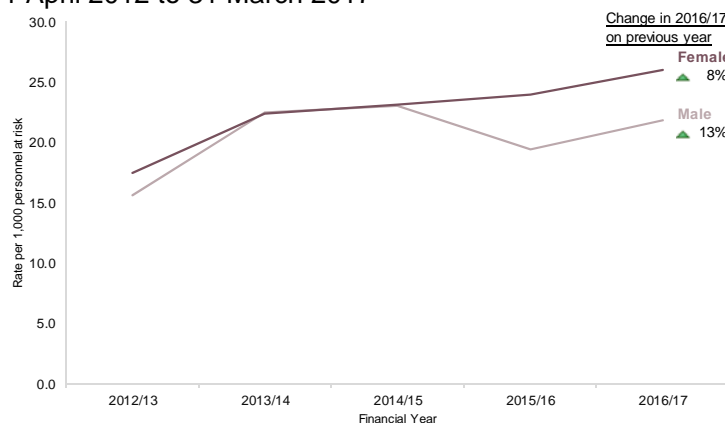[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[3] Only the age groups discussed within report commentary are presented for ease of presenting; graphs displaying all age groups can be found within the supporting Excel tables.

The rate of Army medical discharges increased by 12% in 2016/17 compared to the previous year. A number of age groups showed different trends to this; under 20s and personnel aged 50+ saw increases of 37% and 134% respectively (though small numbers in the 50+ age group are susceptible to large percentage changes) whereas personnel aged 40-44 saw a decrease of 17% (**Figure 10**). Lower rates of medical discharges seen in personnel aged over 35 are believed to be due to greater work experience and skill sets allowing for older personnel to be retained in less physically demanding roles.

Higher rates in younger personnel are likely to be linked to the untrained population, which is younger than the trained population.

Figure 11: UK Regular Army medical discharges by gender[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

There were no significant differences between rates of medical discharges among males and females between 1 April 2012 and 31 March 2015 (**Figure 11**), however, the rate of medical discharge for females was found to be significantly higher than for males between 1 April 2015 and 31 March 2017. The reasons for this are currently unclear; however studies indicate that females may be more likely to approach healthcare services for health concerns, which may lead to a higher rate of reporting [15].

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[15] Thompson, A. et al. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study [online], BMC Family Practice; 1(1) available at https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-016-0440-0 accessed on 6 July 2017.

Army Continued

Figure 12: UK Regular Army medical discharges by rank[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017
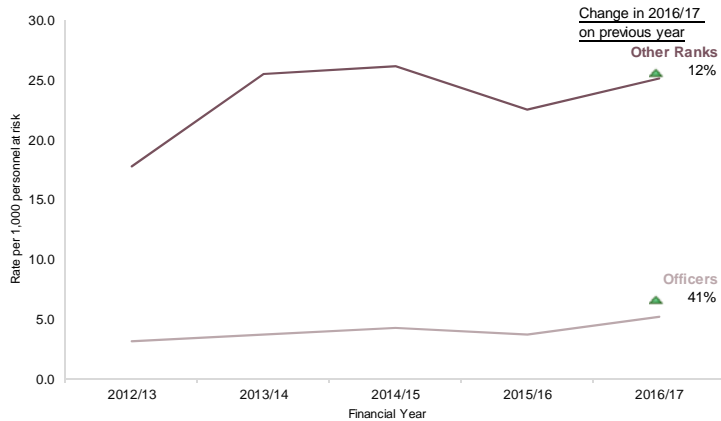
The rate of medical discharge among Other Ranks was significantly higher than for Officers throughout the period presented (**Figure 12**). Current Army policy is to retain personnel at Major and above in staff roles and thus Officers are more likely to be employed in or can be reassigned to duties that can be continued with certain injuries and illnesses.

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Figure 13: UK Regular Army medical discharges by training status[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017
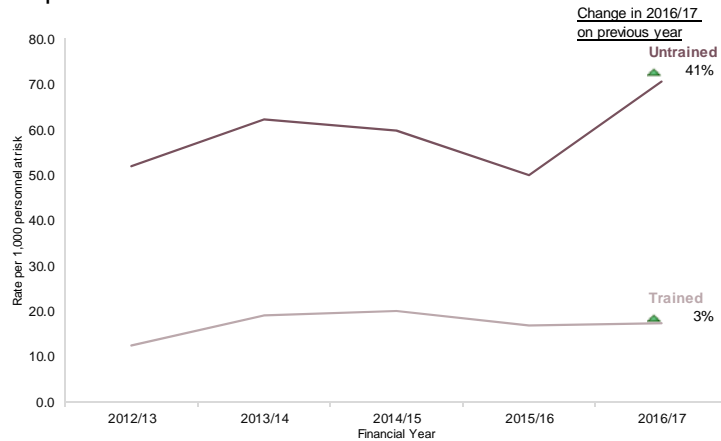
The rate of medical discharge among Army untrained personnel was significantly higher compared to trained personnel throughout the period presented (**Figure 13**). The higher rate is thought to reflect the intensive physical nature of training and the demanding entry standards into the Field Army. Recruits who fail to meet fitness standards are medically discharged, whereas trained Army personnel are more likely to be retained where suitable employment is available.

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Causes of Medical Discharges

When Army personnel are medically discharged, the medical reason for the discharge is recorded and categorised using a coding system known as ICD-10 (see glossary). **Table 4** shows this information by principal ICD-10 cause code group (the chapter within which the condition is categorised) and financial year for the five-year period from 1 April 2012 to 31 March 2017.

Principal cause is the main medical cause leading to the discharge.

Contributory causes include any other conditions identified that may have had an impact on the decision to recommend a medical discharge.

Table 4: UK Regular Army medical discharges by principal ICD-10 cause code group and financial year, Numbers[1] and Percentages[2]
1 April 2012 to 31 March 2017

	All		2012/13		2013/14		2014/15		2015/16		2016/17	
	n	%	n	%	n	%	n	%	n	%	n	%
All medical discharges	9,683		1,670		2,222		2,109		1,750		1,932 P	
All cause coded medical discharges	8,947	100	1,648	100	2,043	100	1,736	100	1,695	100	1,825 P	100
Infectious and parasitic diseases (A00 - B99)	50	<1	16	<1	17	<1	9	<1	~	<1	~ P	<1
Neoplasms (C00 - D48)	68	<1	10	<1	14	<1	14	<1	16	<1	14 P	<1
Blood disorders (D50 - D89)	25	<1	9	<1	~	<1	~	<1	~	<1	~ P	<1
Endocrine, nutritional and metabolic diseases (E00 - E90)	89	<1	29	2	21	1	17	<1	11	<1	11 P	<1
- Of which diabetes (E10-E14)	64	<1	21	1	15	<1	11	<1	8	<1	9 P	<1
- Of which insulin-dependent (E10)	45	<1	16	<1	13	<1	7	<1	~	<1	~ P	<1
- Of which non-insulin-dependent (E11)	10	<1	~	<1	~	<1	~	<1	0	0	~ P	<1
Mental and behavioural disorders (F00 - F99)	1,505	17	188	11	279	14	282	16	363	21	393 P	22
- Of which mood disorders (F30 - F39)	365	4	39	2	52	3	61	4	105	6	108 P	6
- Of which depression (F32 & F33)	303	3	32	2	41	2	52	3	82	5	97 P	5
- Of which neurotic, stress related and somatoform disorders (F40 - F48)	988	11	124	8	185	9	204	12	227	13	248 P	14
- Of which post-traumatic stress disorder (PTSD) (F431)	665	7	73	4	123	6	137	8	156	9	176 P	10
- Of which adjustment disorder (F432)	104	1	10	<1	22	1	17	<1	24	1	31 P	2
Nervous system disorders (G00 - G99)	249	3	64	4	59	3	50	3	39	2	37 P	2
- Of which epilepsy (G40)	78	<1	22	1	23	1	12	<1	12	<1	9 P	<1
Eye and adnexa diseases (H00 - H59)	56	<1	11	<1	20	<1	10	<1	8	<1	7 P	<1
- Of which blindness, low vision and visual disturbance (H53 & H54)	21	<1	7	<1	8	<1	~	<1	~	<1	~ P	<1
Ear and mastoid process diseases (H60 - H95)	476	5	101	6	151	7	97	6	62	4	65 P	4
- Of which hearing loss (H833 & H90 - H91)	429	5	99	6	136	7	89	5	51	3	54 P	3
- Of which noise-induced hearing loss (H833)	175	2	44	3	64	3	38	2	17	1	12 P	<1
- Of which tinnitus (H931)	31	<1	~	<1	8	<1	6	<1	11	<1	~ P	<1
Circulatory system disorders (I00 - I99)	179	2	38	2	38	2	25	1	36	2	42 P	2
Respiratory system disorders (J00 - J99)	90	1	18	1	12	<1	18	1	22	1	20 P	1
- Of which asthma (J45 & J46)	74	<1	15	<1	12	<1	11	<1	19	1	17 P	<1
Digestive system disorders (K00 - K93)	154	2	35	2	45	2	27	2	28	2	19 P	1
Skin and subcutaneous tissue diseases (L00 - L99)	122	1	17	1	30	1	25	1	16	<1	34 P	2
Musculoskeletal disorders (M00 - M99) and injuries (S00 - T98)	5,444	61	1,016	62	1,246	61	1,087	63	1,016	60	1,079 P	59
- Of which injuries and disorders of the knee [3]	1,004	11	182	11	229	11	196	11	179	11	221 P	12
- Of which knee pain (M2556)	393	4	75	5	84	4	73	4	78	5	83 P	5
- Of which back pain (M544-5 & M549)	614	7	125	8	156	8	148	9	95	6	100 P	5
- Of which low back pain (M544-5)	515	6	104	6	129	6	127	7	78	5	86 P	5
- Of which injuries and disorders of the ankle and foot [4]	532	6	93	6	141	7	100	6	91	5	107 P	6
- Of which heat injury (T67)	23	<1	7	<1	9	<1	~	<1	~	<1	~ P	<1
- Of which cold injury (T68 & T69)	419	5	85	5	81	4	65	4	90	5	98 P	5
Genitourinary system diseases (N00 - N99)	43	<1	6	<1	12	<1	9	<1	9	<1	7 P	<1
Pregnancy, childbirth and puerperium (O00 - O99)	0	0	0	0	0	0	0	0	0	0	0 P	0
Congenital malformations (Q00 - Q99)	30	<1	6	<1	~	<1	~	<1	8	<1	8 P	<1
Clinical and laboratory findings (R00 - R99)	258	3	44	3	49	2	49	3	46	3	70 P	4
Factors influencing health status (Z00 - Z99)	109	1	40	2	42	2	8	<1	7	<1	12 P	<1
No details held on principal condition for medical boarding	735		22		178		373		55		107 P	
Withheld consent	1		0		1		0		0		0 P	

