

Background Quality Report

MOD Health and Safety Statistics: Annual Summary & Trends Over Time, 2017/18 – 2021/22

The purpose of a background quality report is to inform users of the statistics about the quality of the data used to produce the publication, and any statistics derived from that data. It also discusses existing uses of the statistics and user requirements.

This assessment relates to the 'MOD Health and Safety Annual Statistics' published by Defence Statistics Health.

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2. Introduction & Statistical Presentation

These annual MOD Health and Safety Official Statistics have been developed to inform internal and external users of the numbers of MOD health and safety incidents and to identify trends in health and safety incidents over time. Providing additional statistics on demographic groups, and the types of events and activities increases the amount of information readily available, therefore reducing the burden of requests for such information.

This report provides summary statistics on UK Armed Forces personnel, Ministry of Defence (MOD) Civilian personnel, Other Civilians, and Cadet Forces personnel with reported injuries, ill health, near miss or dangerous occurrences incidents on duty at MOD property or injured in or by MOD vehicles.

The following information is provided:

- Numbers of safety related deaths, by cause between 2017/18 and 2021/22.
- Summary of reported injury and ill health incidents for UK Armed Forces (by Service) and civilians in 2021/22, including demographic breakdowns
- Time trend charts presenting the numbers and rates per 1,000 of all reported injury and ill health incidents between 2017/18 and 2021/22.
- Summary of incidents categorised as 'minor', 'serious' and 'specified' as defined by the Health and Safety Executive (HSE).
- Summary of reported injuries by Regular Armed Forces in 2021/22 by type of event, type of activity, and part of body.
- Summary of ill health incidents reported on MOD health and safety systems in 2021/22.
- Summary of reported near misses and dangerous occurrences reported on MOD health and safety systems in 2021/22.
- Supplementary tables in MS Excel provide additional information on the numbers and rates per 1,000 personnel at risk of reported injury, ill health, and near miss incidents.

This Statistical Bulletin is published as an Official Statistic, adhering to the UK Statistics Authority (UKSA) protocols on [pre-release access](#).

3. Statistical processing

3.1 Source data

Health and Safety data sources

Health and Safety incidents are currently compiled using data provided from the following Top Level Budget (TLB) reporting areas and systems:

- *Army Safety Centre Incident Notification System (INS)* – 1 April 2017 to 31 March 2022
- *Accident and Incident Recording System (AIRS)* – 1 April 2017 to 30 June 2020
- *RAF Functional Safety Information Management System (FSIMS)* – 1 May 2020 to 31 March 2022
- *Defence Equipment and Support Cell (DINC)* – 1 April 2017 to 31 March 2022
- *Defence Infrastructure Organisation (DIO)* – 1 April 2017 to 31 March 2022
- *Defence Unified Reporting and Lessons Management System (DURALS)* – 10 January 2022 to 31 March 2022
- *Head Office and Corporate Services (HOCS)* – 1 April 2017 to 31 March 2022
- *UK Strategic Command (UK Strat Comm)* – 1 April 2017 to 31 March 2022
- *Naval Service Information Management System (NLIMS)* – 1 April 2017 to 31 March 2022

Figures are based on TLB data recorded by each individual TLB within their own notification cells. Defence Statistics have direct access to four of the datasets (AINC, DURALS, FSIMS, NLIMS) for which weekly extracts are now obtained. Weekly datasets are also provided by DIO and DINC. UK Strat Comm and HOCS provide monthly extracts.

Deaths data sources

Defence Statistics receives weekly notifications of Armed Forces deaths from the Joint Casualty and Compassionate Centre (JCCC) in accordance with the Joint Service Publication 751: Joint Casualty & Compassionate Policy & Procedures. The JCCC provides a focal point for casualty administration and notification. Defence Statistics also receive cause of death information from military medical sources in the single Services, death certificates and coroner's inquests.

Defence Statistics regularly checks all deaths for information on coroner's verdicts (England and Wales) and the results of investigations by the Crown Office and Procurator Fiscal Service (COPFS) for Scotland. For Northern Ireland, Defence Statistics liaise with the Northern Ireland Statistics and Research Agency (NISRA) who handle the official information on behalf of the Northern Ireland Office. There is an obligation for all accidental deaths and those resulting from violent action to be referred to these officials. Inquests are usually held within a few months of the death, but occasionally a few years may elapse. Therefore, some recent deaths may not have clearly defined cause information.

