Annual Medical Discharges in the UK Regular Armed Forces

Ministry of Defence

1 April 2016 to 31 March 2021
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This official statistic provides time trends for the last five years of medical discharges among UK regular service personnel with a focus on the most recent year of information, including demographic factors and the medical causes leading to the discharge.

When a medical condition or fitness issue affects a member of the UK armed forces, their ability to perform their duties is assessed. If they are unable to perform their duties and alternative employment within the armed forces 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.
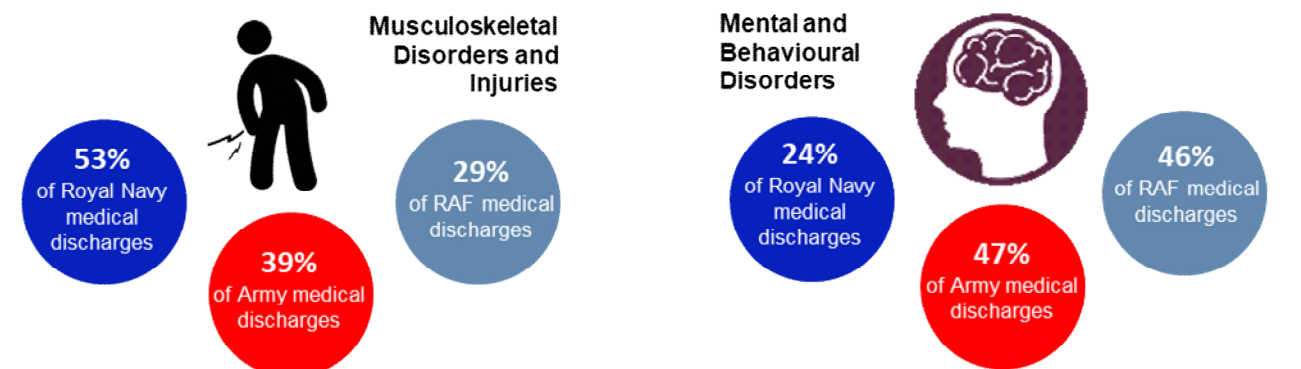
The medical reason for the discharge is recorded and categorised. It is possible for personnel to be medically discharged for multiple reasons.

Key Points and Trends

In 2020/21:

Royal Navy	**Army**	**RAF**
335 medical discharges **10 per 1,000 personnel** ▼	**666 medical discharges** **8 per 1,000 personnel** ▼	**123 medical discharges** **4 per 1,000 personnel** ▼
(No significant change since last year when rate was 11 per 1,000)	(Significantly lower than last year when rate was 13 per 1,000)	(Significantly lower than last year when rate was 5 per 1,000)
Groups at significantly higher risk of medical discharge:	**Groups at significantly higher risk of medical discharge:**	**Groups at significantly higher risk of medical discharge:**
Other Ranks Personnel aged 30-34 years Royal Marines	Other Ranks Females Untrained Personnel aged 20-24 years	Other Ranks Females Personnel aged 50 years and over

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.

Musculoskeletal Disorders and Injuries
- 53% of Royal Navy medical discharges
- 39% of Army medical discharges
- 29% of RAF medical discharges

Mental and Behavioural Disorders
- 24% of Royal Navy medical discharges
- 47% of Army medical discharges
- 46% of RAF medical discharges

2 in 5 personnel (42%) medically discharged left 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 the board will recommend a medical discharge; as laid down in the medical policy and/or the single services retention standards for their career group. 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 occurred; medically downgraded personnel who are retained in service or exit the forces for any other reason are excluded[1]. 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. It is possible for personnel to be medically discharged for multiple reasons; this document focuses on principal cause of medical discharge and information on principal and contributory cause can be found in the supplementary tables.

This official statistic includes medical discharges of regular UK armed forces personnel only and excludes all reservist personnel. This is because the medical discharge process and medical record information for reservist personnel is not comparable to that of regular personnel. Most reserve personnel do not receive their primary medical care from MOD, but instead receive their primary medical care from the NHS. Therefore, Defence Statistics Health are unable to verify the quality of information relating to the discharge of reservist personnel and it has not been deemed appropriate to include information on this population until further understanding is gained.

Please note that Defence Statistics Health did not receive all army discharge paperwork confirming cause of medical discharge between 2014/15 and 2018/19, and Royal Navy/Royal Marines and RAF paperwork for 2015/16. Therefore, cause information for these years should be considered a minimum. It is not expected that further information will be obtained and therefore figures are not provisional. Please see the annual medical discharges in the UK regular armed forces background quality report for further information[2].

Please note that due to COVID-19 limiting access to places of work, Defence Statistics Health were not able to access all of the paperwork confirming cause of medical discharge for trained army personnel in 2019/20 and for all service personnel in 2020/21. Therefore, cause information for all services in the latest year should be considered **provisional and subject to change**. Please see the methodology (page 33) and the annual medical discharges in the UK regular armed forces background quality report for further information[2].

Executive Summary

Between 1 April 2020 and 31 March 2021 (2020/21) of the UK regular armed forces population:

Royal Navy	**335** Royal Navy/Royal Marines personnel were medically discharged, a rate of **10 per 1,000 personnel**. The rate was not significantly different from last year (11 per 1,000 personnel).
Army	**666** Army personnel were medically discharged, a rate of **8 per 1,000 personnel**. The rate was significantly **lower** than last year (13 per 1,000 personnel).
RAF	**123** RAF personnel were medically discharged, a rate of **4 per 1,000 personnel**. The rate was significantly **lower** than last year (5 per 1,000 personnel).

A total of **1,124 medical discharges** occurred in 2020/21, representing approximately 3 UK regular armed forces personnel medically discharged each day.

The rate of medical discharge in 2020/21 for the army and RAF were the lowest in 10 years. Changes in rates do not necessarily reflect prevalence of injury and/or illness, and instead may reflect changes in boarding practices, retention policies or changes to employment standards. In 2020/21 due to COVID-19, army medical employment policy was temporarily amended to reduce the pressure on the military medical chain and the NHS. Therefore, some personnel who would have been medically discharged during 2020/21 are still awaiting their discharges to be finalised.

In 2020/21 the following demographic groups were significantly more likely to medically discharge:

- **Other Ranks** in each of the three services.
- **Females** in the army and the RAF.
- Royal Navy/Royal Marines aged **30-34 years**; army personnel aged **20-24 years**; RAF personnel aged **50 years and over**.
- **Royal Marines** compared to the Royal Navy.
- **Untrained** personnel in the army and Royal Marines.

The demographic groups with higher rates of discharge were broadly consistent with the results from previous reports. The annual MOD Health and Safety Statistics historically has found other ranks and untrained personnel had higher rates of injury and ill health related incidents[3]. The Women in Ground Close Combat Roles review also found that female personnel had a higher rate of injuries than males[4].

For all three 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 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. Other militaries report similar findings, with the United States Army[5] and Canadian military[6] reporting Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders as the two most common reasons for medical release.

Historically, Musculoskeletal Disorders and Injuries has been the most common principal cause of medical discharge across all three services. In 2020/21 the proportion of medical discharges for the army and RAF as a result of Mental and Behavioural Disorders was higher than that of Musculoskeletal Disorders and Injuries. For the RAF, this is consistent with 2019/20, whereas for the army this was the first time since reporting began. This change could be the result of temporary amendments to the army medical employment policy and restricted clinical activity in rehabilitation services due to COVID-19, which may have led to more deferrals for personnel with Musculoskeletal Disorders and Injuries than Mental and Behavioural Disorders. In recent years, the increasing proportion of Mental and Behavioural Disorders discharges may also be due to MOD led anti-stigma campaigns, improving awareness of mental health issues among UK armed forces personnel, Commanding Officers and clinicians which may have led to greater detection of mental ill-health.

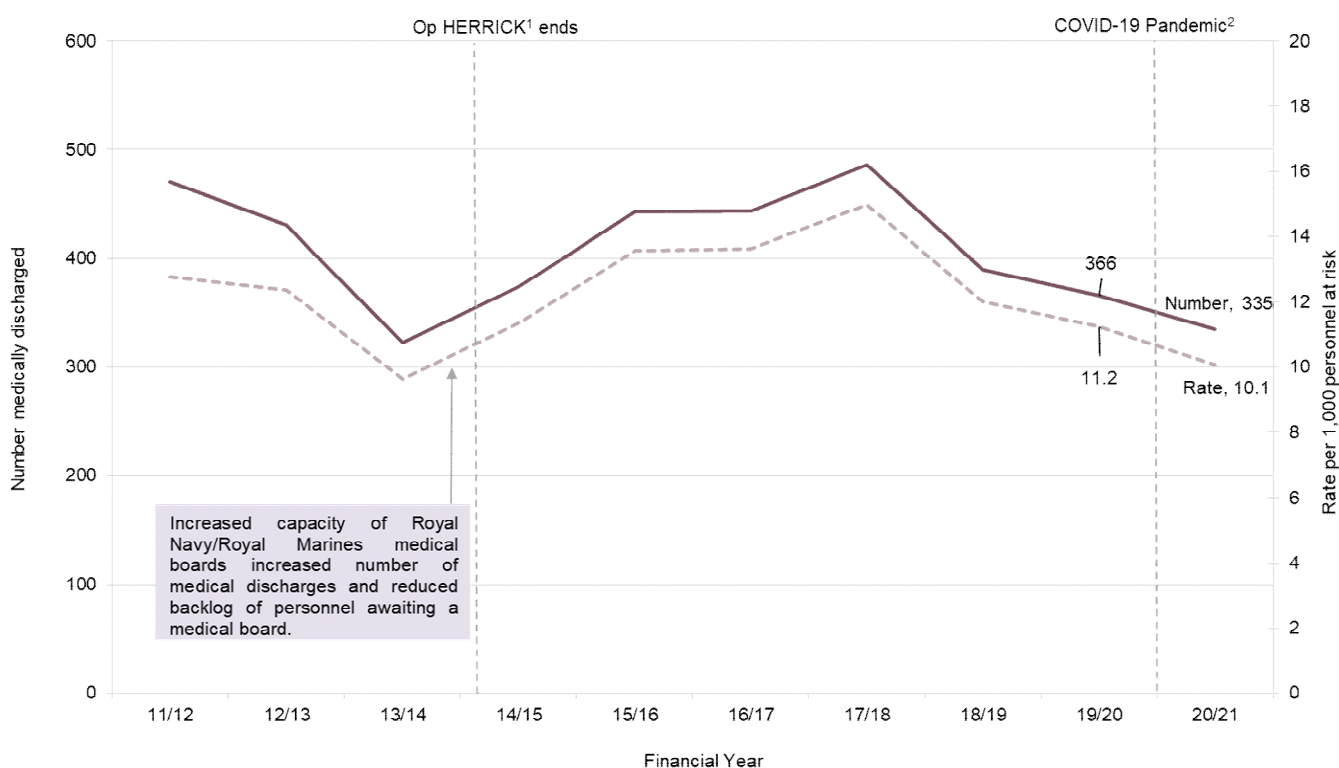# Royal Navy/Royal Marines

Trends in Medical Discharges

In 2020/21, there were **335** medical discharges from the Royal Navy/Royal Marines; a rate of **10 per 1,000** personnel.

- **229** Royal Navy personnel were medically discharged; a rate of **9 per 1,000** personnel.

- **106** Royal Marines personnel were medically discharged; a rate of **16 per 1,000** personnel.

These rates were not significantly different to last year.

Figure 1 shows the number and rate of Royal Navy/Royal Marines medical discharges over time from 2011/12 to 2020/21. Rates have fallen since 2017/18.

Figure 1: UK regular Royal Navy/Royal Marines medical discharges by financial year, numbers and rates per 1,000 personnel at risk
1 April 2011 to 31 March 2021

Source: DMICP, FMed 23 and JPA
[1] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.
[2] On 11 March 2020, the World Health Organisation classified COVID-19 as a pandemic. Defence, in line with the rest of the country, continues to follow guidance on restrictions as provided by the UK government and devolved administrations.

▼ The rate of medical discharges fell in 2013/14. During this year there was a reduction in the capacity of Royal Navy/Royal Marines medical boards due to a lack of administrative support which may have contributed to this fall. Additionally, following the 2010 Strategic Defence and Security Review (SDSR)[8], there was a greater need to retain downgraded personnel.

▲ The rate of medical discharges rose between 2014/15 and 2017/18. The rise may in part have been due to an increase in the capacity of Royal Navy/Royal Marines medical boards between 2014/15 and 2015/16. Increased capacity meant that the medical boards could reduce any backlog of personnel awaiting a formal medical board.

▼ The rate of medical discharges has continued to fall since 2017/18. The decrease is consistent in both Royal Navy and Royal Marines and the reasons for this are unclear. Whilst there were temporary deferrals of medical boards at the beginning of 2020/21 due to COVID-19 restrictions, these were quickly resumed and is not thought to have contributed to the fall in rates.