Source: DMICP, FMed 23 and JPA

[1] ~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. Please see background quality report for more information.

[2] Data presented as "<1%" represent a percentage of cause coded medical discharges of greater than 0% but smaller than 1%.

[3] Injuries and disorders of the knee have been compiled using ICD-10 codes, please see annex for specific codes.

[4] Injuries and disorders of the ankle and foot have been compiled using ICD-10 codes, please see annex for specific codes.

P Indicates a provisional data point.

Army Continued

Between 1 April 2012 and 31 March 2017, Musculoskeletal Disorders and Injuries were the largest cause of Army medical discharges, accounting for around 60% of all medical discharges (**Figure 14**).

Since 1 April 2012, the proportion of medical discharges for Mental and Behavioural Disorders has increased year on year. Presentations of Army personnel at MOD Specialist Mental Health Services have also increased in recent years and this may in part be the result of an increase in awareness of mental health due to the success of anti-stigma campaigns.

Figure 14: UK Regular Army medical discharges by principal ICD-10 cause code group and financial year, Percentage of all medical discharges
1 April 2012 to 31 March 2017

Change in 2016/17 on previous year
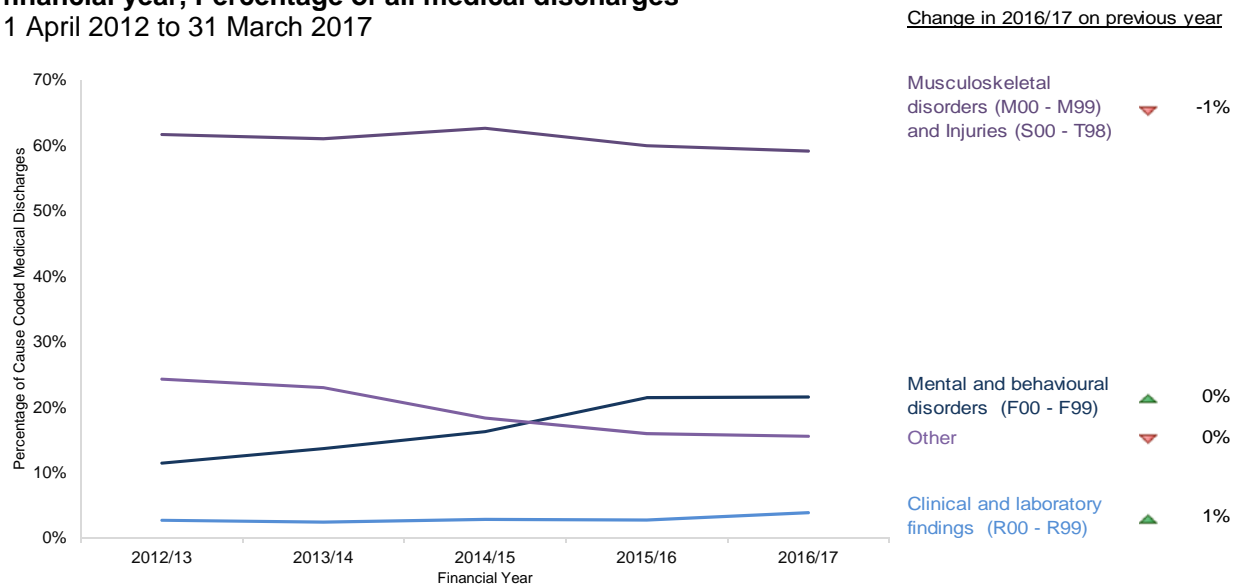
Source: DMICP, FMed 23 and JPA

In 2016/17 the most common principal cause of medical discharge was Musculoskeletal Disorders and Injuries (n = 1,079, 59%) and the second highest cause of medical discharge was Mental and Behavioural Disorders (n = 393, 22%). This finding is consistent with the Canadian military[4], however Mental and Behavioural Disorders were responsible for a larger proportion of personnel released from the Canadian military than the UK Armed Forces (**Figure 15**).

The greatest proportions of Musculoskeletal Disorders and Injuries were linked to the leg (below and including the knee) and back. The high prevalence of personnel medically discharged for injuries and disorders of the knee may be the result of the physical activity required of many Army personnel, such as training on hard ground carrying heavy loads, marching and assuming fire positions. Back pain is also the leading cause of disability in the UK and global populations[16].

The majority of medical discharges due to Mental and Behavioural Disorders in 2016/17 were the result of neurotic, stress related and somatoform disorders (n = 248, 63%). This was broadly comparable to initial assessments at MOD Specialist Mental Health services with neurotic and mood disorders being the most prevalent disorders among serving Army personnel[17].