Administrative Data Sources

The Joint Personnel Administration (JPA) System and the Human Resources Management System (HRMS and MyHR) are used to capture people and military characteristic information for Armed Forces personnel and MOD Civilian staff respectively.

3.2 Data validation

Each individual TLB is responsible for ensuring the quality of data supplied to Defence Statistics. Defence Statistics Health carry out basic consistency and validation checks to ensure the data looks as expected, and to populate any missing data fields.

Demographic information (e.g. Service, gender, date of birth) is not always provided on the health and safety returns. On records where service/staff numbers are provided they are matched with the JPA and HRMS/MyHR systems in order to complete the demographic information. Where no information is available on the personnel databases (after matching) or a service/staff number is not recognised/not provided, information from free text on the original incident record is used where possible to complete the demographic information.

Defence Statistics carries out processing of the data by taking the information entered in both raw data fields and free text to create new fields of reporting categories. These reporting categories are used in the Official Statistic and other internal reports. Additional fields are created to provide extra groupings and breakdowns of the data supplied. This includes the type of incident and type of activity. It is important to note that the quality and accuracy of information within these additional fields is reliant on the raw data fields and free-text commentary provided. The responsibility for the quality of this information lies with the individual TLB's.

Further validation checks are carried out after the data have been processed to ensure that all processes and calculations have been carried out correctly and then final numbers are an accurate reflection of the data received from TLBs. Manual checks are then carried out on the final report to ensure that the figures quoted in the commentary reflect those in the tables and that the numbers sum to the totals provided.

3.3 Additional supporting glossary

Human Resources Management System (HRMS) is a personnel system used by Defence Business Services to capture information on all MOD civilians, to include personal and job information.

Joint Casualty and Compassionate Cell (JCCC) - provides a focal point for casualty administration and notification and requests for compassionate travel (for those personnel serving overseas) in respect of members of the British armed forces.

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

MyHR is a personnel system used by Defence Business Services to capture information on all MOD civilians, to include personal and job information. This system replaced HRMS in January 2022.

Royal Fleet Auxiliary (RFA) - is a civilian manned fleet owned by the MOD, which supports Royal Navy ships around the world, supplying warships with fuel, ammunition and supplies. Although all RFA personnel are MOD civilians, in addition to their civilian status, since 2007, a large proportion of RFA personnel have also become Royal Naval Reserve sponsored reserves. In a combat situation, this sponsored reserve status is activated to ensure that personnel are protected by the Geneva Convention. RFA personnel on sponsored reserve contracts are reported in this publication as a subset of the RNR sponsored reserve. These RFA sponsored reserve personnel are also reported in the Quarterly Civilian Personnel Report, which publishes statistics on the whole of the RFA population.

Royal Marines - (RM) Royal Marines are sea-going soldiers who are part of the Naval Service.

Royal Navy - (RN) The sea-going defence forces of the UK but excludes the Royal Marines and the Royal Fleet Auxiliary Service (RFA). From 1 April 2000 the Royal Navy incorporated Queen Alexandra's Royal Naval Nursing Service (QARNNS).

RIDDOR Reportable Occupational Diseases –

The Reporting of Injuries, Diseases and Dangerous Occurrence Regulations 2013 (RIDDOR) puts duties on employers, the self-employed and people in control of work premises to report certain serious workplace accidents, occupational diseases and specified dangerous occurrences.

RIDDOR defined injuries to civilian employees and incidents leading to the hospitalisation or death of members of the public are reportable to Health and Safety Executive (HSE). Equivalent injuries and diseases to armed forces personnel on duty are not reportable under RIDDOR but MOD has undertaken to notify any Work-Related Death, Major Injury, Disease or Dangerous Occurrence, to HSE as if they were RIDDOR reportable. Defined Dangerous Occurrences are reportable.

During the Covid-19 pandemic, HSE made Covid-19 reportable if there was a likelihood it was caught at work. Workers report incidents on Covid-19 which they believe may have been from exposure at work, however reliably identifying the source of exposure for COVID-19 is difficult and self-reports may under- or overestimate the true scale

In the case of a fatality within the defined geographic limits, HSE expects the Commanding Officer/Head of Establishment or other responsible person within the relevant command to notify HSE within the time periods as laid down in RIDDOR.