Royal Navy/Royal Marines Continued

Demographic Risk Groups

In 2020/21, the rate of medical discharge was significantly higher for regular **Royal Navy/Royal Marines** personnel within the following demographic groups (**Table 1**):
- Other ranks.
- Personnel aged 30-34 years.
- Royal Marines.

Royal Navy personnel only:
- Personnel aged 30-34 years.
- Females.
- Other ranks.
- Trained.

Royal Marines personnel only:
- Personnel aged under 20 years.
- Other ranks.
- Untrained.

Table 1: UK regular Royal Navy/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 2020 to 31 March 2021

Number of UK regular Royal Navy/Royal Marines personnel medically discharged	2020/21		Rate of UK regular Royal Navy/Royal Marines personnel medically discharged
	n	rate	
	335	**10.1**	
Age			
Aged under 20	16	9.1	
Aged 20-24	54	8.0	
Aged 25-29	66	9.6	
Aged 30-34[+]	91	15.2	
Aged 35-39	54	11.2	
Aged 40-44	27	8.9	
Aged 45-49	17	7.7	
Aged 50 and over	10	5.4	
Gender			
Male	296	9.9	
Female	39	11.7	
Rank			
Officer	24	3.5	
Other Rank*	311	11.8	
Training Status			
Trained	279	9.7	
Untrained	56	12.3	
Service			
Royal Navy	229	8.6	
Royal Marines*	106	15.9	

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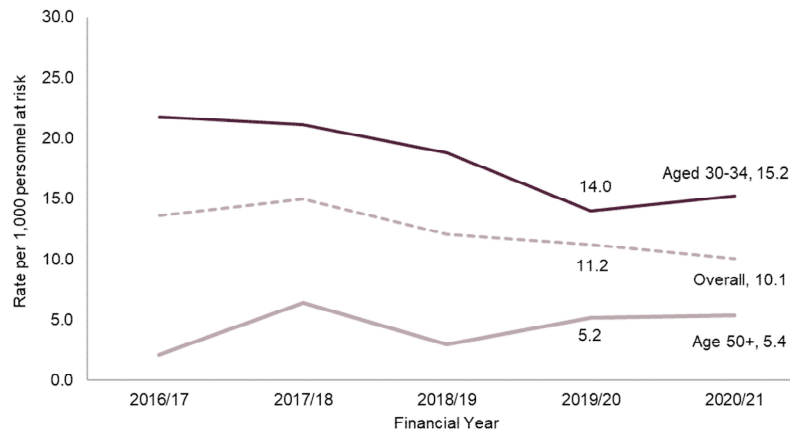* Groups found to be at a significantly higher risk using a z-test for proportions at a 95% confidence level.

Royal Navy/Royal Marines Continued

Figures 2 to **6** present the Royal Navy/Royal Marines medical discharges by demographic group from 2016/17 to 2020/21 with possible explanations for the differences observed.

Figure 2: UK regular Royal Navy/Royal Marines medical discharges by age group[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021

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

In 2020/21, the rate of medical discharge for personnel **aged 30-34 years was significantly higher** than other age groups and the rate for those **aged 50 years and over was significantly lower** compared to other age groups.
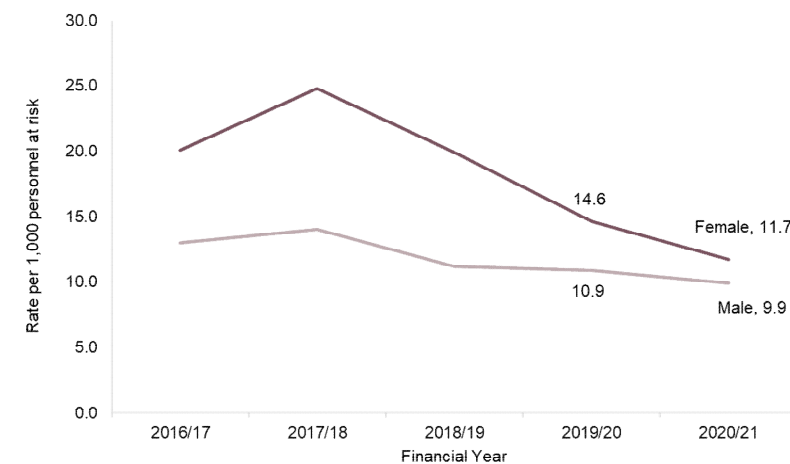
The other age groups are presented in graphs within the supplementary tables.

Figure 3: UK regular Royal Navy/Royal Marines medical discharges by gender[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021

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

The rate of medical discharges in females has been higher than males for all years presented. Female rates have fallen in recent years and **in 2020/21, there was no significant difference** between the rate of medical discharges among males and females for the second consecutive year.

The higher rate of medical discharges in female personnel may be due to their higher risk of sustaining Musculoskeletal Disorders and Injuries[4], reporting injury[3] and higher presentation of mental health disorders[9].
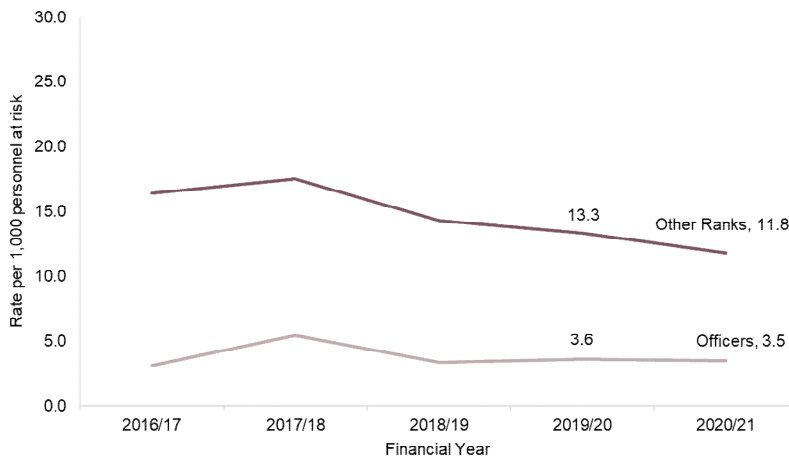
Royal Navy/Royal Marines Continued

Figure 4: UK regular Royal Navy/Royal Marines medical discharges by rank[1] and financial year, rates per 1,000 personnel at risk
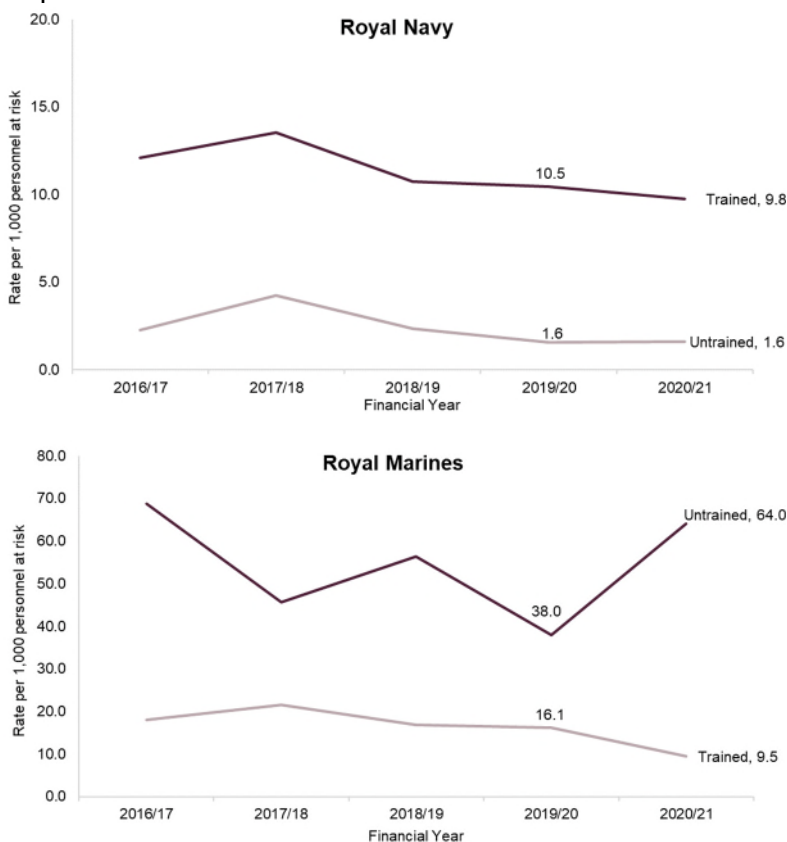
1 April 2016 and 31 March 2021

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

The rate of medical discharge among **other ranks was significantly higher** than officers throughout the period presented. The reason for this is unclear however it may in part be due to role requirements; officers may have more opportunities to be placed in an ashore role where it is easier to deliver medical care and assess treatment. There are complexities of retaining personnel with medical needs in on-board ship roles.

Figure 5: UK regular Royal Navy/Royal Marines medical discharges by training status[1] and financial year, rates per 1,000 personnel at risk

1 April 2016 and 31 March 2021

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

There was no significant difference in the rate of medical discharges between untrained and trained personnel for Royal Navy/Royal Marines as a whole.

When considering the Royal Navy and Royal Marines separately; the rate of medical discharge was **significantly higher** among **trained Royal Navy** personnel and **untrained Royal Marines**.

The higher rate of medical discharges among untrained Royal Marines may be due to the intensive nature of the training programme. The reason for the rise in untrained Royal Marines in 2020/21 is unclear, however changes in the small numbers involved can have a large effect on the rate.

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Royal Navy/Royal Marines Continued

Figure 6: UK regular Royal Navy/Royal Marines medical discharges by service[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021
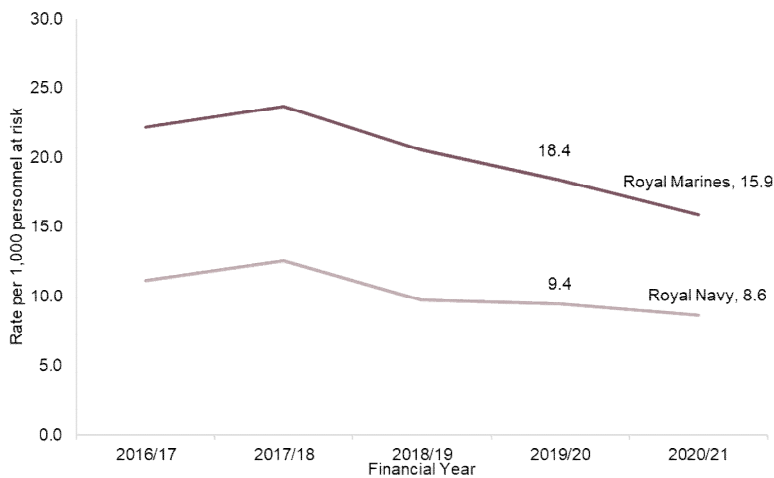
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

The rate of medical discharges among **Royal Marines was significantly higher than the Royal Navy** in each of the years presented.

This is likely to be due to a number of factors:

• A higher standard of physical fitness associated with training and deployment is required in the Royal Marines. Rigorous training routines may lead to increased injuries.

• Less availability of roles within the Royal Marines for personnel with limited deployability compared to the Royal Navy.

The rates of medical discharge by demographic groups can be found for the Royal Navy and Royal Marines as individual populations in **Annex A** (pages 37 to 40).

Royal Navy/Royal Marines Continued

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). **Principal cause** is the main medical cause of the discharge. **Contributory causes** include any other conditions identified that would result in a medical discharge. All further information presented in the cause of medical discharge section will be relating to principal cause of discharge only.

Please note that due to Government COVID-19 restrictions limiting travel to places of work, Defence Statistics Health were not able to access all of the paperwork confirming cause of medical discharge for Royal Navy/Royal Marines personnel in 2020/21. During this time period DMICP was used as the primary source, therefore, cause information for services in the latest year should be considered **provisional and subject to change**.

In 2020/21, the two most common principal causes of medical discharges in the Royal Navy/Royal Marines were Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders.

53% of medical discharges (approx. 1 in 2) were due to **Musculoskeletal Disorders and Injuries**.

24% of medical discharges (approx. 1 in 4) were due to **Mental and Behavioural Disorders**.

Royal Navy personnel only:
- **43%** of medical discharges were due to Musculoskeletal Disorders and Injuries.
- **30%** of medical discharges were due to Mental and Behavioural Disorders.

Royal Marines personnel only:
- **75%** of medical discharges were due to Musculoskeletal Disorders and Injuries.
- **10%** of medical discharges were due to Mental and Behavioural Disorders.

Table 2 presents Royal Navy/Royal Marines medical discharges by principal ICD-10 cause code group (the chapter within which the condition is categorised) for 2020/21 and the total for the latest five year period, 2016/17 to 2020/21. The five year total is provided as a comparator for the cause group percentages in the latest year. For a breakdown of each of the five years, please see the supplementary tables (Table 2).