Clinical and Laboratory Findings include symptoms and abnormal results of clinical tests. Ill-defined conditions are also recorded in this chapter of ICD-10. Personnel may be medically discharged for these reasons where symptoms influence their ability to perform their duties, or when it is in the best interest of both the individual and the Service for treatment and examinations to be carried out prior to resuming Service.
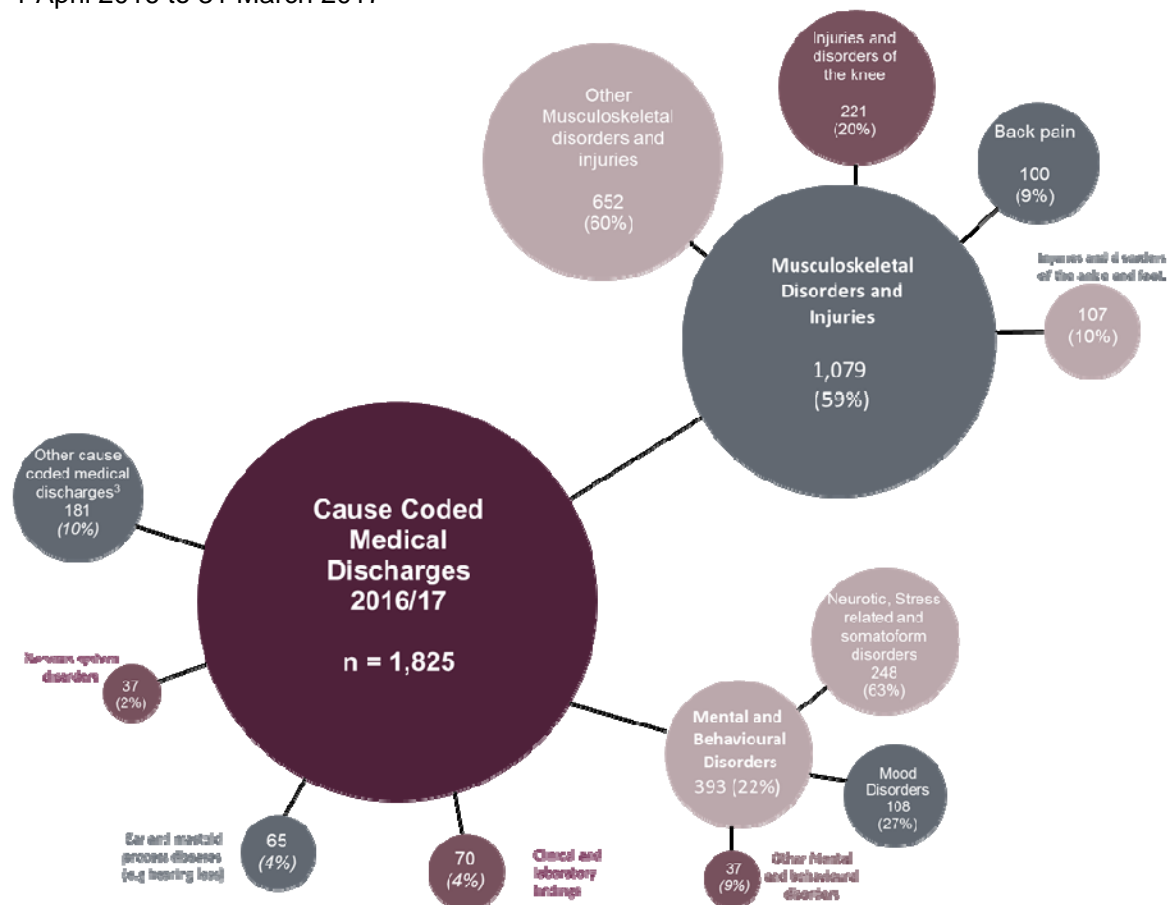
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[16] Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, Williams G, Smith E, Vos T, Barendregt J, Murray C, Burstein R, Buchbinder R. (2014). The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. *Annals of the Rheumatic Diseases*. 73 (6), 968-74.

[17] Please see the "UK armed forces mental health annual statistics: financial year 2015/16" Official Statistic publication
https://www.gov.uk/government/collections/defence-mental-health-statistics-index

Army Continued

Figure 15: UK Regular Army medical discharges by principal ICD-10 cause code group, Numbers[1] and Percentages[1,2]
1 April 2016 to 31 March 2017

When personnel are medically discharged, multiple medical conditions can be recorded; these are listed as either "principal" or "contributory". When considering both the **principal and contributory** causes of discharge in 2016/17:

- Musculoskeletal Disorders and Injuries remained the most common cause, accounting for over two thirds of all cause coded discharge (n=1,278, 70%).
- Factors Influencing Health Status (n = 575, 32%) was the second highest cause. Factors influencing health are usually secondary to the main condition and therefore more likely to be listed as a contributory cause and not as a principal cause of discharge.
- Mental and Behavioural Disorders was the third highest cause (n = 566, 31%).

Further information on the principal and contributory causes of medical discharge in the UK Regular Army can be found in the supporting Excel tables to this report.

RAF

Trends in Medical Discharges

The rate of medical discharges for RAF personnel fluctuated between 1 April 2012 and 31 March 2017. In the most recent year, 1 April 2016 to 31 March 2017, there were 4.4 medical discharges per 1,000 personnel (**Figure 16**).

▼ The rate of medical discharges fell between 1 April 2007 and 31 March 2010. This was partly due to the RAF retaining personnel where an alternative role was available, and where retention was in the best interests of both the individual and the Service.

▲ The rate of medical discharges rose between 1 April 2010 and 31 March 2013. This may be because of the Strategic Defence and Security Review (SDSR) which reduced the number of roles available and may have limited the roles available that would accommodate the needs of personnel with limited deployability.

▼ The rate of medical discharges fell from 1 April 2013 and 31 March 2014. During this time the RAF were operating a retention positive approach which endeavoured to find alternative roles for personnel with limited deployability.

▲ Since 1 April 2014, the rate of medical discharges in the RAF has levelled compared to previous years.

Figure 16: UK Regular RAF medical discharges by financial year, Numbers and Crude rates per 1,000 personnel at risk
1 April 2007 to 31 March 2017
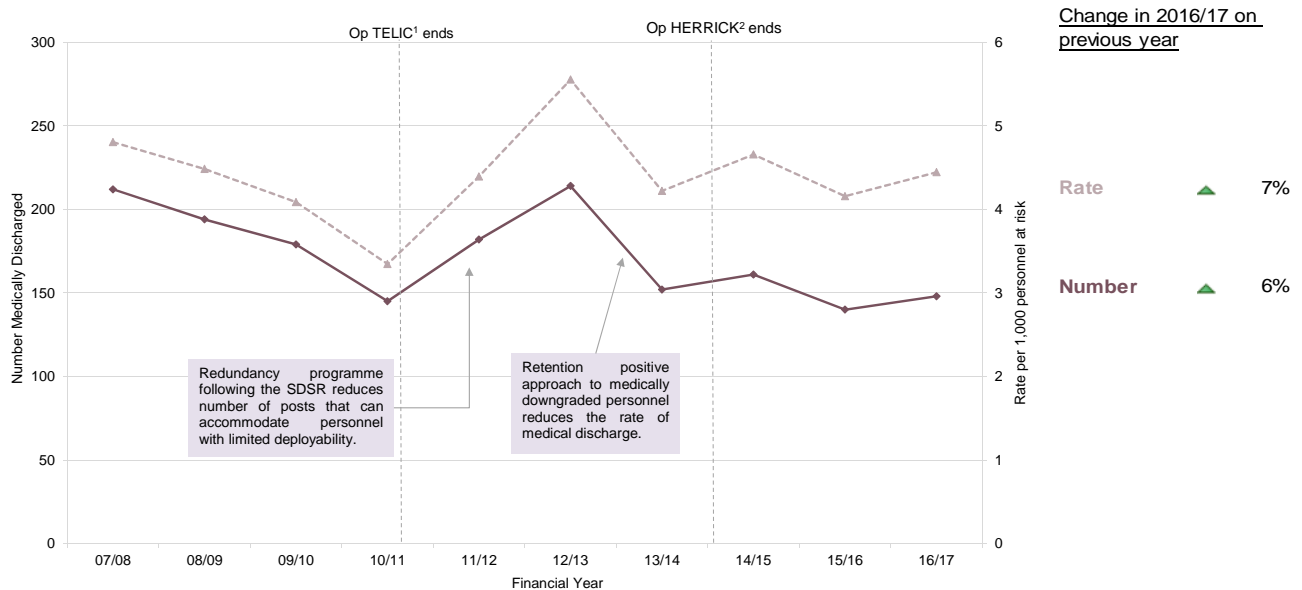
Source: DMICP, FMed 23 and JPA
[1] Operation TELIC is the name for UK operations in Iraq which began March 2003 and ended on 21 May 2011.
[2] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.

RAF Continued

Demographic Risk Groups

This report considers each demographic factor separately for those who have medically discharged. Defence Statistics aim to develop analysis for future reports to investigate how demographic factors may interact.

During 2016/17, the rate of medical discharge was significantly higher for Regular RAF personnel within specific demographic groups (**Table 5**):

- Personnel aged 45-49 years.
- Female personnel.
- Other Ranks.
- Untrained personnel.

The demographic groups that displayed a high rate of medical discharge in 2016/17 were consistent with results seen in the recovery pathway[18,19] which found that female and Other Ranks had higher proportions of personnel under the care of the RAF recovery capability.

The reasons for the significantly[20] higher rate of medical discharges among female RAF personnel are currently unclear; however studies indicate that females may be more likely to approach healthcare services for health concerns, which may lead to a higher rate of reporting[21].

Table 5: UK Regular RAF medical discharges by age group[1], gender[1], rank[1] and training status[1], Numbers[2] and Rates per 1,000 personnel at risk
1 April 2016 to 31 March 2017

	2016/17		Rate of UK Regular RAF personnel medically discharged
	n	r	
Number of UK Regular RAF personnel medically discharged	**148**	**4.4**	
Age			
Aged Under 20	5	6.1	
Aged 20-24	13	2.9	
Aged 25-29	39	5.3	
Aged 30-34	32	4.8	
Aged 35-39	18	3.2	
Aged 40-44	17	4.7	
Aged 45-49+	15	5.2	
Aged 50 +	9	4.7	
Gender			
Male	104	3.6	
Female*	44	9.5	
Rank			
Officer	14	1.9	
Other Rank*	134	5.2	
Training Status			
Trained	128	4.1	
Untrained*	20	8.2	

Source: DMICP, FMed 23 and JPA

[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

[2] In line with JSP 200, numbers fewer than five were not suppressed in demographics tables as Defence Statistics assessed that these figures did not disclose sensitive personal information.

