Ministry of Defence

Ad Hoc Statistical Bulletin

Deliberate Self Harm (DSH) in the UK Armed Forces
1 April 2010 – 31 March 2017

Date 11 January 2018

Overview

This is an ad hoc statistical bulletin providing information on the number and rate of UK Armed Forces personnel who had at least one episode of Deliberate Self Harm (DSH) recorded between 2010/11 and 2016/17 on MOD held systems.

In 2016 High Court judges ordered a new inquest into the death of a soldier at Deepcut Barracks in 1995. This bulletin has been developed to enable the provision of data to the Coroner's Inquest and to ensure the public has equal access to the information and supports the MOD's commitment to release information where possible. It provides an update to DSH information previously released in an Ad Hoc Statistical Bulletin in September 2016 which covered the period 2010/11 to 2014/15.

This bulletin presents information based on a new methodology following concerns that the methodology used in the previous bulletin was under representing the annual DSH rate in the Armed Forces. Previously, all Service personnel who had a DSH event recorded from 2009 onwards were counted once over the whole time period presented. Personnel were therefore treated as having a single event, however we know that some individuals may have subsequent self harm episodes. As it is not currently possible to identify individual episodes of self harm from continuation of care for a previous episode, the new methodology counts each individual with a self harm record once per year in order to more accurately reflect the number of personnel who self harm in the Armed Forces. Therefore the information presented in this bulletin is not comparable to the previous release,

The current measure of DSH in the UK Armed Forces is based on the initial notification of casualty system (NOTICAS), an administrative system used to inform chain of command of casualties and primary care data, as captured on the Defence Medical Information Capability Programme (DMICP). The measure counts all Service personnel with a DSH record once per year. It is therefore possible that an individual may have a DSH record in February 2016 and in April 2016 where the April record is a continuation of care for the February event. However, the individual would be counted both in 2015/16 and 2016/17 totals.

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Results

Table 1 presents the number and rate of UK Armed Forces personnel who had at least one DSH event recorded over the whole time period by demographics and year.

Rates of DSH among UK Armed Forces personnel as a whole remain low at **2.8 per 1,000**[a] personnel (0.3% of all UK military personnel) in 2016/17. However, this represents a 26% statistically significant increase in the rate of reported DSH in 2016/17 compared to the start of reporting in 2010/11. It is not known if this is a true rise in DSH or improved reporting. However, this increase is in line with that seen in mental health referrals for UK Armed Forces personnel to a specialist clinician at a MOD Department of Community Mental Health (DCMH).

The UK Armed Forces population at highest risk of DSH between 2010/11 and 2016/17 were:

- Army personnel
- Females
- Other ranks
- Personnel aged under 24
- Untrained personnel (in five of the seven years presented)

The risk groups for DSH in the UK Armed Forces were **similar** to the general population, where females and younger age groups were found to be at greatest risk of presentation at a hospital with a self-harm episode[b]. This finding is also in line with literature available on the general population where females are more likely to present with mental health problems compared to males. It is suggested this is because females are likely to have more interactions with health professionals than males[c].

There are known difficulties in accurately capturing DSH episodes common to general and military populations due to the associated stigma in reporting and because consequences of self-harm can be managed by an individual at home and may not be reported to a medical professional[d]. In addition, UK Armed Forces personnel may report to an NHS Accident and Emergency facility following a DSH episode and may not come to the attention of the military primary healthcare community or the Chain of Command.

For the reasons stated above, comparisons of UK Armed Forces DSH rates with the UK general population are difficult. What evidence there is suggests the military population appears healthier with a lower lifetime prevalence of attempted suicide and self-harm, within the range of general population estimates[e].

Definition of Rates

Rates enable comparisons between groups and over time, taking account of the number of personnel in a group (personnel at risk) at a particular point in time. The number of events (i.e. DSH) is divided by the number of personnel at risk and multiplied by 1,000 to calculate the rate.

Understanding Rates results

Whilst the total number of personnel with a DSH event in 2016/17 was similar to that in 2010/11, the decrease in size of the population at risk has resulted in an increase in the overall rate.

[a] DSH rates are represented per 1,000 personnel at risk due to the small number of DSH episodes

[b] Skegg, K. (2005) Self Harm, *Lancet*, 366, 1471-83.

[c] Office for National Statistics (2003) Better or Worse: A follow up study of the mental health of adults in Great Britain. London: National Statistics.