Royal Navy/Royal Marines Continued

Table 2: UK regular Royal Navy/Royal Marines medical discharges by principal ICD-10 cause code group[1] and financial year, numbers and percentages[2]
1 April 2016 and 31 March 2021

	5 Year Total[p] 2016/17-2020/21		2020/21[p]	
	n	%	n	%
All medical discharges	**2,020**		**335**	
All cause coded medical discharges	**2,019**	**100**	**335**	**100**
Infectious and parasitic diseases	~	<1	0	0
Neoplasms	16	<1	~	<1
Blood disorders	~	<1	0	0
Endocrine, nutritional and metabolic diseases	26	1	~	1
- Of which diabetes	17	<1	~	<1
- Of which insulin-dependent	12	<1	~	<1
- Of which non-insulin-dependent	5	<1	~	<1
Mental and behavioural disorders	406	20	80	24
- Of which mood disorders	133	7	21	6
- Of which depression	118	6	18	5
- Of which neurotic, stress related and somatoform	243	12	53	16
- Of which post-traumatic stress disorder (PTSD)	137	7	30	9
- Of which adjustment disorder	28	1	~	<1
Nervous system disorders	82	4	13	4
- Of which epilepsy	11	<1	~	<1
Eye and adnexa diseases	11	<1	~	<1
- Of which blindness, low vision and visual disturbance	~	<1	0	0
Ear and mastoid process diseases	86	4	7	2
- Of which hearing loss	70	3	7	2
- Of which noise-induced hearing loss	10	<1	~	<1
- Of which tinnitus	9	<1	0	0
Circulatory system disorders	34	2	10	3
Respiratory system disorders	32	2	5	1
- Of which asthma	23	1	~	<1
Digestive system disorders	61	3	8	2
Skin and subcutaneous tissue diseases	47	2	8	2
Musculoskeletal disorders and Injuries	1,117	55	178	53
- Of which injuries and disorders of the knee[3]	252	12	45	13
- Of which knee pain	124	6	18	5
- Of which back pain	205	10	35	10
- Of which low back pain	188	9	32	10
- Of which injuries and disorders of the ankle and foot[4]	104	5	28	8
- Of which heat injury	~	<1	~	<1
- Of which cold injury	22	1	~	<1
Genitourinary system diseases	15	<1	5	1
Pregnancy, childbirth and puerperium	0	0	0	0
Congenital malformations	8	<1	0	0
Clinical and laboratory findings	65	3	13	4
External Causes of Morbidity and Mortality	~	<1	0	0
Factors influencing health status	7	<1	~	<1
No details held on principal condition for medical boarding	1		0	
Withheld consent	0		0	

Source: DMICP, FMed 23 and JPA

[1] Each cause of discharge category has been compiled using ICD-10 codes, please see the methodology section on page 33 for specific codes.

[2] Data presented as "<1%" represent a percentage greater than 0% but smaller than 1%.

~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. 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.

[p] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.

Royal Navy/Royal Marines Continued

Figure 7 shows the main principal cause coded medical discharges between 2016/17 and 2020/21.

Musculoskeletal Disorders and Injuries was the largest principal cause of Royal Navy/Royal Marines medical discharges, accounting for over half of all discharges over the last five years. The proportion of Musculoskeletal Disorders and Injuries discharges over the last five years was higher among Royal Marines personnel (67%) than Royal Navy personnel (49%), which may be due to the physically intensive nature of many of the roles within this service.

Mental and Behavioural Disorders remained the second largest principal cause of Royal Navy/Royal Marines medical discharges across the reporting period. The proportion of medical discharges for these disorders increased from 2016/17 to 2019/20 and then fell in 2020/21. The proportion of Mental and Behavioural Disorders over the last five years were lower among Royal Marines (10%) than Royal Navy personnel (26%). Rates of mental disorder seen in military healthcare settings[9] were also lower among Royal Marines than the Royal Navy; this may be attributed to their selection processes, tight unit cohesion and high levels of preparedness.

Nervous System Disorders was the third largest principal cause of Royal Navy/Royal Marines medical discharges over the last five years, accounting for 4% of all medical discharges since 2016/17.

Please note that each medical discharge can only have one principal condition, and a decrease in one cause code group may appear as an increase in another. Therefore, it is important to consider all cause code groups when looking at trends over time.

Figure 7: UK regular Royal Navy/Royal Marines medical discharges by principal ICD-10 cause code group and financial year, percentages[1,2,3]
1 April 2016 and 31 March 2021
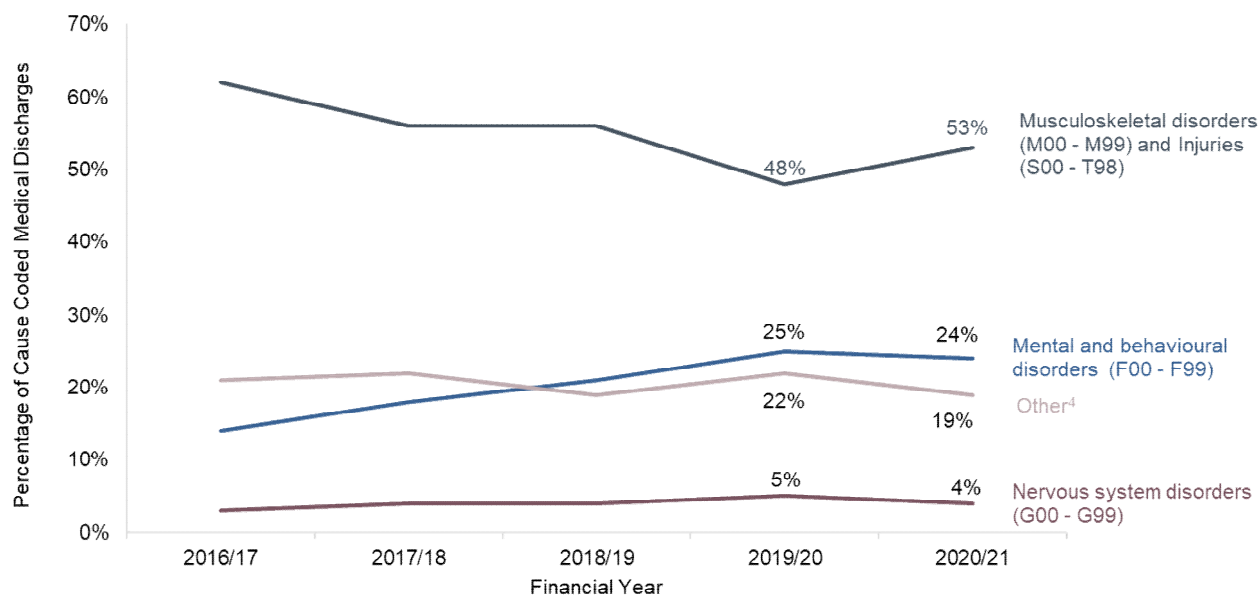
Source: DMICP, FMed 23 and JPA
[1] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.
[2] Percentages are calculated from only personnel who have a principal condition recorded.
[3] Due to rounding, percentages might not add to 100%.
[4] Includes 11 cause code groups; each accounting for a maximum of 4% of all Royal Navy/Royal Marines cause coded medical discharges.

Royal Navy/Royal Marines Continued

Figure 8 shows the proportions of cause coded medical discharges by principal ICD-10 cause code groups in 2020/21.

Over half of the medical discharges as a result of Musculoskeletal Disorders and Injuries were linked to the knee, back, and ankle and foot (n = 108). The high numbers of medical discharges for these conditions is likely to be due to physical activity required in many areas of the Royal Navy/Royal Marines; training on uneven ground carrying heavy loads, adopting firing positions, climbing ladders and working on a moving platform aboard ship. Back pain is also the leading cause of disability in the UK and global populations[10].

The remaining medical discharges due to Musculoskeletal Disorders and Injuries (n = 70) were distributed across a wide range of disorders and injuries, with no large numbers of discharges in one particular body region or medical condition.

Most medical discharges as a result of Mental and Behavioural Disorders were due to Neurotic, Stress and Somatoform Disorders and Mood Disorders. Neurotic Disorders were the most prevalent mental disorder assessed at MOD specialist mental health services (DCMHs) in 2020/21[9].

Post-Traumatic Stress Disorder (PTSD) accounted for almost 40% of all Mental and Behavioural Disorder medical discharges whereas a PTSD diagnosis only accounted for less than one in 10 assessments by MOD specialist mental health clinicians[9]. This difference may reflect the severity of PTSD and potential impact on a military career.

Figure 8: UK regular Royal Navy/Royal Marines medical discharges by principal ICD-10 cause code group, numbers and percentages[1,2]
1 April 2020 to 31 March 2021
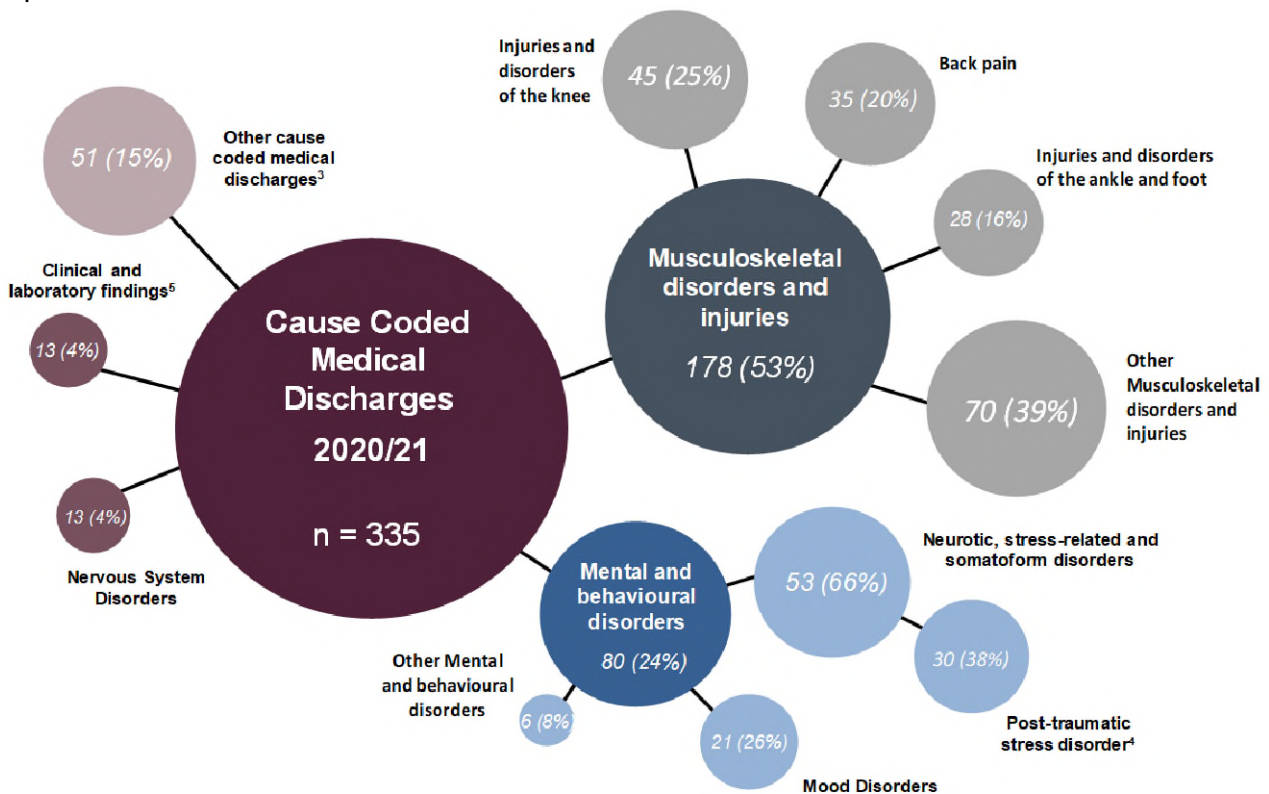
Source: DMICP, FMed 23 and JPA
[1] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.
[2] Due to rounding, percentages might not add to 100%.
[3] Includes 10 cause code groups; each accounting for a maximum of 3% of all Royal Navy/Royal Marines cause coded medical discharges.
[4] Post-traumatic stress disorder discharges are shown as a percentage of Mental and Behavioural Disorders and not Neurotic Stress-related and Somatoform Disorders.
[5] Clinical and Laboratory Findings include symptoms and abnormal clinical findings - such as irregular heartbeat and abdominal pain - which are ill-defined and may not have a diagnosis that can be elsewhere classified.

Royal Navy/Royal Marines Continued

When considering both the principal and contributory causes of discharge in the Royal Navy/Royal Marines in 2020/21:

- Musculoskeletal Disorders and Injuries were present in over half of discharges (n = 208, 62%).
- Mental and Behavioural Disorders were present in just under a third of discharges (n = 101, 30%).
- While the top two principal and contributory causes of discharge were consistent in both the Royal Navy and Royal Marines, the third most common causes differed:
    - In the Royal Navy, Nervous System Disorders were the third most common cause (n = 18, 8%).
    - In the Royal Marines, Ear and Mastoid Process Diseases were the third most common cause (n = 12, 11%).