MOD defines the severity of injuries and illness as follows:

a. Specified injuries and illnesses – aligned with the HSE definition as work-related incidents which include:

- a fracture, other than to fingers, thumbs and toes;
- amputation of an arm, hand, finger, thumb, leg, foot or toe;
- permanent loss of sight or reduction of sight;
- crush injuries leading to internal organ damage;
- serious burns (covering more than 10% of the body, or damaging the eyes, respiratory system or other vital organs);
- scalpings (separation of skin from the head) which require hospital treatment;
- unconsciousness caused by head injury or asphyxia;
- any other injury arising from working in an enclosed space, which leads to hypothermia, heat-induced illness or requires resuscitation or admittance to hospital for more than 24 hours.

b. Serious injuries and illnesses – aligned with the HSE category of 'over seven-day incapacitation of a worker' and are those that are not defined as 'specified' according to the

above criteria but which could result in a person being unable to perform their normal duties for more than seven days.

c. Minor injuries and illnesses - are those that are not classified as 'serious' or 'specified'.

Top Level Budget (TLB) - Most Defence activity is managed through Top Level Budget (TLB) holders. The Permanent Secretary grants each TLB holder extensive delegated powers over personnel, infrastructure and budget.

4. Quality management

4.1 Quality assurance

The MOD's quality management process for Official Statistics consists of three elements: (1) Regularly monitoring and assessing quality risk via an annual assessment; (2) Providing a mechanism for reporting and reviewing revisions/corrections to Official Statistics; (3) Ensuring BQRs are publishing alongside reports and are updated regularly.

Prior to April 2016, Defence Statistics manually coded the health and safety data and categorised the incidents into what activity caused the health and safety incident, this field was known as Mechanism of Injury. For example, if someone fell over on a wet floor whilst on Adventure Training it would have been categorised as Built Estate Infrastructure not Adventure Training. From 1 April 2016 Defence Statistics has altered this process by creating an automated code to improve consistency and remove manual bias. In doing this, two additional categories have been added to provide further clarity to 1) the type of activity a person was doing whilst the incident occurred and 2) what caused that particular incident. For example providing overall numbers for how many incidents occurred on Training (whether the incident was attributable to that Training or not) and breaking this information down further to see what caused the incident. So as above, if someone were to fall over on a wet floor whilst on adventure training, their activity type would be Adventure Training and the Cause of Event would be Slip/Trip/Fall. Please note, this automated process used text information entered by the individual reporting the incident, if the information provided in the data was incorrect then the data we produce is also incorrect. This is a data quality issue which is the responsibility of each TLB. Defence Statistics are continually working with the TLB's to improve health and safety data quality.

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. reported injuries and ill health incidents) is divided by the number of personnel at risk per annum and multiplied by 1,000 to calculate the rate per 1,000 personnel at risk.**

Rates for certain groups (e.g. Reservist personnel) cannot be provided due to not having suitable low level denominator information. Defence Statistics will review this to be included in future publications.

Percentage

Percentages are calculated in the same way as the rate per 1,000 but multiplying by 100 instead of 1000, i.e. **The number of events (i.e. reported injuries and ill health incidents) is then divided by the number of personnel at risk per annum and multiplied by 100 to calculate the percentage of personnel affected.**

Statistical significance

The statistical significance tests used within this report uses the Z test. The Z test is used to test the difference between two proportions was used to identify if there was a significant difference between the rates of two different groups e.g. males and females. The significance test provided the confidence to state that an observed difference between the rates was a real difference. A significance level of 0.05 has been used throughout this report.

Population data

Reliable denominator data were not available for all populations in these statistics and therefore some groups were excluded from rate calculations. Denominator data were not available for Other Civilian groups including Contractors, Foreign Forces, directly employed labourers and members of the public including external visitors on MOD property. There are no centrally held data on the numbers of civilians within these groups that have resided / visited MOD sites. Therefore, these populations were excluded from the overall rates/percentages presented. Denominator data by demographic sub-groups (e.g. gender, Service, age group) were also not available for Cadet Forces.

From 2017/18 Defence Statistics are unable to provide rates on Industrial and Non-Industrial Civilians. Since April 2016, the Defence Equipment and Support Trading Entity adopted a new grading structure which no longer aligns to that used by MOD Main (all TLB's), therefore a breakdown of Industrial and Non-Industrial Civilians is no longer possible.

Due to the transition in HR systems, the latest processed civilian figures held by Analysis Civilian are as at January 2022. This reference period is different to the Bi-annual Civilian Personnel (BCPR) official statistics (October/April).

Improved data processing and consultation with SME's has meant records from DIO-CON have been coded as Other Civilians (used to be Unknown) which has therefore resulted in changed to civilian numbers.