[d] McAllister, M. (2003). Multiple meanings of self-harm: A critical reciew. International Journal of Mental Health Nursing, 12, 177-185.

[e] Pinder et al., (2011) Self-harm and attempted suicide among UK Armed Forces personnel: results of a cross sectional survey.

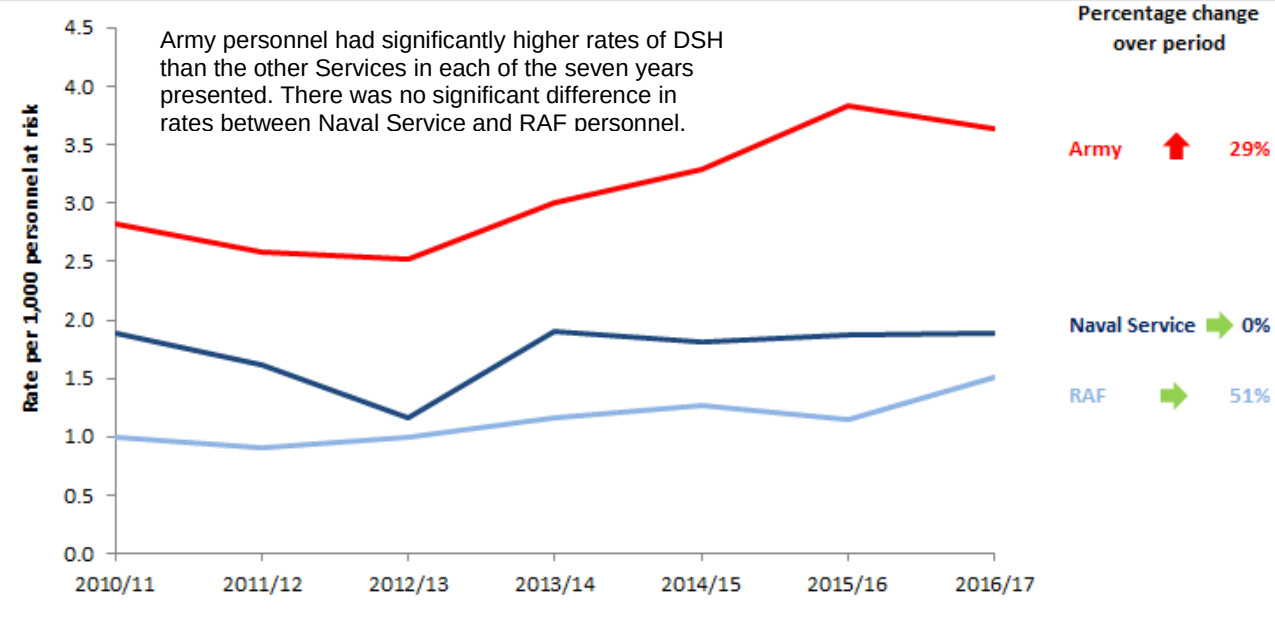
Table 1 : UK Armed Forces personnel DSH[1], by demographics and year, numbers, rates per 1,000 personnel at risk per annum and 95% Confidence Interval (CI)
2010/11 - 2016/17