Further information on the principal and contributory causes of medical discharge in the UK regular Royal Navy/Royal Marines can be found in the supplementary tables to this report (**Annex A1.2, A2.2, A2.3, A3.2 and A3.3**).

Army

Trends in Medical Discharges

In 2020/21, there were **666** medical discharges from the army; a rate of **8 per 1,000** personnel. This rate was **significantly lower** compared to last year.

Figure 9 shows the number and rates of army medical discharges over time from 2011/12 to 2020/21. Rates have been falling since 2016/17.

Figure 9: UK regular army medical discharges by financial year, numbers and rates per 1,000 personnel at risk
1 April 2011 to 31 March 2021

Source: DMICP, FMed 23 and JPA
[1] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.
[2] On 11 March 2020, the World Health Organisation classified COVID-19 as a pandemic. Defence, in line with the rest of the country, continues to follow guidance on restrictions as provided by the UK government and devolved administrations

▲ Between 2011/12 and 2014/15, the rate of medical discharge among army personnel more than doubled (from 9 to 23 per 1,000 personnel). This is likely to be the result of more efficient management of the recovery care pathway with the establishment of the Army Recovery Capability (ARC). The ARC was established to manage the transition of ill and injured personnel either back to active service, or to civilian life. Additionally, it may be the result of the completion of treatment of personnel injured in Iraq and Afghanistan, and limited availability of roles suitable for personnel with medical restrictions.

▼ The rate of medical discharges has continued to fall since 2016/17 and the latest annual rate was the lowest in 10 years. This may be due to an increased availability of roles suitable for personnel with medical restrictions. In 2019/20, the army updated their medical employment policy placing greater emphasis on retention and transfer for personnel with medical limitations into roles suitable for their individual needs, either within their unit, cap badge or elsewhere in the army, thus retaining personnel who may previously have been medically discharged.

▼ In 2020/21 due to COVID-19, army medical employment policy was temporarily amended to reduce the pressure on the military medical chain and the NHS. Changes included medical extensions and deferrals of a person's last day of service. Therefore, some personnel who would have been medically discharged during 2020/21 are still awaiting their discharges to be finalised which may have also contributed to the fall in rates of medical discharge seen in the latest year.

Army Continued

Demographic Risk Groups

In 2020/21, the rate of medical discharge was significantly higher for regular army personnel within the following demographic groups (**Table 3**):
- Personnel aged 20-24 years.
- Females
- Other ranks
- Untrained personnel

Table 3: UK regular army 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 2020 to 31 March 2021

Number of UK regular army personnel medically discharged	n	rate	Rate of UK regular army personnel medically discharged
	666	**7.9**	
Age			
Aged under 20	52	8.1	
Aged 20-24[+]	160	9.3	
Aged 25-29	140	7.9	
Aged 30-34	131	8.1	
Aged 35-39	87	6.8	
Aged 40-44	56	6.8	
Aged 45-49	26	7.6	
Aged 50 and over	14	7.1	
Gender			
Male	554	7.3	
Female*	112	14.3	
Rank			
Officer	31	2.3	
Other Rank*	635	9.0	
Training Status			
Trade Trained[2]	515	6.9	
Untrained*	151	16.5	

Source: DMICP, FMed 23 and JPA

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

[2] Army personnel are considered Trade Trained when they have completed both Phase 1 and 2 training.

[+] Age groups found to be at a significantly higher risk than the average of all other age groups combined 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.

The higher rates of presentation among the demographic groups seen in Table 3 were broadly consistent to those seen in previous years. **Figures 10** to **13** present the army medical discharges by demographic group over time, with possible explanations for the differences observed.

Army Continued

Figure 10: UK regular army medical discharges by age group[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021
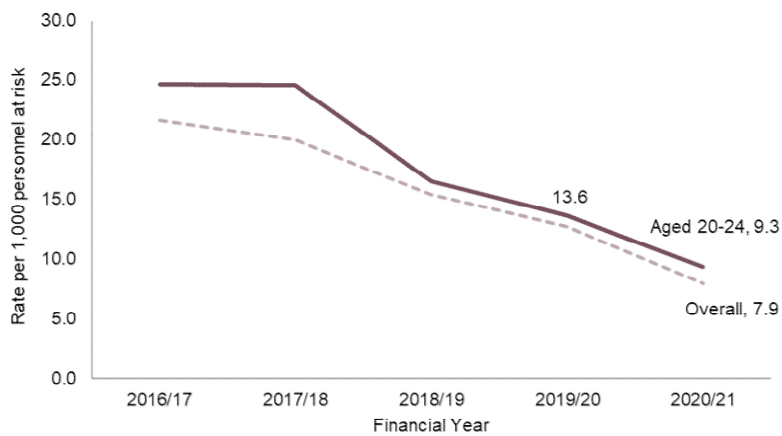
In 2020/21, the rate of medical discharge for personnel **aged 20-24 was significantly higher** than the remaining age groups.

Other age groups are presented in graphs within the supplementary tables.

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

Figure 11: UK regular army medical discharges by gender[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021

Army **females had significantly higher rates** of medical discharge than males in all years except 2017/18.

The higher rate of medical discharges in female personnel may be due to their higher risk of sustaining Musculoskeletal Disorders and Injuries[4], and higher presentation of mental health disorders[9] (the leading two causes of medical discharge).

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

Army Continued

Figure 12: UK regular army medical discharges by rank[1] and financial year, rates per 1,000 personnel at risk

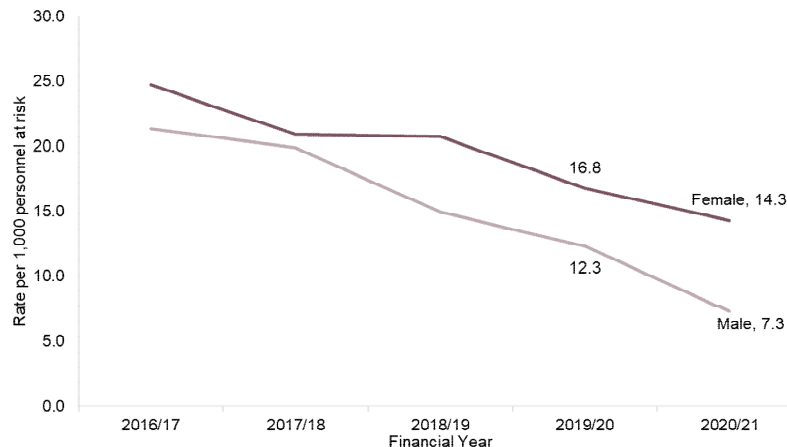1 April 2016 and 31 March 2021

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

The rate of medical discharge among **other ranks was significantly higher** than for officers throughout the period presented.

Officers are more likely to be employed in office-based roles than other ranks and are more likely to be employed in or can be reassigned to duties that are compatible with their individual medical limitations.

Figure 13: UK regular army medical discharges by training status[1,2] and financial year, rates per 1,000 personnel at risk

1 April 2016 and 31 March 2021

Source: DMICP, FMed 23 and JPA
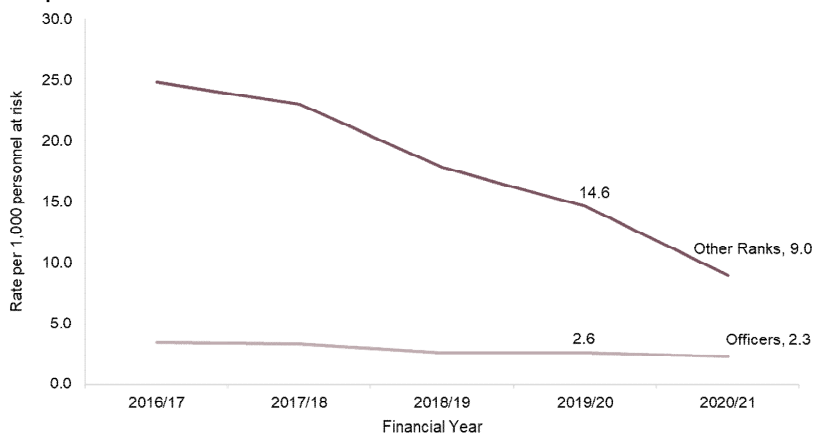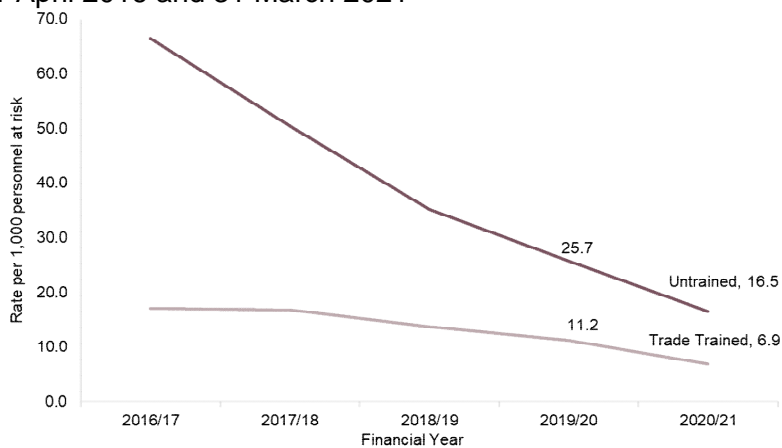[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.
[2] Army personnel are considered Trade Trained when they have completed both Phase 1 and 2 training.

Whilst rates among untrained personnel has fallen since 2016/17, the rate of medical discharge in **untrained personnel remained significantly higher** compared to trade trained personnel throughout the period presented.

The rate of medical discharge was also higher in untrained Royal Marines personnel which may be due to the similarly intensive nature of the army and Royal Marines training programmes.

Army 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). **Principal cause** is the main medical cause of the discharge. **Contributory causes** include any other conditions identified that would result in a medical discharge. All information presented in the cause of medical discharge section will be relating to principal cause of discharge only.

Please note that due to COVID-19 limiting access to places of work, Defence Statistics Health were not able to access all the paperwork confirming cause of medical discharge for trained army personnel in 2019/20 and 2020/21. During these time periods DMICP was used as the primary source, therefore, cause information for services in the latest year should be considered **provisional and subject to change**.

In 2020/21, the two most common principal causes of medical discharges in the army were Mental and Behavioural Disorders and Musculoskeletal Disorders and Injuries.

47% of medical discharges (approx. 1 in 2) were due to **Mental and Behavioural Disorders**.

39% of medical discharges (approx. 1 in 3) were due to **Musculoskeletal Disorders and Injuries**.

Table 4 presents army medical discharges by principal ICD-10 cause code group (the chapter within which the condition is categorised) for 2020/21 and the total for the latest five year period, 2016/17 to 2020/21. The five year total is provided as a comparator for the cause group percentages in the latest year. For a breakdown of each of the five years, please see the supplementary tables (Table 4).

Table 4: UK regular army medical discharges by principal ICD-10 cause code group[1] and financial year, numbers and percentages[2]
1 April 2016 and 31 March 2021

	5 Year Total[p] 2016/17 to 2020/21		2020/21[p]	
	n	%	n	%
All medical discharges	**6,564**		**666**	
All cause coded medical discharges	**6,347**	**100**	**662**	**100**
Infectious and parasitic diseases	9	<1	~	<1
Neoplasms	49	<1	7	1
Blood disorders	11	<1	0	0
Endocrine, nutritional and metabolic diseases	39	<1	~	<1
- Of which diabetes	19	<1	~	<1
- Of which insulin-dependent	11	<1	~	<1
- Of which non-insulin-dependent	5	<1	~	<1
Mental and behavioural disorders	1,823	29	311	47
- Of which mood disorders	575	9	114	17
- Of which depression	510	8	97	15
- Of which neurotic, stress related and somatoform	1,119	18	170	26
- Of which post-traumatic stress disorder (PTSD)	738	12	116	18
- Of which adjustment disorder	165	3	18	3
Nervous system disorders	136	2	15	2
- Of which epilepsy	26	<1	~	<1
Eye and adnexa diseases	18	<1	~	<1
- Of which blindness, low vision and visual disturbance	5	<1	0	0
Ear and mastoid process diseases	189	3	8	1
- Of which hearing loss	154	2	7	1
- Of which noise-induced hearing loss	34	<1	~	<1
- Of which tinnitus	15	<1	0	0
Circulatory system disorders	116	2	9	1
Respiratory system disorders	53	<1	~	<1
- Of which asthma	46	<1	~	<1
Digestive system disorders	72	1	~	<1
Skin and subcutaneous tissue diseases	77	1	~	<1
Musculoskeletal disorders and Injuries	3,473	55	258	39
- Of which injuries and disorders of the knee	666	10	58	9
- Of which knee pain	280	4	40	6
- Of which back pain	419	7	41	6
- Of which low back pain	373	6	36	5
- Of which injuries and disorders of the ankle and foot	360	6	29	4
- Of which heat injury	16	<1	0	0
- Of which cold injury	268	4	10	2
Genitourinary system diseases	35	<1	~	<1
Pregnancy, childbirth and puerperium	~	<1	0	0
Congenital malformations	19	<1	~	<1
Clinical and laboratory findings	200	3	31	5
External Causes of Morbidity and Mortality	0	0	0	0
Factors influencing health status	27	<1	~	<1
No details held on principal condition for medical boarding	217		4	
Withheld consent	0		0	

Source: DMICP, FMed 23 and JPA

[1] Each cause of discharge category has been compiled using ICD-10 codes, please see the methodology section on page 33 for specific codes.