+ Groups found to be at a significantly higher than average risk using a z-test for a single proportion at a 95% confidence level.

* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

[18] https://www.gov.uk/government/collections/uk-armed-forces-recovery-capability-wounded-injured-and-sick-in-the-recovery-pathway-statistics

[19] Recovery is the non-medical care for those who are wounded, injured or sick.

[20] Tested using a z-test for proportions at a 95% confidence level.

[21] Thompson, A. et al. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study [online], BMC Family Practice; 1(1) available at https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-016-0440-0 accessed on 6 July 2017.

RAF Continued

Figures 17 to **20** present RAF medical discharges for each demographic group between 1 April 2012 and 31 March 2017 with possible explanations for the differences observed.

Figure 17: UK Regular RAF medical discharges by age group[1] and financial year, Rates per 1,000 personnel
1 April 2012 to 31 March 2017
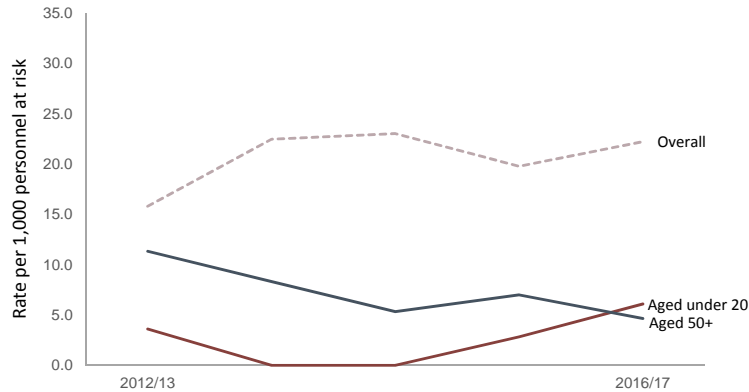
The rate of medical discharge among RAF personnel rose by 6% between 1 April 2015 to 31 March 2016 and between 1 April 2016 and 31 March 2017. In contrast, the rate of discharge among personnel aged 50+ years decreased by 50% and rates among personnel aged under 20 rose by 54% (**Figure 17**). It should be noted that the underlying numbers are low and are therefore more susceptible to large percentage changes.

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[3] Only the age groups discussed within report commentary are presented for ease of presenting; graphs displaying all age groups can be found within the supporting Excel tables.

Figure 18: UK Regular RAF medical discharges by gender[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017

In each of the financial years since 1 April 2013, the rate of medical discharges has been significantly higher for females than for males. Prior to this, there was no significant difference between male and female discharges in the RAF (**Figure 18**). Between 1 April 2016 and 31 March 2017 there was an increase of 48% in the rate of medical discharge for female personnel.

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

RAF Continued

Figure 19: UK Regular RAF medical discharges by rank[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017

Change in 2016/17 on previous year
Other Ranks ▲ 17%
Officers ▼ -41%

For each of the financial years between 1 April 2012 and 31 March 2017, the rate of medical discharges among Other Ranks was significantly higher than for Officers, apart from between 1 April 2015 and 31 March 2016 when the rates were not significantly different (**Figure 19**).
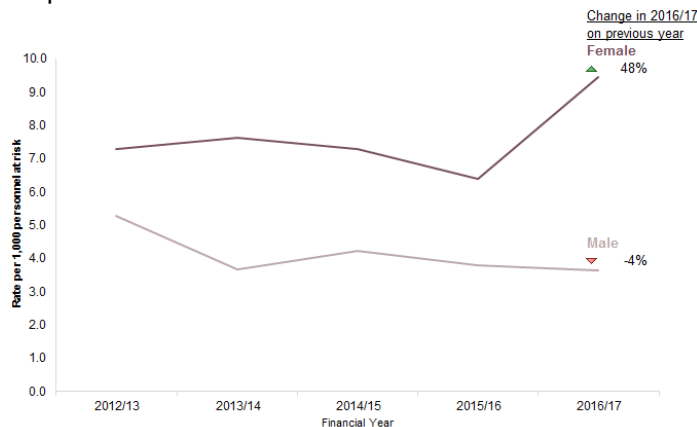
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Figure 20: UK Regular RAF medical discharges by training status[1] and financial year, Rates per 1,000 personnel at risk
1 April 2012 to 31 March 2017

Change in 2016/17 on previous year
Untrained ▲ 281%
Trained ▼ -4%
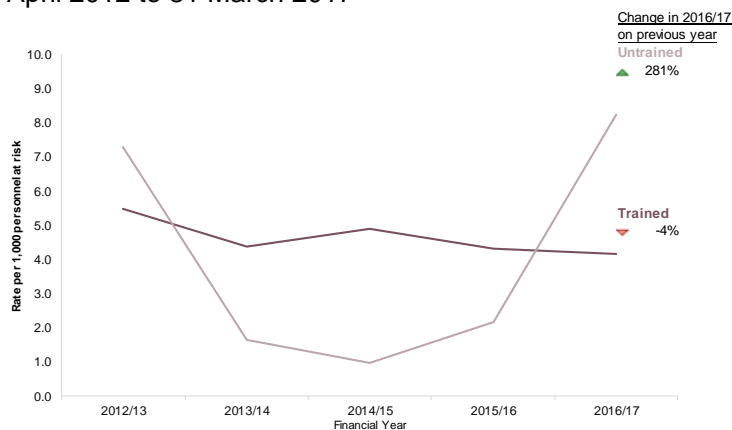
Between 1 April 2014 and 31 March 2015, untrained personnel had a significantly lower rate of discharge than trained personnel; the opposite was the case in the most recent year (1 April 2016 to 31 March 2017). The fluctuation shown in the rate of discharge among the untrained population may be a result of the small numbers involved; in total over the five year period from 1 April 2012 to 31 March 2017 only 43 untrained RAF personnel were medically discharged, compared to 772 trained personnel (**Figure 20**).
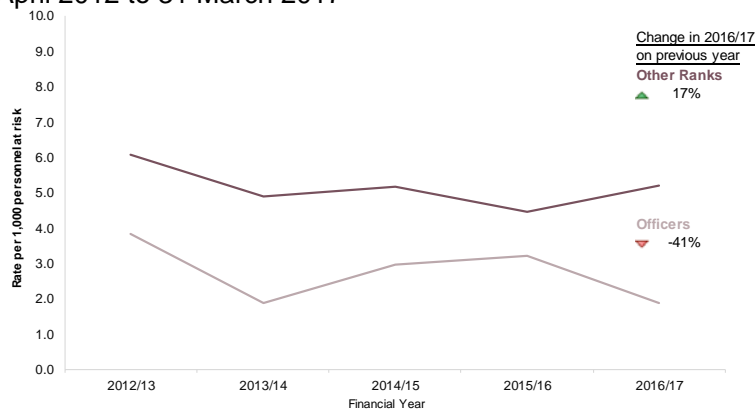
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

RAF Continued

Causes of Medical Discharges

When UK Armed Forces personnel are medically discharged, the medical reason for the discharge is recorded and categorised using a coding system known as ICD-10 (see glossary). **Table 6** shows this information by principal ICD-10 cause code group (the chapter within which the condition is categorised) and financial year for the five-year period from 1 April 2012 to 31 March 2017.

Principal cause is the main medical cause leading to the discharge.

Contributory causes include any other conditions identified that may have had an impact on the decision to recommend a medical discharge.