		2010/11			2011/12			2012/13			2013/14			2014/15			2015/16			2016/17			Percentage change in rate over whole period[5]
		n	rate	95% CI	n	rate	95% CI	n	rate	95% CI	n	rate	95% CI	n	rate	95% CI	n	rate	95% CI	n	rate	95% CI	
All[2]		**449**	**2.2**	**(2.0 - 2.5)**	**396**	**2.0**	**(1.8 - 2.2)**	**363**	**1.9**	**(1.7 - 2.1)**	**424**	**2.4**	**(2.2 - 2.6)**	**427**	**2.6**	**(2.3 - 2.8)**	**465**	**2.9**	**(2.6 - 3.1)**	**455**	**2.8**	**(2.6 - 3.1)**	**26%** ↑
Service																							
	Naval Service[3]	74	1.9	(1.5 - 2.3)	60	1.6	(1.2 - 2.0)	41	1.2	(0.8 - 1.5)	65	1.9	(1.4 - 2.4)	61	1.8	(1.4 - 2.3)	62	1.9	(1.4 - 2.3)	63	1.9	(1.4 - 2.3)	0% →
	Army	331	2.8	(2.5 - 3.1)	298	2.6	(2.3 - 2.9)	283	2.5	(2.2 - 2.8)	316	3.0	(2.7 - 3.3)	321	3.3	(2.9 - 3.6)	363	3.8	(3.4 - 4.2)	340	3.6	(3.3 - 4.0)	29% ↑
	RAF	44	1.0	(0.7 - 1.3)	38	0.9	(0.6 - 1.2)	39	1.0	(0.7 - 1.3)	43	1.2	(0.8 - 1.5)	45	1.3	(0.9 - 1.6)	40	1.2	(0.8 - 1.5)	52	1.5	(0.8 - 1.5)	51% →
Gender																							
	Male	362	2.0	(1.8 - 2.2)	324	1.8	(1.6 - 2.0)	298	1.8	(1.6 - 2.0)	350	2.2	(2.0 - 2.4)	346	2.3	(2.1 - 2.5)	398	2.7	(2.4 - 3.0)	383	2.6	(2.4 - 2.9)	32% ↑
	Female	87	4.7	(3.7 - 5.7)	72	4.0	(3.1 - 4.9)	65	3.7	(2.8 - 4.6)	74	4.4	(3.4 - 5.4)	81	5.0	(3.9 - 6.1)	67	4.2	(3.2 - 5.2)	72	4.5	(3.5 - 5.6)	-3% →
Rank																							
	Officer	11	0.3	(0.2 - 0.6)	9	0.3	(0.1 - 0.5)	6	0.2	(0.1 - 0.4)	17	0.6	(0.3 - 0.9)	34	1.2	(0.8 - 1.5)	7	0.2	(0.1 - 0.5)	14	0.5	(0.3 - 0.8)	48% →
	Rank	434	2.6	(2.4 - 2.9)	383	2.4	(2.1 - 2.6)	356	2.3	(2.1 - 2.5)	400	2.7	(2.5 - 3.0)	393	2.9	(2.6 - 3.1)	453	3.4	(3.1 - 3.7)	441	3.3	(3.0 - 3.7)	28% ↑
Training Status																							
	Trained	380	2.2	(1.9 - 2.4)	338	1.9	(1.7 - 2.1)	314	1.9	(1.7 - 2.1)	385	2.4	(2.2 - 2.7)	399	2.7	(2.4 - 3.0)	397	2.8	(2.5 - 3.1)	373	2.7	(2.4 - 3.0)	25% ↑
	Untrained[4]	69	4.2	(3.2 - 5.2)	58	4.2	(3.1 - 5.3)	49	3.5	(2.5 - 4.4)	35	2.6	(1.8 - 3.5)	28	2.3	(1.5 - 3.3)	67	5.1	(3.9 - 6.3)	82	5.9	(4.6 - 7.2)	40% →
Age Group																							
	< 20	92	7.1	(5.7 - 8.6)	54	5.2	(3.8 - 6.5)	45	4.9	(3.4 - 6.3)	49	5.8	(4.2 - 7.4)	46	5.9	(4.2 - 7.6)	86	11.1	(8.8 - 13.4)	87	11.2	(8.8 - 13.5)	57% ↑
	20-24	181	4.0	(3.4 - 4.6)	166	3.8	(3.2 - 4.4)	161	3.9	(3.3 - 4.6)	169	4.5	(3.8 - 5.2)	158	4.6	(3.9 - 5.4)	172	5.4	(4.6 - 6.2)	167	5.6	(4.7 - 6.4)	40% ↑
	25-29	101	2.3	(1.9 - 2.8)	96	2.2	(1.8 - 2.7)	73	1.7	(1.3 - 2.1)	105	2.6	(2.1 - 3.1)	94	2.4	(1.9 - 2.9)	113	3.0	(2.4 - 3.5)	118	3.2	(2.6 - 3.7)	36% →
	30-34	39	1.2	(0.9 - 1.6)	40	1.2	(0.8 - 1.6)	41	1.2	(0.9 - 1.6)	57	1.8	(1.3 - 2.2)	55	1.8	(1.3 - 2.3)	52	1.8	(1.3 - 2.2)	47	1.6	(1.1 - 2.1)	29% →
	35-39	22	0.8	(0.5 - 1.1)	21	0.8	(0.5 - 1.2)	22	0.9	(0.6 - 1.4)	30	1.3	(0.9 - 1.8)	38	1.7	(1.2 - 2.3)	24	1.1	(0.7 - 1.6)	20	0.9	(0.5 - 1.3)	13% →
	40-44	7	0.3	(0.1 - 0.7)	15	0.7	(0.4 - 1.2)	13	0.7	(0.4 - 1.1)	9	0.5	(0.2 - 1.0)	26	1.6	(1.1 - 2.4)	13	0.9	(0.5 - 1.5)	11	0.8	(0.4 - 1.4)	122% →
	45+	7	0.4	(0.2 - 0.8)	4	0.2	(0.1 - 0.6)	7	0.4	(0.2 - 0.8)	5	0.3	(0.1 - 0.7)	10	0.6	(0.3 - 1.1)	5	0.3	(0.1 - 0.7)	5	0.3	(0.1 - 0.6)	-34% →