[2] Data presented as "<1%" represent a percentage greater than 0% but smaller than 1%.

~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. 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.

[p] Figures for cause information in 2019/20 and 2020/21 are provisional. Please see background quality report for more information.

Army Continued

Figure 14 shows the main principal cause coded medical discharges between 2016/17 and 2020/21.

Between 2016/17 and 2019/20, Musculoskeletal Disorders and Injuries was the largest principal cause of army medical discharges, accounting for over half of all discharges over the last five years. Mental and Behavioural Disorders was the second largest cause accounting for a third of all discharges over the last five years. This finding is in line with other militaries the United States Army[5] and Canada[6] also reported Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders as the two most common causes for medical release.

In 2020/21, Mental and Behavioural Disorders was the largest principal cause of army medical discharges for the first time since reporting began. This change could be the result of temporary amendments to the army medical employment policy and restricted clinical activity in rehabilitation services due to COVID-19, which may have led to more deferrals for personnel with Musculoskeletal Disorders and Injuries than Mental and Behavioural Disorders.

Please note that each medical discharge can only have one principal condition and a percentage decrease reduction in one cause code group may appear as an increase in another. Therefore, it is important to consider all cause code groups when looking at trends over time.

Figure 14: UK regular army medical discharges by principal ICD-10 cause code group and financial year, percentages[1,2,3]
1 April 2016 and 31 March 2021
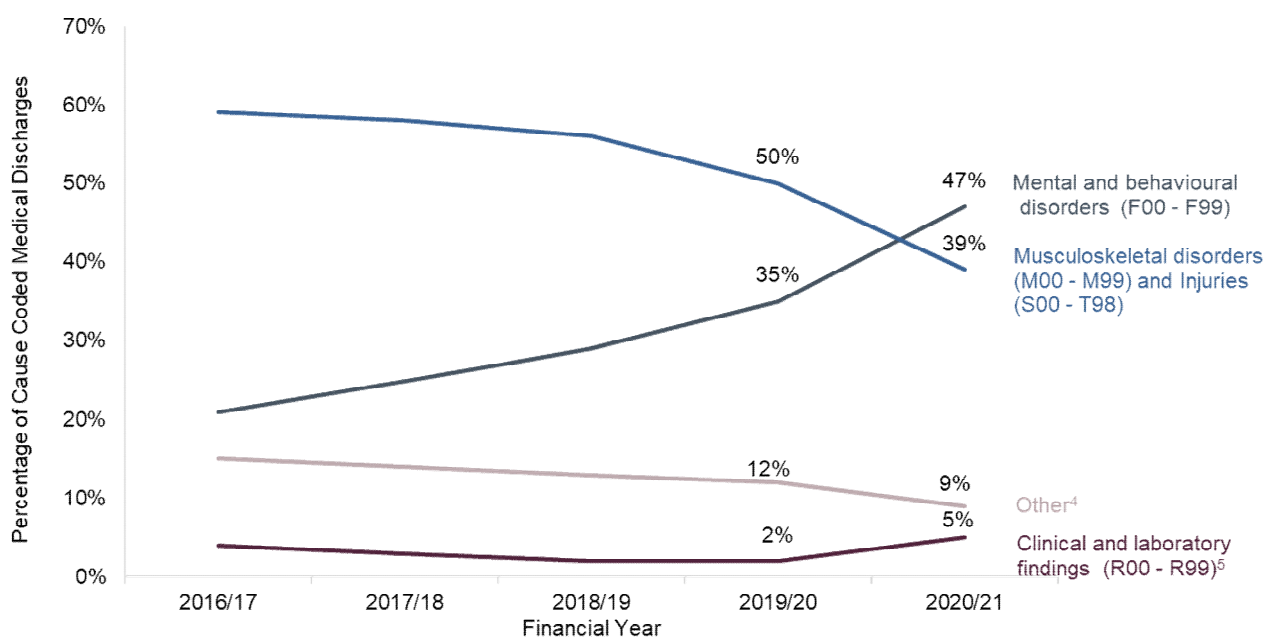
Source: DMICP, FMed 23 and JPA
[1] Figures for cause information in 2019/20 and 2020/21 are provisional. Please see background quality report for more information.
[2] Percentages are calculated from only personnel who have a principal condition recorded.
[3] Due to rounding, percentages might not add to 100%.
[4] Includes 13 cause code groups; each accounting for a maximum of 2% of all regular army cause coded medical discharges.
[5] Clinical and Laboratory Findings include symptoms and abnormal clinical findings - such as irregular heartbeat and abdominal pain - which are ill-defined and may not have a diagnosis that can be elsewhere classified.

Figure 15 presents the proportions of cause coded medical discharges by principal ICD-10 cause code groups in 2020/21.

In 2020/21, just under half of the medical discharges as a result of Musculoskeletal Disorders and Injuries were linked to the knee, back, and ankle and foot (n = 128). The prevalence of personnel medically discharged for disorders and injuries to the leg 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 prevalent in the general population and is the leading cause of disability in the UK and global populations[10].

Army Continued

The remaining half of medical discharges due to Musculoskeletal Disorders and Injuries (n = 130) were distributed across a wide range of disorders and injuries, with no large numbers of discharges in one particular body region or medical condition.

The majority of medical discharges due to Mental and Behavioural Disorders in 2020/21 were the result of Neurotic, Stress Related and Somatoform Disorders (n = 170, 55%) and Mood Disorders (n = 114, 37%). Neurotic Disorders were the most prevalent mental disorder assessed at MOD specialist health services (DCMHs) in 2020/21[9].

Post-Traumatic Stress Disorder (PTSD) accounted for 37% of all Mental and Behavioural Disorder medical discharges whereas PTSD only accounted for less than one in 10 assessments seen at MOD specialist mental health services[9]. This difference may reflect the severity of PTSD and potential impact on a military career.

Figure 15: UK regular army medical discharges by principal ICD-10 cause code group, numbers and percentages[1,2]
1 April 2020 to 31 March 2021
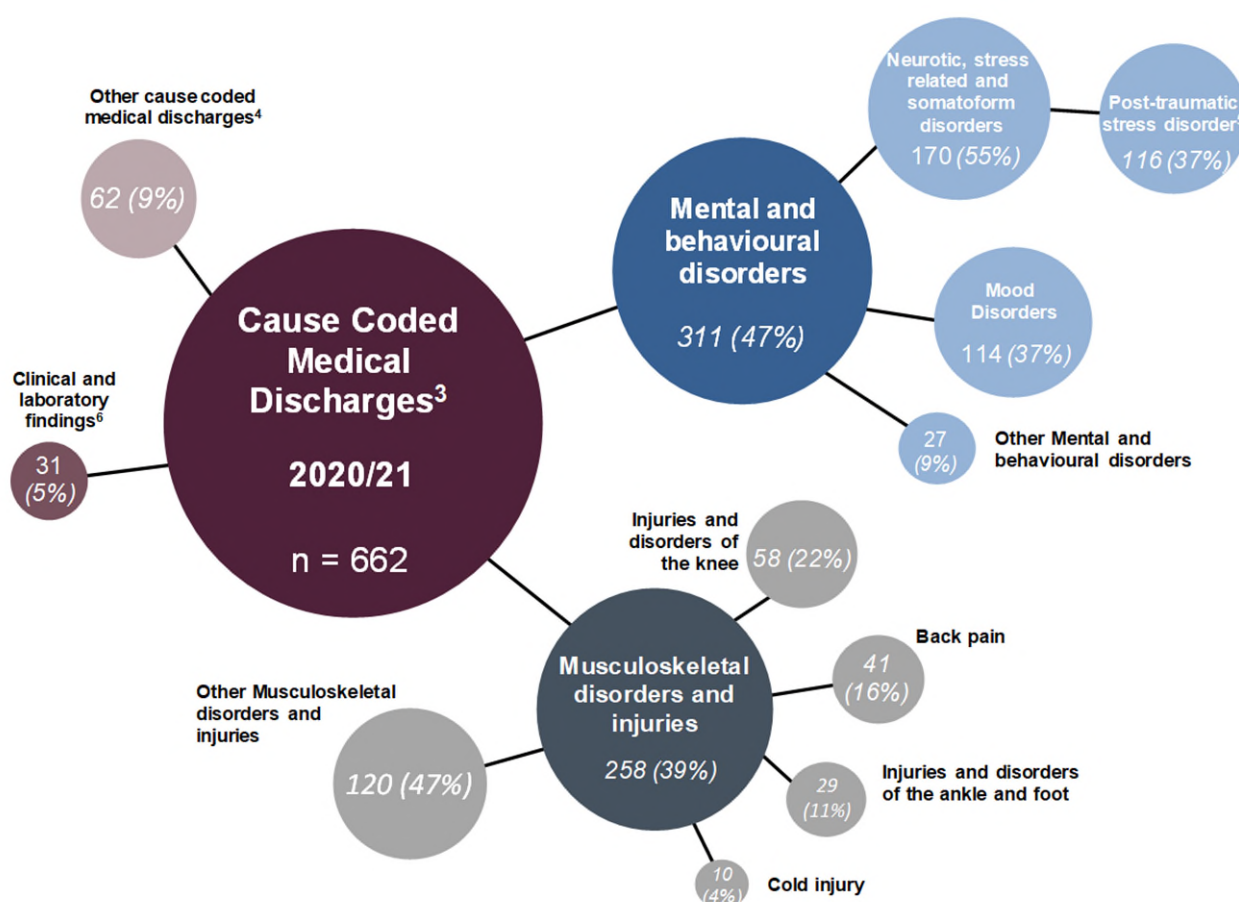
Source: DMICP, FMed 23 and JPA
[1] Figures for cause information in 2019/20 and 2020/21 are provisional. Please see background quality report for more information.
[2] Due to rounding, percentages might not add to 100%.
[3] Total number of army discharges were 666, however 4 personnel had no details on principal condition for medical boarding.
[4] Includes 13 cause code groups; each accounting for a maximum of 2% of all regular army cause coded medical discharges.
[5] Post-traumatic Stress Disorder discharges are shown as a percentage of Mental and Behavioural Disorders and not Neurotic Stress-related and Somatoform Disorders.
[6] Clinical and Laboratory Findings include symptoms and abnormal clinical findings - such as irregular heartbeat and abdominal pain - which are ill-defined and may not have a diagnosis that can be elsewhere classified.

Army Continued

When considering both the principal and contributory cause of discharge in 2020/21:

- Mental and Behavioural Disorders were present in over half of all discharges (n = 371, 56%).
- Musculoskeletal Disorders and Injuries were present in over half of discharges (n = 357, 54%).
- Factors Influencing Health Status were the third most prevalent cause (n = 66, 10%). This chapter includes information related to the social environment, personal history of injury and/or illness and presence of functional implants (e.g. pacemakers).

Defence Statistics receive more medical discharge information from paper forms (FMed 23s) for the army than the other services. FMed 23s allow Defence Statistics to see free text entered by clinicians and occupational health practitioners which can provide greater granularity about the injuries/illnesses for which personnel are medically discharged. This additional information enables more detailed coding of the medical discharge which may fall within the Factors Influencing Health Status chapter. Therefore, a greater proportion of personnel in the army than other services have a contributory cause within the Factors Influencing Health Status chapter.