Table 6: UK Regular RAF medical discharges by principal ICD-10 cause code group and financial year, Numbers[1] and Percentages[2]
1 April 2012 to 31 March 2017

	All		2012/13		2013/14		2014/15		2015/16		2016/17	
	n	%	n	%	n	%	n	%	n	%	n	%
All medical discharges	815		214		152		161		140		148	
All cause coded medical discharges	781	100	201	100	150	100	146	100	136	100	148	100
Infectious and parasitic diseases (A00 - B99)	~	<1	~	<1	0	0	0	0	0	0	0	0
Neoplasms (C00 - D48)	16	2	~	1	~	3	~	3	~	1	~	2
Blood disorders (D50 - D89)	~	<1	~	<1	0	0	0	0	0	0	~	<1
Endocrine, nutritional and metabolic diseases (E00 - E90)	8	1	~	<1	~	2	~	<1	0	0	~	1
- Of which diabetes (E10-E14)	5	<1	~	<1	~	1	0	0	0	0	~	<1
- Of which insulin-dependent (E10)	~	<1	0	0	~	1	0	0	0	0	~	<1
- Of which non-insulin-dependent (E11)	~	<1	~	<1	0	0	0	0	0	0	0	0
Mental and behavioural disorders (F00 - F99)	178	23	30	15	29	19	37	25	38	28	44	30
- Of which mood disorders (F30 - F39)	72	9	16	8	13	9	11	8	18	13	14	9
- Of which depression (F32 & F33)	62	8	14	7	9	6	9	6	17	13	13	9
- Of which neurotic, stress related and somatoform disorders (F40 - F48)	89	11	13	6	14	9	20	14	17	13	25	17
- Of which post-traumatic stress disorder (PTSD) (F431)	32	4	~	<1	~	2	8	5	9	7	10	7
- Of which adjustment disorder (F432)	26	3	7	3	~	2	6	4	~	1	8	5
Nervous system disorders (G00 - G99)	49	6	12	6	13	9	8	5	9	7	7	5
- Of which epilepsy (G40)	7	<1	~	2	~	<1	0	0	0	0	~	1
Eye and adnexa diseases (H00 - H59)	~	<1	~	<1	~	<1	~	<1	~	<1	~	<1
- Of which blindness, low vision and visual disturbance (H53 & H54)	~	<1	0	0	0	0	0	0	~	<1	0	0
Ear and mastoid process diseases (H60 - H95)	38	5	10	5	11	7	5	3	7	5	5	3
- Of which hearing loss (H833 & H90 - H91)	34	4	9	4	10	7	~	3	6	4	~	3
- Of which noise-induced hearing loss (H833)	~	<1	~	<1	~	<1	0	0	0	0	~	<1
- Of which tinnitus (H931)	~	<1	0	0	~	<1	0	0	~	<1	~	<1
Circulatory system disorders (I00 - I99)	16	2	~	1	5	3	~	<1	~	3	~	2
Respiratory system disorders (J00 - J99)	~	<1	0	0	~	2	0	0	0	0	~	<1
- Of which asthma (J45 & J46)	~	<1	0	0	0	0	0	0	0	0	~	<1
Digestive system disorders (K00 - K93)	20	3	8	4	~	2	6	4	0	0	~	2
Skin and subcutaneous tissue diseases (L00 - L99)	9	1	~	2	~	<1	~	1	0	0	~	1
Musculoskeletal disorders (M00 - M99) and injuries (S00 - T98)	399	51	118	59	72	48	76	52	66	49	67	45
- Of which injuries and disorders of the knee[3]	75	10	21	10	18	12	15	10	11	8	10	7
- Of which knee pain (M2556)	38	5	9	4	9	6	9	6	6	4	5	3
- Of which back pain (M544-5 & M549)	108	14	47	23	16	11	19	13	14	10	12	8
- Of which low back pain (M544-5)	96	12	42	21	15	10	17	12	13	10	9	6
- Of which injuries and disorders of the ankle and foot[4]	26	3	10	5	~	2	5	3	~	3	~	3
- Of which heat injury (T67)	0	0	0	0	0	0	0	0	0	0	0	0
- Of which cold injury (T68 & T69)	7	<1	~	1	0	0	0	0	~	<1	~	2
Genitourinary system diseases (N00 - N99)	~	<1	~	<1	~	<1	~	<1	~	<1	~	<1
Pregnancy, childbirth and puerperium (O00 - O99)	0	0	0	0	0	0	0	0	0	0	0	0
Congenital malformations (Q00 - Q99)	~	<1	0	0	0	0	0	0	~	<1	0	0
Clinical and laboratory findings (R00 - R99)	28	4	7	3	~	2	~	3	6	4	8	5
Factors influencing health status (Z00 - Z99)	~	<1	0	0	~	<1	0	0	~	<1	0	0
No details held on principle condition for medical boarding	15		0		0		12		3		0	
Withheld consent	19		13		2		3		1		0	

Source: DMICP, FMed 23 and JPA

[1] ~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. Please see background quality report for more information.
[2] Data presented as "<1%" represent a percentage of cause coded medical discharges of greater than 0% but smaller than 1%.
[3] Injuries and disorders of the knee have been compiled using ICD-10 codes, please see annex for specific codes.
[4] Injuries and disorders of the ankle and foot have been compiled using ICD-10 codes, please see annex for specific codes.

RAF Continued

Between 1 April 2012 and 31 March 2017, Musculoskeletal Disorders and Injuries were the largest cause of RAF medical discharges, accounting for between 45% and 59% of all medical discharges (**Figure 21**).

Since 1 April 2012 the proportion of medical discharges for Mental and Behavioural Disorders increased from 15% to 30% whilst the proportion of Musculoskeletal Disorders and Injuries has fallen from 59% to 45%. Please note the increase in the proportion of medical discharges for Mental and Behavioural Disorders in the most recent year (1 April 2016 to 31 March 2017) was not statistically significant when compared to the previous year. Possible explanations for the changing proportions in these causes of medical discharges include:

- The retention of personnel in a limited deployability role wherever feasible.
- An increase in awareness of mental health issues among UK Armed Forces personnel, Commanding Officers and clinicians in the primary care setting in recent years following the success of anti-stigma campaigns run by the MOD to reduce stigma. There was also a rise in the rate of RAF personnel presenting to MOD Specialist Mental Health Services over the same period.

Figure 21: UK Regular RAF medical discharges by principal ICD-10 cause code group and financial year, Percentage of all medical discharges
1 April 2012 to 31 March 2017
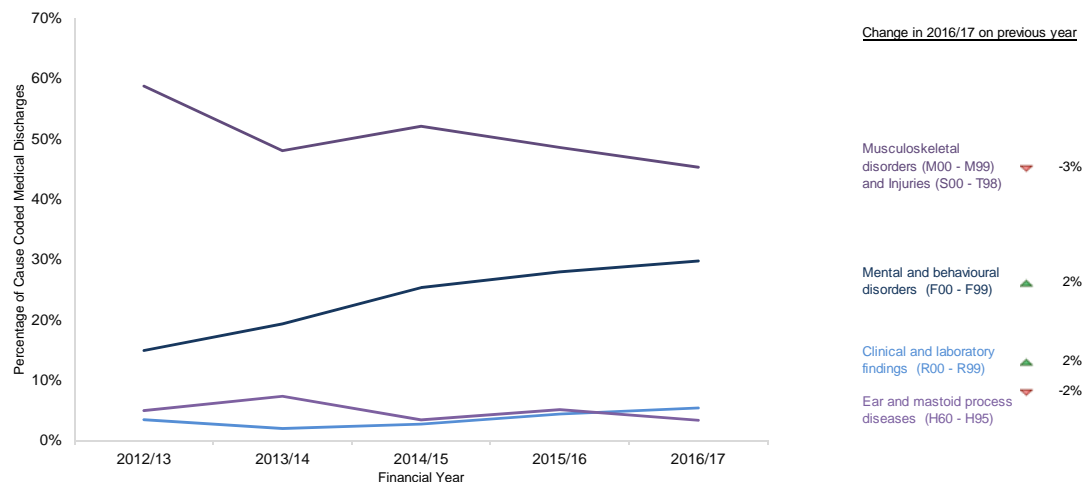
Source: DMICP, FMed 23 and JPA

The greatest proportions of Musculoskeletal Disorders and Injuries were linked to the leg (below and including the knee) and back. The high prevalence of personnel medically discharged for back pain and injuries and disorders of the knee may be the result of the physical activity required of many RAF personnel, such as training on hard ground carrying heavy loads. Back pain is also the leading cause of disability in the UK and global populations[22].

The majority of medical discharges for Mental and Behavioural Disorders between 1 April 2016 and 31 March 2017 were the result of Neurotic, Stress and Somatoform Disorders and Mood Disorders which is broadly comparable to initial assessments seen at MOD Specialist Mental Health Services with Neurotic and Mood disorders being the most prevalent disorders among serving RAF personnel[23].

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[22] Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, Williams G, Smith E, Vos T, Barendregt J, Murray C, Burstein R, Buchbinder R. (2014). The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. *Annals of the Rheumatic Diseases.* 73 (6), 968-74.

[23] Please see the "UK armed forces mental health annual statistics: financial year 2015/16" Official Statistic publication
https://www.gov.uk/government/collections/defence-mental-health-statistics-index

RAF Continued

In line with previous years, in 2016/17 the most common principal cause of medical discharge was Musculoskeletal Disorders and Injuries (n = 67, 45%) and the second highest cause of medical discharge was Mental and Behavioural Disorders (n = 44, 30%). This finding is consistent with the Canadian military[4]; however Mental and Behavioural Disorders were responsible for a larger proportion of personnel released from the Canadian military than the UK Armed Forces (**Figure 22**).