Source: Initial NOTICAS and DMICP

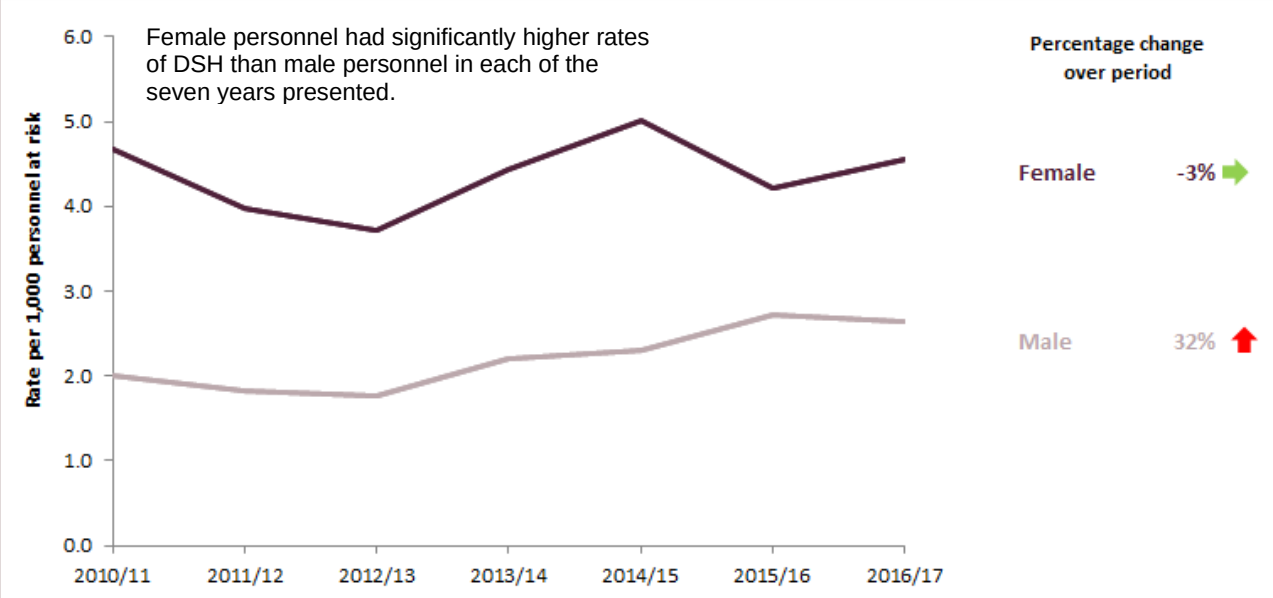
1. Individuals with a self harm record were counted once per year (see Methodology).
2. Sub-group totals do not always sum to the overall total as a number of records had missing demographic data at the time of the incident.
3. Naval Service includes Royal Navy and Royal Marines.
4. Untrained personnel include those in Phase 1 and Phase 2 training (see Data Sources).
5. Rates are based on the calculation of the absolute number and are presented to 1 decimal place.
6. '↑' denotes statistical significant increase in rate over the whole time period presented. '→' denotes no statistical significant change in rate over the period.