Further information on the principal and contributory causes of medical discharge in the UK regular army can be found in the supplementary tables to this report (**Annex A4.2**).
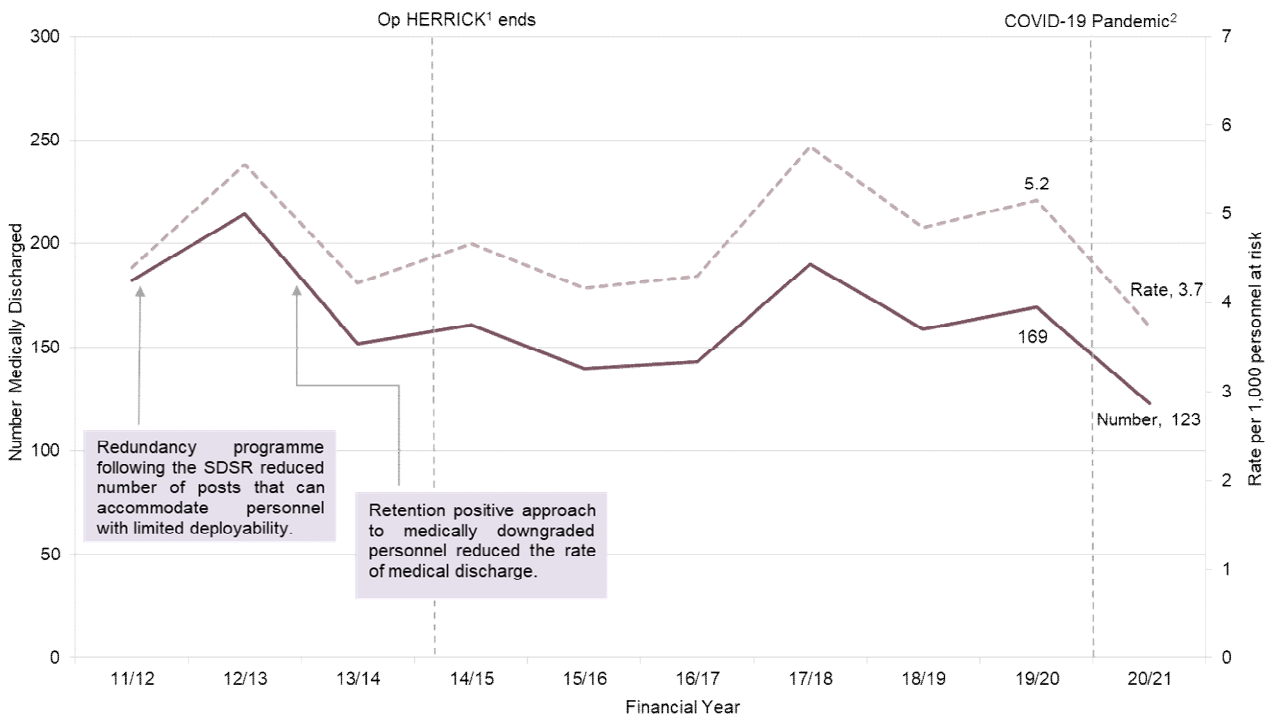
RAF

Trends in Medical Discharges

In 2020/21, there were **123** medical discharges from the RAF; a rate of **4 per 1,000** personnel. This rate was **significantly lower** compared to last year.

Figure 16 shows the number and rates of RAF medical discharges over time from 2011/12 to 2020/21. The rate has fallen since 2019/20.

Figure 16: UK regular RAF medical discharges by financial year, numbers and rates per 1,000 personnel at risk
1 April 2011 to 31 March 2021

Source: DMICP, FMed 23 and JPA
[1] Operation HERRICK is the name for UK operations in Afghanistan which began 1 April 2006 and ended on 30 November 2014.
[2] On 11 March 2020, the World Health Organisation classified COVID-19 as a pandemic. Defence, in line with the rest of the country, continues to follow guidance on restrictions as provided by the UK government and devolved administrations.

▲ The rate of medical discharges rose between 2011/12 and 2012/13. This may be due to the 2010 Strategic Defence and Security Review (SDSR)[8] which reduced the number of roles available therefore also reducing the scope of retaining personnel with limited deployability in alternative roles.

▼ The rate of medical discharges fell from 2013/14 and 2014/15. During this time the RAF were operating a retention positive approach which endeavoured to find alternative roles for personnel with limited deployability.

▲ The rate of medical discharge rose from 2016/17 and 2017/2018. This increase may have been due to an increase in the capacity of RAF medical boards where the medical boards were clearing a backlog of medical boards from the previous year. The rate of discharge fell during 2018/19 to a level more comparable with 2016/17.

▼ The rate of medical discharge fell in 2020/21. The reason for this is unclear; temporary deferrals of medical boards in 2020/21 due to COVID-19 were resumed quickly and is not thought to have contributed to the fall in rates.

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RAF Continued

Demographic Risk Groups

In 2020/21, the rate of medical discharge was significantly higher for regular RAF personnel within the following demographic groups (**Table 5**):
- Females
- Other ranks
- Personnel aged 50 and over

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 2020 to 31 March 2021

	2020/21		
	n	rate	Rate of UK regular RAF personnel medically discharged
Number of UK regular RAF personnel medically discharged			
	123	**3.7**	
Age			
Aged under 20	4	3.3	
Aged 20-24	10	1.9	
Aged 25-29	17	2.8	
Aged 30-34	22	3.7	
Aged 35-39	24	4.3	
Aged 40-44	21	5.1	
Aged 45-49	10	4.0	
Aged 50 and over+	15	6.4	
Gender			
Male	80	2.9	
Female*	43	8.8	
Rank			
Officer	19	2.4	
Other Rank*	104	4.1	
Training Status			
Trained	111	3.7	
Untrained	12	3.7	

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.
+ Age groups found to be at a significantly higher risk than the average of all other age groups combined 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.

Figures 17 to **20** present RAF medical discharges for each demographic group between 2016/17 and 2020/21 with possible explanations for the differences observed.

RAF Continued

Figure 17: UK regular RAF medical discharges by age group[1] and financial year, rates per 1,000 personnel
1 April 2016 and 31 March 2021
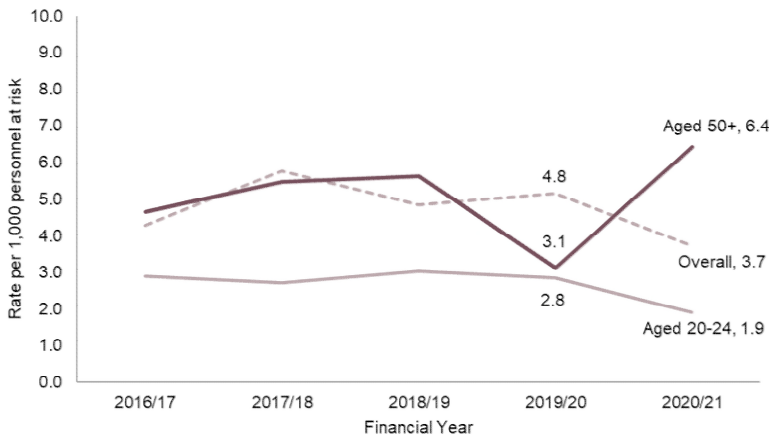
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

In 2020/21, the rate of medical discharge for personnel **aged 50 and over was significantly higher** than other age groups. The rate for those **aged 20-24 years was significantly lower** than the remaining age groups.

It should be noted that the numbers in some age groups were low and a small change in numbers can have a large effect on the rates.

Figure 18: UK regular RAF medical discharges by gender[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021
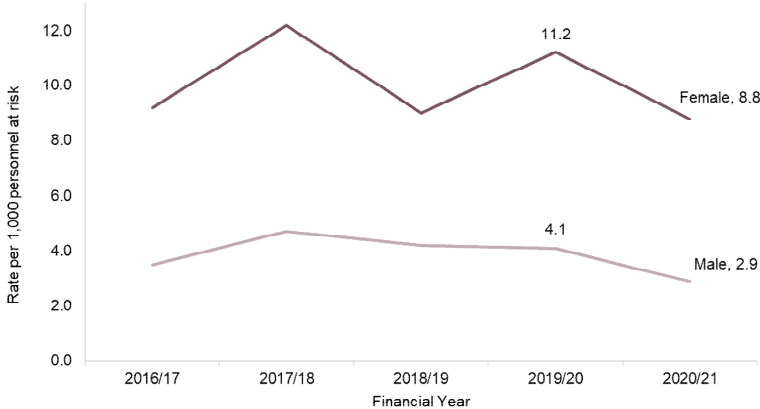
Source: DMICP, FMed 23 and JPA
[1] As recorded on the Joint Personnel Administration System (JPA) at the time of discharge.

Females had significantly higher rates of medical discharge than males for all years presented.

The higher rate of medical discharges in female personnel may be due to their higher risk of sustaining Musculoskeletal Disorders and Injuries[4], and higher presentation of mental health disorders[9] (the leading two causes of medical 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 2016 and 31 March 2021

Other ranks had significantly higher rates of medical discharge than officers for all years presented.

Officers are more likely to be employed in or can be reassigned to alternative 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 20: UK regular RAF medical discharges by training status[1] and financial year, rates per 1,000 personnel at risk
1 April 2016 and 31 March 2021
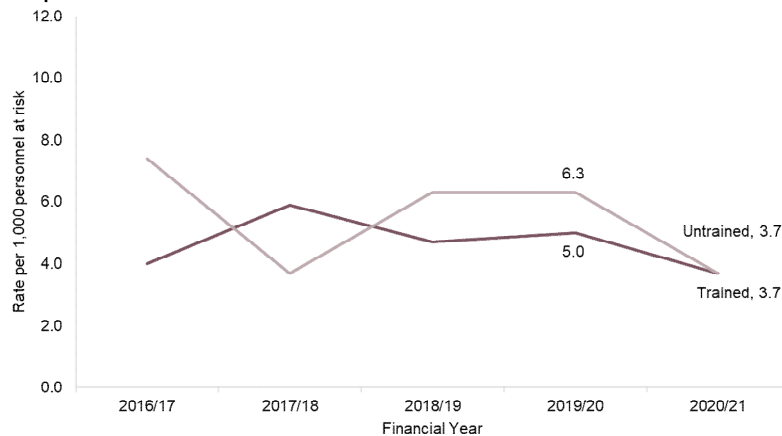
There was **no significant difference** in rates of medical discharge between training status in 2020/21. The fluctuation over time shown in the rate among the untrained population may be a result of the small numbers involved which can have a large effect on the rate; in total over the five-year period presented, only 75 untrained RAF personnel were medically discharged, compared to 709 trained personnel.

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

RAF Continued

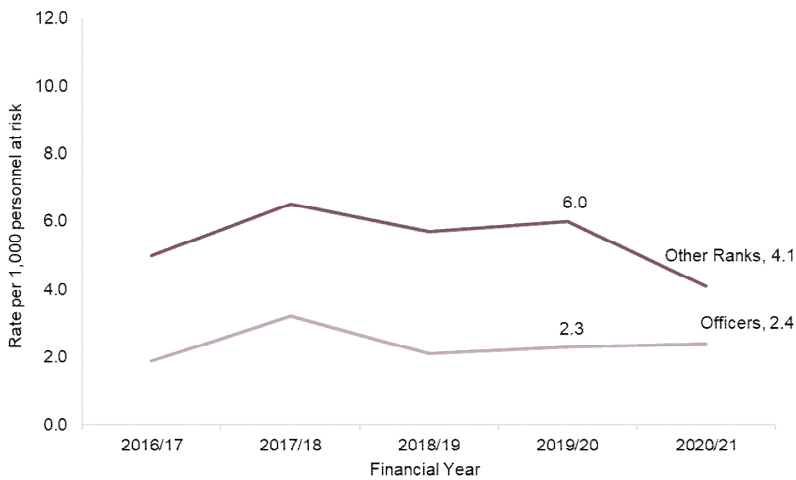## Causes of Medical Discharges

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). **Principal cause** is the main medical cause of the discharge. **Contributory causes** include any other conditions identified that would result in a medical discharge. All information presented in the cause of medical discharge section will be relating to principal cause of discharge only.

Please note that due to COVID-19 limiting access to places of work, Defence Statistics Health were not able to access all of the paperwork confirming cause of medical discharge for trained RAF personnel in 2020/21. During this time period DMICP was used as the primary source, therefore, cause information for services in the latest year should be considered **provisional and subject to change**.

In 2020/21, the two most common principal causes of medical discharges in the RAF were Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders.

46% of medical discharges (approx. 1 in 2) were due to **Mental and Behavioural Disorders**.

29% of medical discharges (approx. 1 in 3) were due to **Musculoskeletal Disorders and Injuries**.

Table 6 presents RAF medical discharges by principal ICD-10 cause code group (the chapter within which the condition is categorised) for 2020/21 and the total for the latest five year period, 2016/17 to 2020/21. The five year total is provided as a comparator for the cause group percentages in the latest year. For a breakdown of each of the five years, please see the supplementary tables (Table 6).