Clinical and Laboratory Findings include symptoms and abnormal results of clinical tests. Ill-defined conditions are also recorded in this chapter of ICD-10. Personnel may be medically discharged for these reasons where symptoms influence their ability to perform their duties, or when it is in the best interest of both the individual and the Service for treatment and examinations to be carried out prior to resuming Service.

Figure 22: UK Regular RAF medical discharges by principal ICD-10 cause code group, Numbers[1] and Percentages[1,2]
1 April 2016 to 31 March 2017
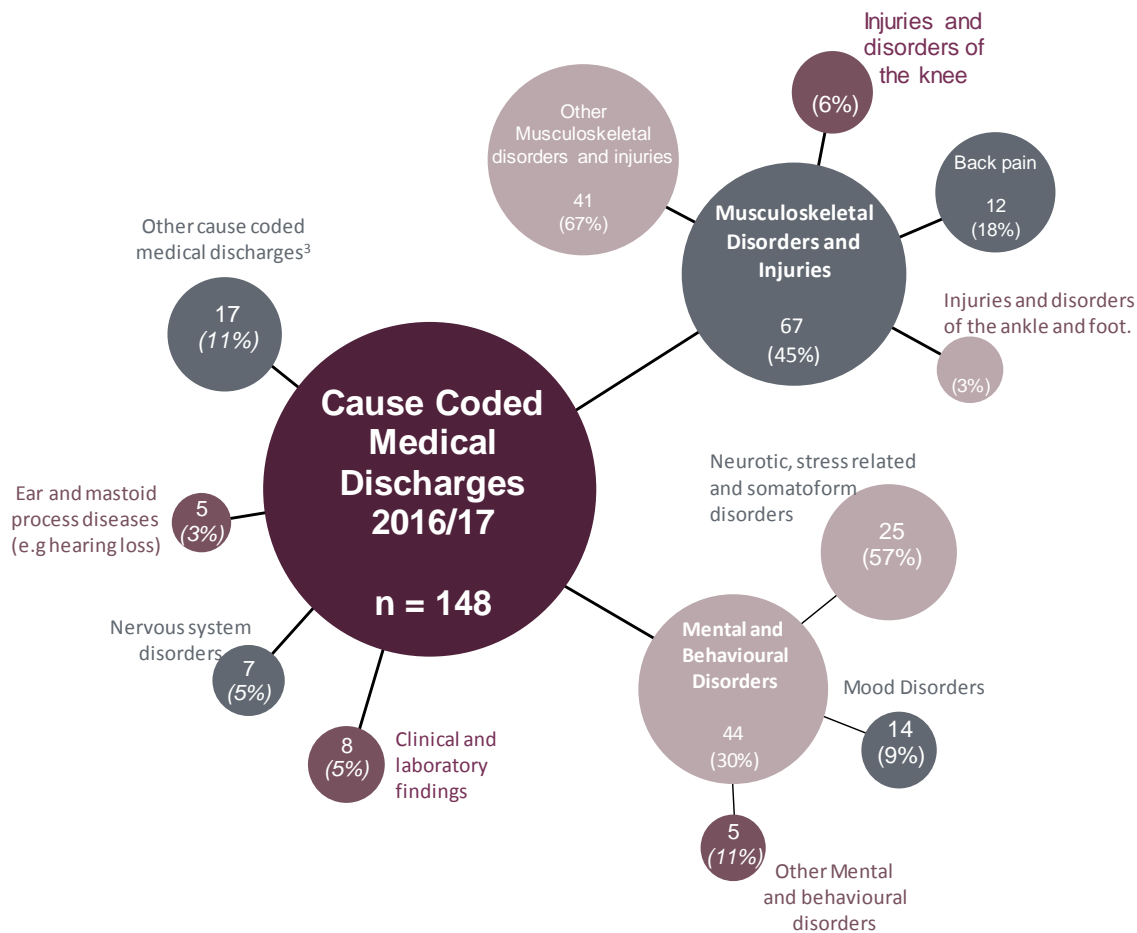
Source: DMICP, FMed 23 and JPA
[1] Please note: all data is provisional.
[2] Due to rounding, percentages might not add to 100%.
[3] Includes 13 cause code groups; each accounting for a maximum of 3% of all RAF cause coded medical discharges

When personnel are medically discharged, multiple medical conditions can be recorded; these are listed as either "principal" or "contributory". When considering both the **principal and contributory** cause of discharge between 1 April 2016 and 31 March 2017:

- Musculoskeletal Disorders and Injuries remained the most common cause, accounting for over two thirds of all cause coded discharge (n = 90, 61%).
- Mental and Behavioural Disorders remained the second highest cause (n = 70, 47%).

Methodology

This report covers Regular Service personnel (trained and untrained); Naval Service personnel include Royal Navy and Royal Marines, Army personnel include Gurkha Regiments and Military Provost Guard Service (MPGS). The report focuses exclusively on personnel that have already left the UK Armed Forces on a medical discharge; personnel expected to medically discharge in the future are not included.

Untrained personnel are sometimes discharged under administrative categories, albeit on medical grounds. These discharges usually concern individuals who have failed their initial training for medical reasons, or who failed to disclose medical conditions at their initial medical. As these cases are not defined as medical discharges, they are not included in this report.

Rates

Rates enable comparison between groups by removing the issue of different populations at risk (group sizes). The rates in this report present the number of medical discharges per 1,000 personnel. As the size of the Armed Forces varies through time, this is a more accurate means of comparing the proportion of personnel medically discharged from Service in different years than utilising counts of the personnel medically discharged

All the rate data provided in this bulletin are calculated in the form of crude rates. Crude rates are calculated by dividing the number of events (in this case medical discharges for each year) by the population at risk (in this case the average number of Service personnel on strength in each year).

Data Sources

Data in this report comes from numerous sources as listed below. Details information on these datasets and how they are used in this report is contained in the Background Quality Report.

- Joint Personnel Administration (JPA)
- FMed 23s
- Defence Medical Information Capability Programme (DMICP)

For further information regarding data validation, analysis, accuracy and security, please see the Background Quality Report for this Official Statistic. This can be found at:
https://www.gov.uk/government/collections/medical-discharges-among-uk-service-personnel-statistics-index

Glossary

Defence Medical Information Capability Programme (DMICP) is the MOD electronic primary health care patient record.

FMed 23 is the form completed whenever a medical board is held for a member of the UK Armed Forces.

Joint Personnel Administration (JPA) is the system used by the Armed Forces to deal with matters of pay, leave and other personnel administrative tasks. JPA replaced a number of single-Service IT systems and was implemented in April 2006 for RAF, November 2006 for Naval Service and April 2007 for Army.

International Statistical Classification of Diseases and Health-Related Disorders 10th edition (ICD-10) is the standard diagnostic tool for epidemiology, health management and clinical purposes.

Officer An Officer is a member of the Armed Forces holding the Queen's Commission to lead and command elements of the forces. Officers form the middle and senior management of the Armed Forces. This includes ranks from Sub-Lt/2nd Lt/Pilot Officer up to Admiral of the Fleet/Field Marshal/Marshal of the Royal Air Force, but excludes Non-Commissioned Officers.

Other Ranks Other Ranks are members of the Royal Marines, Army and Royal Air Force who are not Officers but Other Ranks include Non-Commissioned Officers.

Principal/Contributory Condition/Cause of Discharge
Principal condition/cause
The principal condition is the first principal ICD-10 code on the medical discharge documents (FMed 23).
Contributory condition/cause
Contributory cause contains all other principal conditions and any contributory conditions on the medical discharge paper (FMed 23).

Trained in this report are those that have completed training or artificer candidacy for Naval Service and those that have completed both Phase 1 and 2 training for Army and RAF.

Trade Trained Following public announcement and public consultation the definition of Army Trained Strength has changed. From 1 October 2016, UK Regular Forces and Gurkha personnel in the Army who have completed Phase 1 training (basic Service training) but not Phase 2 training (trade training), are now considered Trained personnel. This change will enable the Army to meet the SDSR 15 commitment to improve support to UK resilience. Previously, only personnel who had completed Phase 2 training were considered trained.

This change does not affect the Royal Navy/Royal Marines (RN/RM) or the Royal Air Force (RAF).