Figure 1: UK Armed Forces Personnel, incidents of DSH by Service, rates per 1,000 personnel at risk per annum.
2010/11 to 2016/17



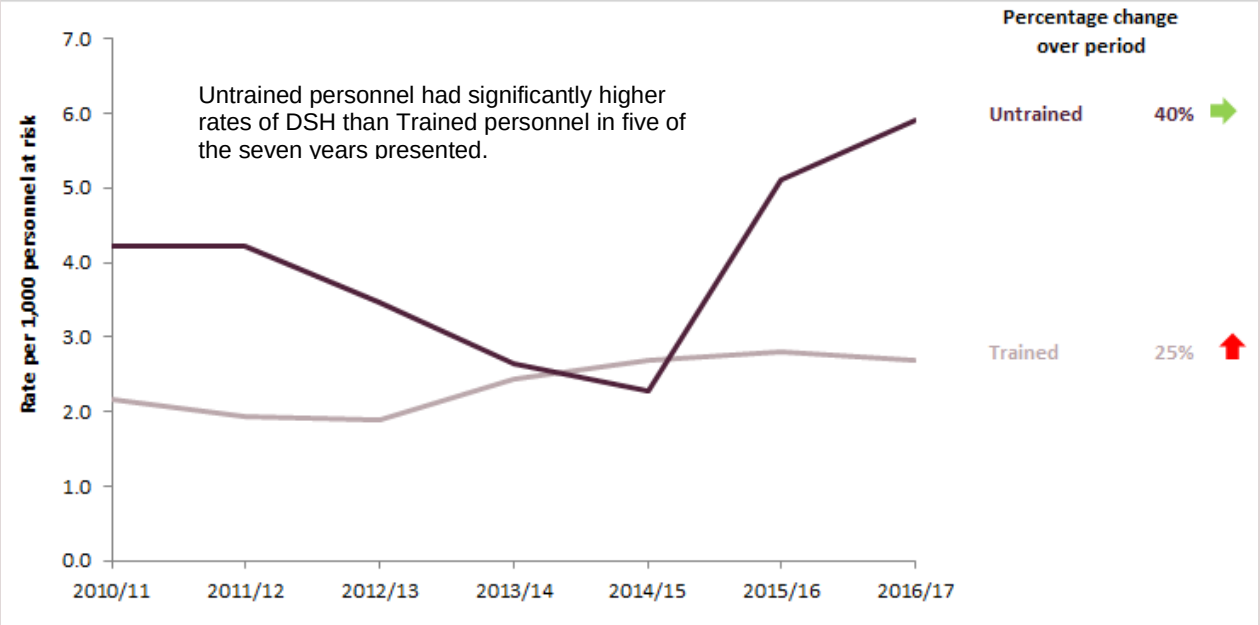
Source: Initial NOTICAS and DMICP
1. Individuals with a self harm record were counted once per year
2. Naval Service includes Royal Navy and Royal Marines
3. Percentages are based on the calculation of the absolute number and are presented to 1dp
4. '↑' denotes significant increase between two time periods 2010/11 and 2016/17.' →' denotes no significant change between two time periods 2010/11 and 2016/17.

Figure 2: UK Armed Forces Personnel, incidents of DSH by Gender, rates per 1,000 personnel at risk per annum.
2010/11 to 2016/17



Source: Initial NOTICAS and DMICP
1. Individuals with a self harm record were counted once per year
2. Percentages are based on the calculation of the absolute number and are presented to 1dp
3. '↑' denotes significant increase between two time periods 2010/11 and 2016/17.' →' denotes no significant change between two time periods 2010/11 and 2016/17.

Figure 3: UK Armed Forces Personnel, incidents of DSH by training status, rates per 1,000 personnel at risk per annum.
2010/11 to 2016/17



Source: Initial NOTICAS and DMICP
1. Individuals with a self harm record were counted once per year
2. Excludes those records with missing training status data
3. Untrained personnel include those in Phase 1 and Phase 2 training (see Data Sources)
4. Percentages are based on the calculation of the absolute number and are presented to 1dp
5. '⬆' denotes significant increase between two time periods 2010/11 and 2016/17.' ➡ ' denotes no significant change between two time periods 2010/11 and 2016/17

Limitations

There are known difficulties in accurately capturing DSH episodes common to both the UK general population and military populations. The reporting of DSH is dependent on when the DSH is identified and brought to the attention of the appropriate parties either by the individual themselves seeking help or if discovered by a third party. Potential barriers to seeking care include:

- The associated stigma relating to DSH
- The mechanism they use to self-harm some of which may not be visible
- It may be possible for the individual to treat themselves at home (for example cuts)[d].

Information on numbers and rates of DSH in the whole UK population is not available, thus any comparisons between the UK military and civilians has been based on small location based studies.