Table 6: UK regular RAF medical discharges by principal ICD-10 cause code group[1] and financial year, numbers and percentages[2]
1 April 2016 and 31 March 2021

	5 Year Total[p] 2016/17 to 2020/21		2020/21[p]	
	n	%	n	%
All medical discharges	**784**		**123**	
All cause coded medical discharges	**784**	**100**	**123**	**100**
Infectious and parasitic diseases	0	0	0	0
Neoplasms	17	2	5	4
Blood disorders	~	<1	0	0
Endocrine, nutritional and metabolic diseases	7	<1	~	<1
- Of which diabetes	5	<1	~	<1
- Of which insulin-dependent	~	<1	~	<1
- Of which non-insulin-dependent	~	<1	0	0
Mental and behavioural disorders	291	37	56	46
- Of which mood disorders	113	14	17	14
- Of which depression	101	13	14	11
- Of which neurotic, stress related and somatoform	157	20	37	30
- Of which post-traumatic stress disorder (PTSD)	69	9	20	16
- Of which adjustment disorder	28	4	~	3
Nervous system disorders	38	5	~	2
- Of which epilepsy	5	<1	0	0
Eye and adnexa diseases	~	<1	0	0
- Of which blindness, low vision and visual disturbance	0	0	0	0
Ear and mastoid process diseases	13	2	~	2
- Of which hearing loss	10	1	~	2
- Of which noise-induced hearing loss	~	<1	0	0
- Of which tinnitus	~	<1	0	0
Circulatory system disorders	16	2	5	4
Respiratory system disorders	~	<1	0	0
- Of which asthma	~	<1	0	0
Digestive system disorders	14	2	~	2
Skin and subcutaneous tissue diseases	10	1	~	2
Musculoskeletal disorders and Injuries	333	42	36	29
- Of which injuries and disorders of the knee	67	8	6	5
- Of which knee pain	36	5	~	2
- Of which back pain	70	9	8	7
- Of which low back pain	59	8	8	7
- Of which injuries and disorders of the ankle and foot	25	3	~	2
- Of which heat injury	0	0	0	0
- Of which cold injury	12	2	~	<1
Genitourinary system diseases	8	1	6	5
Pregnancy, childbirth and puerperium	0	0	0	0
Congenital malformations	~	<1	~	<1
Clinical and laboratory findings	25	3	~	3
External Causes of Morbidity and Mortality	0	0	0	0
Factors influencing health status	~	<1	0	0
No details held on principal condition for medical boarding	0		0	
Withheld consent	0		0	

Source: DMICP, FMed 23 and JPA

[1] Each cause of discharge category has been compiled using ICD-10 codes, please see the methodology section on page 33 for specific codes.

[2] Data presented as "<1%" represent a percentage greater than 0% but smaller than 1%.

~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. 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.

[p] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.

RAF Continued

Figure 21 shows the main principal cause coded medical discharges between 2016/17 and 2020/21.

Since reporting began, Musculoskeletal Disorders and Injuries was the largest principal cause of RAF medical discharges with Mental and Behavioural Disorders second. However, since 2019/20, Mental and Behavioural Disorders has been the largest principal cause of RAF medical discharges. Over the last five years, both Musculoskeletal Disorders and Injuries and Mental and Behavioural Disorders have accounted for around two fifths of all discharges.

Please note that each medical discharge can only have one principal condition and a decrease in one cause code group may appear as an increase in another. Therefore, it is important to consider all cause code groups when looking at trends over time.

Figure 21: UK regular RAF medical discharges by principal ICD-10 cause code group and financial year, percentages[1,2,3]
1 April 2016 and 31 March 2021
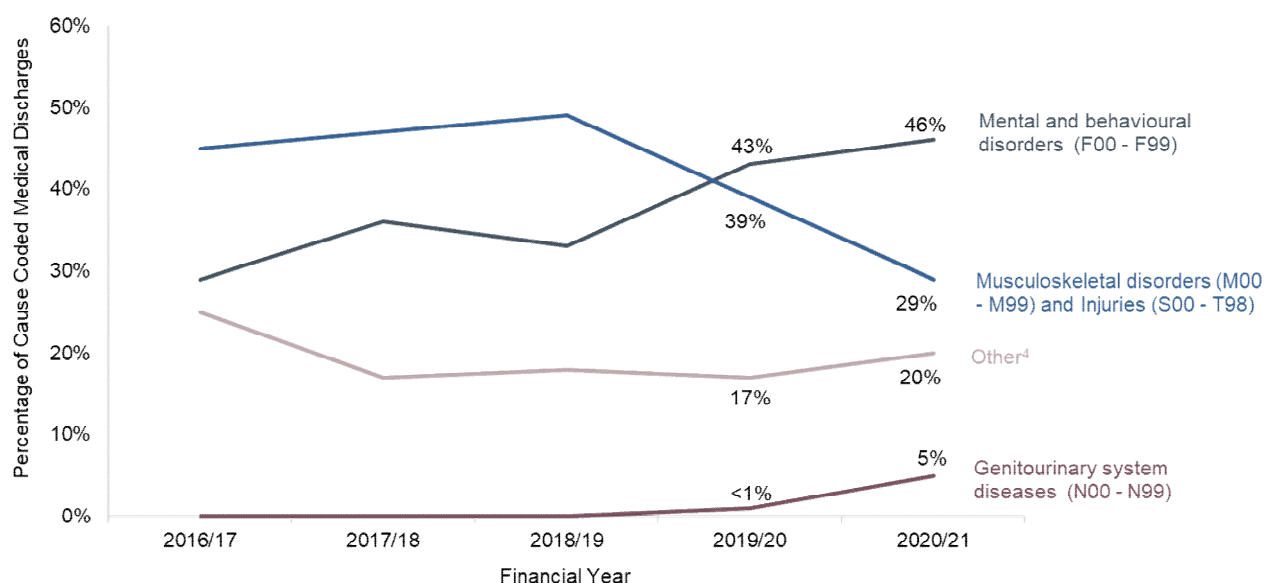
Source: DMICP, FMed 23 and JPA
[1] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.
[2] Percentages are calculated from only personnel who have a principal condition recorded.
[3] Due to rounding, percentages might not add to 100%.
[4] Includes 9 cause code groups; each accounting for a maximum of 5% of all RAF cause coded medical discharges

Figure 22 shows the proportions of cause coded medical discharges by principal ICD-10 cause code groups in 2020/21.

The majority of medical discharges as a result of Mental and Behavioural Disorders were due to Neurotic, Stress and Somatoform Disorders and Mood Disorders. Neurotic Disorders were the most prevalent mental disorder assessed at MOD specialist health services (DCMHs) in 2020/21[9].

Post-Traumatic Stress Disorder (PTSD) accounted for over one third of all Mental and Behavioural Disorder medical discharges whereas a PTSD diagnosis only accounted for less than 5% of assessments at MOD specialist mental health services[9]. This difference may reflect the severity of PTSD and potential impact on a military career.

Around two in five medical discharges as a result of Musculoskeletal Disorders and Injuries were linked to the back and knee (n = 14). The number of personnel medically discharged for these conditions 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[10].

The remaining discharges due to Musculoskeletal Disorders and Injuries (n = 22) were distributed across a range of disorders and injuries, with no large numbers of discharges in one particular body region or medical condition.

RAF Continued

Figure 22: UK regular RAF medical discharges by principal ICD-10 cause code group, numbers and percentages[1,2]

1 April 2020 to 31 March 2021
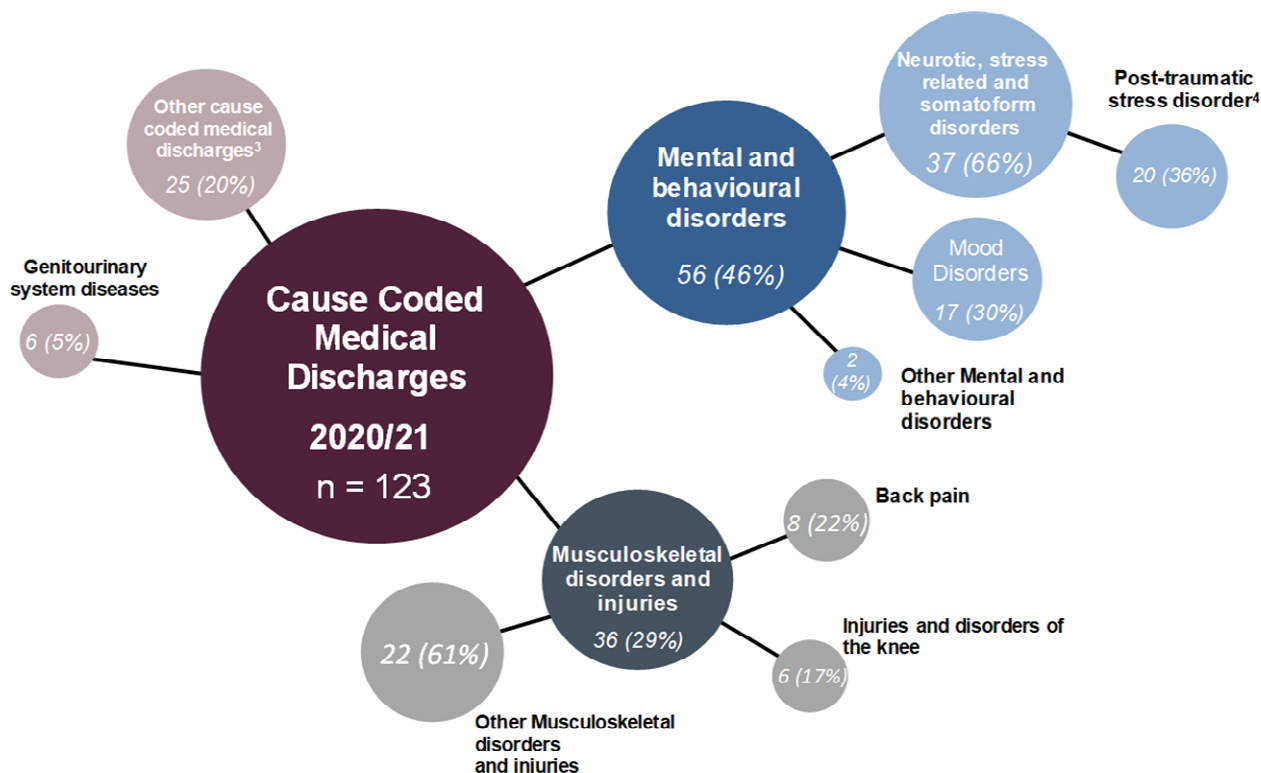
Source: DMICP, FMed 23 and JPA

[1] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.

[2] Due to rounding, percentages might not add to 100%.

[3] Includes 9 cause code groups; each accounting for a maximum of 5% of all RAF cause coded medical discharges

[4] Post-traumatic stress disorder discharges are shown as a percentage of Mental and behavioural disorders and not Neurotic stress related and somatoform disorders.

When considering both the principal and contributory causes of discharge in 2020/21:

- Mental and Behavioural Disorders were present in over half of discharges (n = 65, 53%)
- Musculoskeletal Disorders and Injuries were present in over half of discharges (n = 64, 52%).
- Nervous System Disorders, Clinical and Laboratory Findings and Genitourinary System Diseases were the joint third most common cause of discharge (n = 10, 8%).

Further information on the principal and contributory causes of medical discharge in the UK regular RAF can be found in the supplementary tables to this report (**Annex A5.2**).

Glossary

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

Departments of Community Mental Health (DCMH) are specialised psychiatric services based on community mental health teams closely located with primary care service at sites in the UK and abroad.

FMed 23 is the form completed to record the outcome of a medical board held for members of the UK armed forces leading to medical discharge.

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.

Joint Personnel Administration (JPA) is the system used by the UK 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 the RAF, November 2006 for the Royal Navy and April 2007 for the army.

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.

Operation HERRICK is the name for UK operations in Afghanistan which started in April 2006 and ended on 30 November 2014. UK Forces are deployed to Afghanistan in support of UN authorised, NATO led International Security Assistance Force (IASF) mission and as part of the US-led Operation Enduring Freedom (OEF).

Other Ranks Other ranks are members of the Royal Navy, 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 medical discharge documents.
Contributory condition/cause
Contributory cause contains all other principal conditions and any contributory conditions on the medical discharge documents.

Trade Trained personnel are army personnel who have completed both Phase 1 and 2 training. From 1 October 2016, UK regular forces and Gurkha personnel in the army who have completed both their Phase 1 (basic service training) and Phase 2 training (trade training), are considered trade trained personnel.

Trained personnel are Royal Navy and RAF personnel who have completed both Phase 1 and Phase 2 training.

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 MOD reports.

Untrained personnel or "trainees" in this report are personnel who are in Phase 1 and Phase 2 training.

Methodology

This section provides a brief summary of the methodology and data sources; more detailed information is available in the background quality report for this bulletin: https://www.gov.uk/government/collections/medical-discharges-among-uk-service-personnel-statistics-index

Data are compiled by Defence Statistics from three sources:

- Medically discharged personnel were identified from the Joint Personnel Administration System (JPA). JPA is used to hold the administration data for all regular forces.
- Principal and contributory causes of medical discharge are taken from FMed 23s. FMed 23s are official medical documents used to record all medical board proceedings.
- Where paper versions of the FMed 23 form were not available to Defence Statistics Health, records were queried first in the electronic medical record (DMICP) and then with single service representatives. Due to COVID-19 limiting access to place of work, Defence Statistics Health were not able to access the FMed 23s paperwork for trained army personnel in 2019/20, and for all service personnel in 2020/21. During this time period DMICP was used as the primary source, therefore, cause information for services in the latest year should be considered provisional and subject to change. When access to the office is no longer limited, Defence Statistics Health will assess the methodology with the potential to revise the cause information using FMed 23 as the primary source.