UK Regulars are full time Service personnel, including Nursing Services, Gurkhas and Military Provost Guarding Service (MPGS) but excluding FTRS personnel, Naval activated Reservists, mobilised Reservists, and Non Regular Permanent Service (NRPS). Unless otherwise stated, includes trained and untrained personnel. This definition may differ from other reports produced by the Ministry of Defence.

Untrained personnel or "trainees" in this report are those classified as under training or artificer candidate for Naval Service and Phase 1 and 2 training for Army and RAF Trained personnel are defined as those who have complete both

Further Information

Symbols
~ Data has been suppressed due to Statistical Disclosure Control (greater than zero, fewer than 5).
[p] Provisional data.
[r] Revisions.

Disclosure Control
In line with JSP 200 (April 2016), the suppression methodology has been applied to ensure individuals are not inadvertently identified dependent on the risk of disclosure. Numbers fewer than five have been suppressed and presented as '~'. Where there was only one cell in a row or column that was fewer than five, the next smallest number has also been suppressed so that numbers cannot simply be derived from totals. If a disclosure control method has been applied to a table, the method is stated in the footnotes. For further information on statistical disclosure control see Background Quality Report.

Provisional Data
Between 1 April 2016 and 31 March 2017, Defence Statistics (Health) did not receive confirmation of all Army cause information for discharge. Therefore, Army cause code data for 2016/17 are provisional. Defence Statistics (Health) are investigating these personnel and shall revise figures in the next release. All provisional data points in this bulletin have been indicated by a "p". Please see the Annual Medical Discharges in the UK Regular Armed Forces Background Quality Report[24] for further information.

Revisions
Amendments to figures for earlier reports have been identified during annual compilation of this bulletin. As per the Ministry of Defence Revisions and Corrections Policy, 2016[25], figures were updated and those which were revised were identified with the symbol "r". Please note, these revisions are found in tables within the supporting Excel document, not the tables presented within this document. An explanation for the revisions has been provided in the section below. Please note that previous editions of this report have not been updated.

Revisions to figures were due to:
- Some percentages were incorrectly rounded to the nearest whole number. These have been corrected.
- There are a large number of medical terms used by clinicians to describe the medical conditions leading to the decision to medically discharge personnel. These terms are then coded by Defence Statistics (Health) to ICD-10 and grouped into the categories seen in cause tables within this report (i.e. Table 2). Some revisions were necessary because certain conditions were not grouped into their appropriate categories.

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.

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[24] https://www.gov.uk/government/statistics/uk-service-personnel-medical-discharges-background-quality-report
[25] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/566228/MOD_Statistics_-_Revisions_and_Corrections_Policy.pdf

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Annex A

Due to interest in the differences between Royal Navy and Royal Marines personnel, Table 1 and Table 2 from the main report have been presented with a Royal Navy and Royal Marines split and are provided this annex; **Annex A**. All other tables and figures are provided by Royal Navy and Royal Marines split in the corresponding Excel file found at
https://www.gov.uk/government/collections/medical-discharges-among-uk-service-personnel-statistics-index.

Royal Navy

Demographic Risk Groups

Between 1 April 2016 and 31 March 2017, the rate of medical discharge was significantly higher for Regular Royal Navy personnel within specific demographic groups (**Table A1**):

- Personnel aged 25-34 years.
- Female personnel.
- Other Ranks.
- Trained personnel.

Table A1: UK Regular Royal Marines medical discharges by age group[1], gender[1], rank[1] and training status[1], Numbers and Rates per 1,000 personnel at risk
1 April 2016 to 31 March 2017

	2016/17		Rate of UK Regular Royal Navy personnel medically discharged
	n	r	
Number of UK Regular Royal Marines personnel medically discharged	**280**	**11.2**	
Age			
Aged Under 20	0	0.0	
Aged 20-24	27	6.2	
Aged 25-29+	93	16.2	
Aged 30-34+	95	20.1	
Aged 35-39	31	8.9	
Aged 40-44	22	8.8	
Aged 45-49	9	4.4	
Aged 50 +	3	2.4	
Gender			
Male	220	9.9	
Female*	60	20.6	
Rank			
Officer	19	3.2	
Other Rank*	261	13.7	
Training Status			
Trained*	273	12.2	
Untrained	7	2.6	

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
+ Groups found to be at a significantly higher than average risk using a z-test for a single proportion at a 95% confidence level.
* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

Causes of Medical Discharge

Table A2: UK Regular Royal Navy medical discharges by principal ICD-10 cause code group and financial year, Numbers[1] and Percentages[2]
1 April 2012 to 31 March 2017

	All		2012/13		2013/14		2014/15		2015/16		2016/17	
	n	%	n	%	n	%	n	%	n	%	n	%
All medical discharges	1,307		262		227		252		286		280	
All cause coded medical discharges	1,305	100	261	100	227	100	252	100	285	100	280	100
Infectious and parasitic diseases (A00 - B99)	6	<1	~	1	~	<1	0	0	~	<1	~	<1
Neoplasms (C00 - D48)	21	2	6	2	~	1	~	2	~	1	5	2
Blood disorders (D50 - D89)	6	<1	~	<1	~	1	0	0	0	0	~	<1
Endocrine, nutritional and metabolic diseases (E00 - E90)	21	2	6	2	6	3	~	1	~	1	~	1
- Of which diabetes (E10-E14)	16	1	6	2	~	2	~	1	~	<1	~	<1
- Of which insulin-dependent (E10)	11	<1	~	1	~	1	~	1	~	<1	~	<1
- Of which non-insulin-dependent (E11)	5	<1	~	1	~	<1	0	0	0	0	~	<1
Mental and behavioural disorders (F00 - F99)	218	17	39	15	33	15	36	14	64	22	46	16
- Of which mood disorders (F30 - F39)	83	6	15	6	14	6	18	7	21	7	15	5
- Of which depression (F32 & F33)	71	5	15	6	13	6	13	5	15	5	15	5
- Of which neurotic, stress related and somatoform disorders (F40 - F48)	106	8	21	8	12	5	13	5	32	11	28	10
- Of which post-traumatic stress disorder (PTSD) (F431)	46	4	11	4	~	2	~	2	13	5	14	5
- Of which adjustment disorder (F432)	8	<1	~	1	~	<1	0	0	~	<1	~	<1
Nervous system disorders (G00 - G99)	41	3	7	3	~	3	~	2	12	4	12	4
- Of which epilepsy (G40)	13	<1	~	2	~	<1	~	<1	~	<1	5	2
Eye and adnexa diseases (H00 - H59)	21	2	5	2	~	2	7	3	~	1	~	<1
- Of which blindness, low vision and visual disturbance (H53 & H54)	~	<1	~	<1	0	0	~	<1	~	<1	~	<1
Ear and mastoid process diseases (H60 - H95)	26	2	5	2	~	2	~	1	10	4	~	1
- Of which hearing loss (H833 & H90 - H91)	18	1	~	1	~	1	~	1	8	3	~	<1
- Of which noise-induced hearing loss (H833)	~	<1	~	<1	0	0	~	<1	0	0	0	0
- Of which tinnitus (H931)	~	<1	0	0	0	0	0	0	~	<1	~	<1
Circulatory system disorders (I00 - I99)	27	2	6	2	5	2	~	2	8	3	~	1
Respiratory system disorders (J00 - J99)	19	1	~	1	~	<1	~	<1	9	3	~	1
- Of which asthma (J45 & J46)	16	1	~	<1	~	<1	~	<1	8	3	~	<1
Digestive system disorders (K00 - K93)	54	4	8	3	6	3	13	5	17	6	10	4
Skin and subcutaneous tissue diseases (L00 - L99)	43	3	12	5	5	2	10	4	10	4	6	2
Musculoskeletal disorders (M00 - M99) and injuries (S00 - T98)	737	56	139	53	134	59	157	62	137	48	170	61
- Of which injuries and disorders of the knee [3]	209	16	50	19	34	15	50	20	32	11	43	15
- Of which knee pain (M2556)	78	6	15	6	15	7	12	5	13	5	23	8
- Of which back pain (M549)	112	9	23	9	24	11	21	8	20	7	24	9
- Of which low back pain (M544-5)	93	7	20	8	20	9	15	6	18	6	20	7
- Of which injuries and disorders of the ankle and foot [4]	64	5	11	4	11	5	16	6	13	5	13	5
- Of which heat injury (T67)	0	0	0	0	0	0	0	0	0	0	0	0
- Of which cold injury (T68 & T69)	5	<1	~	<1	0	0	0	0	~	1	~	<1
Genitourinary system diseases (N00 - N99)	11	<1	~	2	~	<1	~	<1	~	<1	~	1
Pregnancy, childbirth and puerperium (O00 - O99)	0	0	0	0	0	0	0	0	0	0	0	0
Congenital malformations (Q00 - Q99)	~	<1	~	<1	~	<1	0	0	~	<1	0	0
Clinical and laboratory findings (R00 - R99)	35	3	9	3	8	4	~	2	~	2	9	3
Factors influencing health status (Z00 - Z99)	15	1	6	2	~	1	~	2	~	<1	~	<1
No details held on principle condition for medical boarding	1		0		0		0		1		0	
Withheld consent	1		1		0		0		0		0	

Source: DMICP, FMed 23 and JPA

[1] ~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. Please see background quality report for more information.