Data limitations:
From the available data it is not possible to differentiate between new episodes and the on-going treatment of a DSH episode, thus this bulletin presents the number of personnel who had at least one DSH event per year.

DMICP data was sourced using read codes from the data warehouse where the read code indicated Deliberate Self Harm. Information entered using free text has not been included as the information is not held in the central data warehouse; therefore the figures provided are a minimum.

The NOTICAS data relied on either a DSH tick box on the form being completed or via a free text search of the comments section, thus the figures provided are a minimum.

Background notes

This ad hoc statistical bulletin has been released in response to a request from the Coroner of the reopened inquiry into the death of a soldier at Deepcut Barracks in 1995, requesting information on DSH in the UK Armed Forces, in particular among Army personnel in comparison with the UK general population.

This statistical bulletin ensures MOD is open and transparent about the methodology and quality of any statistics and that equal access is given to all, as required by the Code of Practice for Official Statistics.

Care management

Assessment and care-management within the Armed Forces for personnel experiencing mental health problems is available at three levels:

- Primary Health Care (PHC), by the patient's own Medical Officer (MO).
- Through specialists in military Departments of Community Mental Health (DCMH).
- In hospitals, either the NHS or the contracted In-Patient Service Provider (ISP).

The level of care a patient may require is determined by a number of factors, including the severity of symptoms and the degree of risk posed by the patient's current condition.

Data used in this response covers all aspects of the care management pathway where entered onto NOTICAS and/or DMICP.

Data sources

Initial Notification of Casualty (NOTICAS)

Notification of Casualty (or "NOTICAS") is the name for the formalised system of reporting casualties within the UK Armed Forces. The NOTICAS reports raised for casualties contain information on how seriously medical staff judge their condition to be. They are not strictly medical categories but are designed to give an indication of the severity of the injury or illness to inform what the individual's next of kin are told.

Initial NOTICAS casualty reporting system data was used in this bulletin as it covers incidents where personnel have been admitted to an NHS Emergency Department and where the next of kin has been informed.

Information supplied by the Defence Business Services, Knowledge and Information Management Information Centre of Excellence (DBS KI MICOE) highlighted incidents where the DSH box was ticked. In addition to these, NOTICAS incidents where a free text search of the comments section highlighted it was a DSH related incident was also included. Free text search included the words 'Deliberate', 'Self Harm', Deliberate Self Harm' and 'DSH'.

Defence Medical Information Capability Program (DMICP)

DMICP is the MOD electronic integrated primary health care record for UK Armed Forces personnel. DMICP was rolled out in 2007 and legacy medical data for currently serving personnel

was migrated across during rollout. In April 2013, DMICP templates began to capture detailed information about the DSH event, prior to this there were no means of identifying separate DSH events/episodes among personnel.

Primary care data, as captured on DMICP were used to compile the response where the following read codes were entered; DMS4691, DMS4692, DMS4693, DMS4698, DMS4707, DMS4708, DMS4710, DMS4711, DMS4713, DMS4714, DMS4716, DMS4717, DMS4719, DMS4720, DMS4722, DMS4723, DMS4725, DMS4726, DMS4729, EMISCSE4TK-1, TK-2, TK-4, TK-5, TK60, TK601, TRIQQIN7, U2, U200, U200-1, U200-2, U201U202-1, U204-3, U208, U20B, U21, U2-1, U22, U2-3, U29, U290, U2B, U2C, U2D, U2E and U2y.

Please note if the DSH incident were recorded as free text only in the patient medical record the information does not transfer into the central data warehouse, thus was not available for analysis. It would require many hours of a clinicians time to review the patient records to code the information and thus make the information centrally available; in the timeframe required to provide the analysis, this was deemed to be disproportionate effort.

There has been no audit of the clinical accuracy of the DMICP data entered in the patient record and no validation of the patient record with data held in the data warehouse.

Joint Personnel Administration System (JPA)

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.

The patient data from each data source were cross referenced with the Joint Personnel Administration (JPA) system for UK Armed Forces personnel. JPA is the source for demographic information on UK Armed Forces personnel and is used to gather information on a person's service, rank, training status, gender and age.

Some demographic data i.e. rank and training status was not available at the time of extraction. This primarily affected individuals who had a DSH code entered onto DMICP in the initial days of joining the UK Armed Forces.

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 completed both Phase 1 and 2 training.