This bulletin includes regular service personnel (trained and untrained). Army regular personnel include Gurkha Regiments and Military Provost Guard Service (MPGS). Reserve personnel were not included.

This bulletin reports on personnel that have already left the UK regular armed forces on a medical discharge; downgraded personnel that are expected to be medically discharged after the reporting period, and personnel discharged under administrative categories on medical grounds were excluded.

Trends in the statistics presented do not directly reflect actual occupational health morbidity within the armed forces. Medical discharges are presented by year of discharge, and not year of onset of condition that led to medical discharge. Therefore, trends may only correspond to changes in boarding practice, retention policies or changes to employment standards.

The length of time between detecting and diagnosing a medical condition and the date at which an individual is eventually released under a medical discharge varies for each individual. The timing of a discharge medical board must strike an appropriate balance between the needs of the individual Service and those of the patient. The date of the medical discharge board should allow the timely provision of occupational health advice following the initial referral, and time elapsed waiting for further treatment may affect this board process.

The International Classification of Diseases and Related Health Problems version 10 (ICD-10) was used to classify medical discharges. As a result of public interest, some ICD-10 groups were provided in more detail allowing the presentation of specific conditions, ICD-10 codes are listed below:

- **Injuries and disorders of the knee** have been compiled using ICD-10 codes M17, M22, M23, S800, S810, S82, S83, S89 as well as any of the following that have a 6 as the fifth digit: M00 to M13, M19, M21, M24 to M25, M62, M66, M70 to M73, M76 to M91 and M94. Please note, where an ICD-10 code ends with a fifth digit of '6', it is not possible to distinguish between the knee, tibia/fibula and therefore figures may be an over-estimate.
- **Injuries and disorders of the ankle and foot** have been compiled using ICD-10 codes M201-M206, M670, M926, M927, S90-S99, S828, T250 as well as any of the following that have a 7 as the fifth digit: M00 to M13, M17, M19, M21 to M25, M62, M65, M66, M70 to M73, M76 to M91 and M94.

Medical boards do not make decisions on possible causes for medical conditions leading to discharge. Therefore the report does not offer analysis of external causes of injuries or illnesses.

Medical boards also do not make decisions on attributability to service. These decisions are made by administrators of the MOD pension and compensation schemes at Vets-UK. Defence Statistics produce annual reports on the Armed Forces Compensation Scheme[11] and annual reports on War Pension Scheme[12].

Crude rates enable comparison between groups by removing the issue of different populations at risk (group sizes). The rates in this bulletin present the number of medical discharges per 1,000 personnel. As the size of the UK 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. Rates enable comparison between groups by removing the issue of different populations at risk (group sizes).

The z test for independent proportions was used to evaluate if two rates are different to a statistically significant degree. A 95% confidence level was used for this report; this means that if the test determines two populations to have significantly different medical discharge rates, this will be true in greater than 95% of cases.

Further Information

Symbols

~ Data has been suppressed due to Statistical Disclosure Control (greater than zero, fewer than 5).
p Indicates provisional data.
r Indicates data has been revised from previously published data.

Disclosure Control

In line with JSP 200 (October 2017), the suppression methodology has been applied to ensure individuals are not inadvertently identified dependent on the risk of disclosure. Numbers greater than zero but 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. For further information on statistical disclosure control see Background Quality Report.

If Defence Statistics Health are asked to release further information on medical discharges the information provided may require further disclosure control to ensure individuals cannot be identified.

Revisions

Since the last release of this Statistical Bulletin in August 2020, the following revisions have been made:

- Numbers of personnel medically discharged due to back pain, injuries and disorders of the knee and injury, disorders of the ankle and foot and heat injury have been revised to include additional ICD-10 codes which were not originally included within these groupings. This affects all years presented. This had no significant impact on findings presented in previous reports.
- The rates of Royal Navy/Royal Marines medical discharges for Officers/Other ranks in 2017/18 and females in 2018/19 have been updated. The rates of Royal Marines medical discharges for females from 2017/18 to 2019/20 and ages 35-39 in 2019/20 have also been updated. This was due to an undercount in the Royal Marines strength numbers for females aged 35-39 from which the rates were calculated. This had no significant impact on findings presented in previous reports.
- Revised figures have been represented with an 'r'. Where figures previously marked as provisional have been revised and updated, and are still provisional, they have been marked as 'p' rather than as revised 'r'.

Revisions can be addressed in two ways. For this report, the first of these two methods has been applied:

- 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 revisions will be provided in the section below.
- 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 the 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

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

Royal Navy

Demographic Risk Groups

In 2020/21, **229** Royal Navy personnel were medically discharged, a rate of **9** per 1,000. This was not statistically significantly different compared to last year (9 per 1,000).

During 2020/21 the rate of medical discharge was significantly higher for regular Royal Navy personnel within the following specific demographic groups (**Table A2.1**):
- Personnel aged 30-34 years.
- Females.
- Other ranks.
- Trained personnel.

Table A2.1: UK regular Royal Navy 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 2020 to 31 March 2021

	2020/21		Rate of UK regular Royal Navy personnel medically discharged
Number of UK regular Royal Navy personnel medically discharged	n	rate	
	229	**8.6**	
Age			
Aged under 20	0	0.0	
Aged 20-24	30	5.7	
Aged 25-29	51	9.7	
Aged 30-34[+]	65	14.1	
Aged 35-39	43	11.0	
Aged 40-44	18	7.1	
Aged 45-49	14	7.5	
Aged 50 and over	8	4.9	
Gender			
Male	191	8.2	
Female*	38	11.8	
Rank			
Officer	20	3.3	
Other Rank*	209	10.2	
Training Status			
Trained*	223	9.8	
Untrained	6	1.6	

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.
[+] Age groups found to be at a significantly higher risk than the average of all other age groups combined 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 Navy Continued

Causes of Medical Discharge

Table A2.2: UK regular Royal Navy medical discharges by principal ICD-10 cause code group[1] and financial year, numbers and percentages[2]
1 April 2016 and 31 March 2021

	5 Year Total[p] 2016/17 to 2020/21		2020/21[p]	
	n	%	n	%
All medical discharges	**1,314**		**229**	
All cause coded medical discharges	**1,313**	**100**	**229**	**100**
Infectious and parasitic diseases	~	<1	0	0
Neoplasms	12	<1	~	<1
Blood disorders	~	<1	0	0
Endocrine, nutritional and metabolic diseases	18	1	~	<1
- Of which diabetes	12	<1	~	<1
- Of which insulin-dependent	7	<1	~	<1
- Of which non-insulin-dependent	5	<1	~	<1
Mental and behavioural disorders	336	26	69	30
- Of which mood disorders	121	9	21	9
- Of which depression	109	8	18	8
- Of which neurotic, stress related and somatoform	190	14	44	19
- Of which post-traumatic stress disorder (PTSD)	93	7	24	10
- Of which adjustment disorder	26	2	~	<1
Nervous system disorders	65	5	12	5
- Of which epilepsy	10	<1	~	<1
Eye and adnexa diseases	9	<1	~	<1
- Of which blindness, low vision and visual disturbance	~	<1	0	0
Ear and mastoid process diseases	25	2	0	0
- Of which hearing loss	18	1	0	0
- Of which noise-induced hearing loss	0	0	0	0
- Of which tinnitus	~	<1	0	0
Circulatory system disorders	26	2	9	4
Respiratory system disorders	21	2	5	2
- Of which asthma	14	1	~	1
Digestive system disorders	48	4	8	3
Skin and subcutaneous tissue diseases	42	3	7	3
Musculoskeletal disorders and Injuries	641	49	98	43
- Of which injuries and disorders of the knee	138	11	25	11
- Of which knee pain	69	5	10	4
- Of which back pain	126	10	24	10
- Of which low back pain	114	9	22	10
- Of which injuries and disorders of the ankle and foot	53	4	13	6
- Of which heat injury	0	0	0	0
- Of which cold injury	8	<1	~	<1
Genitourinary system diseases	12	<1	~	2
Pregnancy, childbirth and puerperium	0	0	0	0
Congenital malformations	~	<1	0	0
Clinical and laboratory findings	46	4	11	5
External Causes of Morbidity and Mortality	~	<1	0	0
Factors influencing health status	~	<1	~	<1
No details held on principal condition for medical boarding	1		0	
Withheld consent	0		0	

Source: DMICP, FMed 23 and JPA

[1] Each cause of discharge category has been compiled using ICD-10 codes, please see the methodology section on page 33 for specific codes.

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

~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. 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.

[p] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.

Royal Marines

Demographic Risk Groups

In 2020/21, **106** Royal Marines personnel were medically discharged, a rate of **16** per 1,000. This was not significantly different compared to last year (18 per 1,000).

During 2020/21 the rate of medical discharge was significantly higher for regular Royal Marines personnel within the following specific demographic groups (**Table A3.1**):
- Personnel aged under 20 years.
- Other ranks.
- Untrained personnel.

Table A3.1: UK regular Royal Marines 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 2020 to 31 March 2021

	2020/21		Rate of UK regular Royal Marines personnel medically discharged
	n	rate	
Number of UK regular Royal Marines personnel medically discharged	**106**	**15.9**	
Age			
Aged under 20[+]	16	61.9	
Aged 20-24	24	17.1	
Aged 25-29	15	9.1	
Aged 30-34	26	19.1	
Aged 35-39	11	12.0	
Aged 40-44	9	17.9	
Aged 45-49	3	8.8	
Aged 50 and over	2	8.6	
Gender			
Male	105	16.0	
Female	1	8.3	
Rank			
Officer	4	4.9	
Other Rank*	102	17.4	
Training Status			
Trained	56	9.5	
Untrained*	50	64.0	

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.

[+] Age groups found to be at a significantly higher risk than the average of all other age groups combined 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 A3.2: UK regular Royal Marines medical discharges by principal ICD-10 cause code[1] group and financial year, numbers and percentages[2]

1 April 2016 and 31 March 2021

	5 Year Total[P] 2016/17 to 2020/21		2020/21[P]	
	n	%	n	%
All medical discharges	**706**		**106**	
All cause coded medical discharges	**706**	**100**	**106**	**100**
Infectious and parasitic diseases	0	0	0	0
Neoplasms	~	<1	0	0
Blood disorders	~	<1	0	0
Endocrine, nutritional and metabolic diseases	8	1	~	2
- Of which diabetes	5	<1	~	<1
- Of which insulin-dependent	5	<1	~	<1
- Of which non-insulin-dependent	0	0	0	0
Mental and behavioural disorders	70	10	11	10
- Of which mood disorders	12	2	0	0
- Of which depression	9	1	0	0
- Of which neurotic, stress related and somatoform	53	8	9	8
- Of which post-traumatic stress disorder (PTSD)	44	6	6	6
- Of which adjustment disorder	~	<1	0	0
Nervous system disorders	17	2	~	<1
- Of which epilepsy	~	<1	0	0
Eye and adnexa diseases	~	<1	0	0
- Of which blindness, low vision and visual disturbance	~	<1	0	0
Ear and mastoid process diseases	61	9	7	7
- Of which hearing loss	52	7	7	7
- Of which noise-induced hearing loss	10	1	~	<1
- Of which tinnitus	7	<1	0	0
Circulatory system disorders	8	1	~	<1
Respiratory system disorders	11	2	0	0
- Of which asthma	9	1	0	0
Digestive system disorders	13	2	0	0
Skin and subcutaneous tissue diseases	5	<1	~	<1
Musculoskeletal disorders and Injuries	476	67	80	75
- Of which injuries and disorders of the knee	114	16	20	19
- Of which knee pain	55	8	8	8
- Of which back pain	79	11	11	10
- Of which low back pain	74	10	10	9
- Of which injuries and disorders of the ankle and foot	51	7	15	14
- Of which heat injury	~	<1	~	2
- Of which cold injury	14	2	~	<1
Genitourinary system diseases	~	<1	~	<1
Pregnancy, childbirth and puerperium	0	0	0	0
Congenital malformations	~	<1	0	0
Clinical and laboratory findings	19	3	~	2
External Causes of Morbidity and Mortality	0	0	0	0
Factors influencing health status	~	<1	0	0
No details held on principal condition for medical boarding	0		0	
Withheld consent	0		0	

Source: DMICP, FMed 23 and JPA

[1] Each cause of discharge category has been compiled using ICD-10 codes, please see the methodology section on page 33 for specific codes.

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

~ In line with JSP 200 on statistical disclosure, figures less than five have been suppressed. 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.

[P] Figures for cause information in 2020/21 are provisional. Please see background quality report for more information.

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