[2] Data presented as "<1%" represent a percentage of cause coded medical discharges of greater than 0% but smaller than 1%.

[3] Injuries and disorders of the knee have been compiled using ICD-10 codes, please see annex for specific codes.

[4] Injuries and disorders of the ankle and foot have been compiled using ICD-10 codes, please see annex for specific codes.

Royal Marines

Demographic Risk Groups

Between 1 April 2016 and 31 March 2017, the rate of medical discharge was significantly higher for Regular Royal Marines personnel within specific demographic groups (**Table A3**):

- Personnel aged 25-29 years.
- Other Ranks.
- Untrained personnel.

Table A3: UK Regular Royal Marines medical discharges by age group[1], gender[1], rank[1] and training status[1], Numbers and Rates per 1,000 personnel at risk
1 April 2016 to 31 March 2017

	2016/17		Rate of UK Regular Royal Marines personnel medically discharged
	n	r	
Number of UK Regular Royal Marines personnel medically discharged	**166**	**22.1**	
Age			
Aged Under 20	6	25.5	
Aged 20-24	29	16.8	
Aged 25-29[+]	63	27.4	
Aged 30-34	39	28.2	
Aged 35-39	15	18.9	
Aged 40-44	9	16.8	
Aged 45-49	5	13.7	
Aged 50 +	0	0.0	
Gender			
Male	164	22.4	
Female	2	17.6	
Rank			
Officer	3	3.7	
Other Rank*	163	24.7	
Training Status			
Trained	123	18.1	
Untrained*	43	70.4	

Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
+ Groups found to be at a significantly higher than average risk using a z-test for a single proportion at a 95% confidence level.
* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

Royal Marines Continued

Causes of Medical Discharge

Table A4: UK Regular Royal Marines medical discharges by principal ICD-10 cause code group and financial year, Numbers[1] and Percentages[2]
1 April 2012 to 31 March 2017

	All		2012/13		2013/14		2014/15		2015/16		2016/17	
	n	%	n	%	n	%	n	%	n	%	n	%
All medical discharges	**708**		**168**		**96**		**122**		**156**		**166**	
All cause coded medical discharges	**703**	*100*	**168**	*100*	**96**	*100*	**122**	*100*	**151**	*100*	**166**	*100*
Infectious and parasitic diseases (A00 - B99)	**0**	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
Neoplasms (C00 - D48)	**~**	*<1*	0	*0*	~	*1*	0	*0*	~	*<1*	~	*<1*
Blood disorders (D50 - D89)	**~**	*<1*	0	*0*	0	*0*	~	*<1*	0	*0*	~	*<1*
Endocrine, nutritional and metabolic diseases (E00 - E90)	**11**	*2*	~	*2*	~	*3*	~	*2*	~	*1*	0	*0*
- Of which diabetes (E10-E14)	*10*	*1*	*~*	*1*	*~*	*3*	*~*	*2*	*~*	*1*	*0*	*0*
- Of which insulin-dependent (E10)	*9*	*1*	*~*	*1*	*~*	*2*	*~*	*2*	*~*	*1*	*0*	*0*
- Of which non-insulin-dependent (E11)	*~*	*<1*	*0*	*0*	*~*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
Mental and behavioural disorders (F00 - F99)	**37**	*5*	6	*4*	~	*3*	~	*3*	8	*5*	16	*10*
- Of which mood disorders (F30 - F39)	*12*	*2*	*~*	*2*	*~*	*1*	*~*	*<1*	*~*	*3*	*~*	*2*
- Of which depression (F32 & F33)	*7*	*<1*	*~*	*<1*	*0*	*0*	*~*	*<1*	*~*	*2*	*~*	*1*
- Of which neurotic, stress related and somatoform disorders (F40 - F48)	*22*	*3*	*~*	*2*	*~*	*1*	*~*	*2*	*~*	*3*	*11*	*7*
- Of which post-traumatic stress disorder (PTSD) (F431)	*17*	*2*	*~*	*2*	*~*	*1*	*~*	*<1*	*~*	*2*	*9*	*5*
- Of which adjustment disorder (F432)	*~*	*<1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*~*	*<1*
Nervous system disorders (G00 - G99)	**15**	*2*	~	*2*	~	*2*	~	*<1*	~	*3*	~	*2*
- Of which epilepsy (G40)	*~*	*<1*	*~*	*<1*	*0*	*0*	*0*	*0*	*0*	*0*	*~*	*<1*
Eye and adnexa diseases (H00 - H59)	**~**	*<1*	~	*1*	0	*0*	0	*0*	0	*0*	0	*0*
- Of which blindness, low vision and visual disturbance (H53 & H54)	*~*	*<1*	*~*	*<1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ear and mastoid process diseases (H60 - H95)	**72**	*10*	20	*12*	15	*16*	11	*9*	11	*7*	15	*9*
- Of which hearing loss (H833 & H90 - H91)	*69*	*10*	*20*	*12*	*14*	*15*	*11*	*9*	*9*	*6*	*15*	*9*
- Of which noise-induced hearing loss (H833)	*37*	*5*	*17*	*10*	*9*	*9*	*7*	*6*	*~*	*2*	*~*	*<1*
- Of which tinnitus (H931)	*~*	*<1*	*0*	*0*	*0*	*0*	*0*	*0*	*~*	*<1*	*0*	*0*
Circulatory system disorders (I00 - I99)	**7**	*<1*	0	*0*	~	*2*	~	*2*	~	*1*	~	*<1*
Respiratory system disorders (J00 - J99)	**12**	*2*	~	*1*	~	*3*	~	*2*	~	*<1*	~	*2*
- Of which asthma (J45 & J46)	*12*	*2*	*~*	*1*	*~*	*3*	*~*	*2*	*~*	*<1*	*~*	*2*
Digestive system disorders (K00 - K93)	**12**	*2*	~	*2*	~	*2*	~	*<1*	~	*1*	~	*2*
Skin and subcutaneous tissue diseases (L00 - L99)	**~**	*<1*	0	*0*	~	*1*	~	*<1*	0	*0*	~	*1*
Musculoskeletal disorders (M00 - M99) and injuries (S00 - T98)	**494**	*70*	117	*70*	62	*65*	91	*75*	116	*77*	108	*65*
- Of which injuries and disorders of the knee [3]	*117*	*17*	*27*	*16*	*13*	*14*	*21*	*17*	*30*	*20*	*26*	*16*
- Of which knee pain (M2556)	*42*	*6*	*10*	*6*	*~*	*5*	*~*	*3*	*11*	*7*	*12*	*7*
- Of which back pain (M549)	*69*	*10*	*16*	*10*	*5*	*5*	*10*	*8*	*19*	*13*	*19*	*11*
- Of which low back pain (M544-5)	*61*	*9*	*13*	*8*	*5*	*5*	*9*	*7*	*16*	*11*	*18*	*11*
- Of which injuries and disorders of the ankle and foot [4]	*57*	*8*	*15*	*9*	*6*	*6*	*9*	*7*	*16*	*11*	*11*	*7*
- Of which heat injury (T67)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
- Of which cold injury (T68 & T69)	*11*	*2*	*0*	*0*	*0*	*0*	*~*	*2*	*7*	*5*	*~*	*1*
Genitourinary system diseases (N00 - N99)	**~**	*<1*	~	*<1*	0	*0*	0	*0*	0	*0*	~	*<1*
Pregnancy, childbirth and puerperium (O00 - O99)	**0**	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
Congenital malformations (Q00 - Q99)	**~**	*<1*	0	*0*	0	*0*	0	*0*	~	*<1*	~	*<1*
Clinical and laboratory findings (R00 - R99)	**22**	*3*	7	*4*	~	*2*	~	*2*	~	*2*	7	*4*
Factors influencing health status (Z00 - Z99)	**6**	*<1*	~	*1*	0	*0*	~	*2*	0	*0*	~	*1*
No details held on principle condition for medical boarding	**5**		0		0		0		5		0	
Withheld consent	**0**		0		0		0		0		0	

Source: DMICP, FMed 23 and JPA

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