Methodology

UK Armed Forces population used within this bulletin included regulars (including Gurkhas and Military Provost Guard Staff), mobilised reservists, Full Time Reserve Service personnel and Non-regular Permanent Staff and trained and untrained personnel.

This bulletin presents the total number of UK Armed Forces personnel with at least one DSH event recorded per year in the MOD primary care system (DMICP) and/or the casualty notification system (NOTICAS). The data excludes all personnel recorded with DSH ideation and/or thoughts of DSH but for whom no act of actual DSH was coded in the primary care record.

It is currently not possible from DMICP data held outside of the DSH template to identify individual DSH events from continuation of care for a previous episode. The methodology used, counts each individual with a self harm record once per financial year.

Rates

Rates enable comparisons between groups and over time, taking account of the number of personnel in a group (personnel at risk) at a particular point in time. The number of events (i.e. DSH) is divided by the number of personnel at risk and multiplied by 1,000 to calculate the rate.

In order to calculate the rates in this bulletin, an estimate of person at risk was required for the denominator. The estimate was calculated by using the average number of personnel serving in a 13 month period (e.g. the number of personnel serving at the first of every month between April 2016 and April 2017 divided by thirteen for FY 2016/2017). This methodology for calculating the estimate was in line with the method used for the UK Armed Forces Mental Health Annual report[f].

In order to understand if a difference in rates was statistically significant, 95% confidence intervals were used. Statistical significance indicates the likelihood that a finding was not due to chance. The 95% confidence interval for a rate provides the range of values within which we expect to find the real value of the indicator under study, with a probability of 95%.

If two confidence intervals do not overlap, a comparable statistical test would indicate a statistically significant difference. The rates and confidence intervals presented have been rounded to 1 decimal place and therefore when small numbers are presented the rate may lie towards one end of the confidence interval instead of more centrally between the lower and upper confidence interval.

The small number in some of the sub-group analysis may result in wide confidence intervals in the corresponding rate. The impact of this is that the range in which we expect the true value of that statistic to lie is much larger, making it harder to interpret the true underlying trend.

Glossary

Army - The British Army consists of the General Staff and the deployable Field Army and the Regional Forces that support them, as well as Joint elements that work with the Royal Navy and Royal Air Force. Its primary task is to help defend the interests of the UK.

Confidence Interval - The 95% confidence interval for a rate provides the range of values within which we expect to find the real value of the indicator under study, with a probability of 95%.

Deliberate Self Harm – includes incidents of self-injury (SI) and self-poisoning within this bulletin. It excludes personnel who had thoughts of deliberate self-harm or suicidal ideation.

Defence Medical Information Capability Programme (DMICP) - The DMICP programme commenced during 2007 and comprises an integrated primary Health Record (iHR) for clinical use and a pseudo-anonymised central data warehouse.

[f] https://www.gov.uk/government/statistics/uk-armed-forces-mental-health-annual-statistics-financial-year-201617

MOD Specialist Mental Health Services - encompass the delivery of care through MOD's Department for Community Mental Health (DCMH) for outpatient care, and all admissions to the MOD's in-patient care contractor. It does not cover mental health care for patients treated wholly in the primary care setting by GPs.

New Case of DSH – The measure counts all Service personnel with a DSH record once per year as it is not currently possible to identify individual episodes of self harm from continuation of care for a previous episode.

NOTICAS – Notification of Casualty (or "NOTICAS") is the name for the formalised system of reporting casualties within the UK Armed Forces.

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.

Royal Air Force (RAF). The Royal Air Force (RAF) is the aerial defence force of the UK.

Royal Marines (RM) Royal Marines are sea-going soldiers who are part of the Naval Service. RM officer ranks were aligned with those of the Army on 1 July 1999.

Royal Navy (RN) The sea-going defence forces of the UK but excludes the Royal Marines and the Royal Fleet Auxiliary Service (RFA).

UK Armed Forces population - is defined as the number of serving UK Armed Forces personnel.

UK Armed Forces - are full time Service personnel, including Nursing Services and Gurkhas, Naval activated Reservists, mobilised Reservists, Military Provost Guarding Service (MPGS), Non Regular Permanent Service (NRPS) and reservist personnel. Unless otherwise stated, includes trained and untrained personnel.

Further information

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RAF Manpower	01494 496822	defstrat-stat-air@mod.gov.uk
Tri-Service Manpower	020 7807 8896	DefStrat-Stat-Tri-Enquiries@mod.gov.uk
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