The rates and percentages calculated for this Statistical Bulletin are based on headcounts as the denominators (the actual number of people within a group) which is in line with the Health and Safety Executive's (HSE) methodology for calculating rates presented within their Annual reporting injury in the workplace for all UK Annual Health and Safety Statistics.

The estimate of personnel at risk required for the denominator value is derived using a thirteen-month average of strengths figures (e.g. the number of personnel in the UK Armed Forces) at the first of every month between March 2017 and March 2018 divided by thirteen for 2017/18).

5. Relevance

5.1 User needs

The MOD Health and Safety statistics have been published in response to user demand. Interest has come from internal MOD policy makers, Government Departments, the media, and the general public.

These statistics also plays an important part in ensuring the Department's accountability to

the British public.

5.2 Strengths and Weaknesses in Relation to User Needs

A key weakness is that Defence Statistics relies on the level of detail recorded on the health and safety data for each incident. A great deal of the information can be recorded in free text fields, or at the time of the incident when not all details may be known, and is therefore subject to change.

Defence Statistics Health encourage users to provide feedback on the publication itself. Feedback is also welcomed from any other internal and external customers.

5.3 Coverage

The data in this report include all UK Armed Forces personnel, MOD Civilian personnel, Other Civilians, and Cadet Forces personnel with reported injuries, ill health, or near miss incidents on MOD property or injured in or by MOD vehicles.

The injured person or a witness to the incident will report the incident to the relevant TLB notification cell. The severities of incidents are aligned with the HSE definitions.

Due to the wide range of statistics presented, the Statistics Bulletin is presented in five sections for reported health and safety incidents, with supplementary tables in MS Excel provide further breakdowns and details.

6. Accuracy and reliability

6.1 Overall accuracy

Each TLB area is responsible for the quality of data provided to Defence Statistics. Defence Statistics perform routine validation checks on the data to ensure the quality, for example identifying missing data where possible.

In data received via FSIMS for the latest financial year 21/22, a high proportion of injury records (nearly 50%) did not have the personnel identifier or service information provided. Presented rates are impacted as those records could not be assigned to any of the services which means they are not included in the rate calculations. Additionally in some cases we were unable to determine if a record was a military or civilian individual

MOD civilian demographics have only been provided for a limited group of people and therefore numbers and rates should be interpreted with caution. Out of all personnel identified as MOD Civilians, gender information was not available for 40% (316) of the sample, age information was missing for 83% (654).

To ensure potential errors are identified and resolved, Defence Statistics implement a series of data quality checks throughout the report production. This includes manually checking numbers and percentages against comparable tables and seeing whether the numbers are comparable with previous years.

The statistics are subject to routine revisions as all notification cells receive updates on incidents already reported or new reports of incidents that happened in the past (late reporting). These figures can be identified by a revision marker ('r'). Due to ongoing data validation and the existence of late reporting, figures for the latest financial year are provisional ('p') and may also be subject to change in future releases.

6.2 Data Revisions

Data revisions are handled in accordance with the [MOD's Official Statistics Revisions and Corrections Policy](#).

Incident numbers have been updated to account for late reporting. Figures updated are represented with an 'r'.

7. Timeliness and Punctuality

7.1 Timeliness

Data are provided to Defence Statistics on a routine basis from each health and safety reporting system individually. The official statistic is produced on an annual basis.

7.2 Punctuality

The Official Statistics have all been published on time to meet pre-announced release dates. Future publication dates will also be announced on the [Gov.UK website](#) at least one month in advance.

8. Coherence and Comparability

There are eight current reporting systems run by different TLBs that the Health and Safety official statistic uses to calculate the numbers and rates. To improve the coherence of the data received from the TLBs, each report against a minimum data set.

MOD uses the same severity categories as HSE to enable comparisons. The HSE's severity categorisations have been applied to all events in this statistic, even those events which do not meet RIDDOR criteria, such as those that occur off duty or overseas.

Defence Statistics limit changes to methodology to enable comparisons over time, however any methodology changes are clearly shown. Where data processing errors are identified, where appropriate, historic trend information is corrected and provided in the accompanying Excel tables.

9. Accessibility and Clarity

9.1 Accessibility

These statistics are published the GOV.UK website at the following link:

<https://www.gov.uk/government/collections/defence-health-and-safety-statistics-index>

24 hour pre-release access to the report was available to a limited distribution list within MOD. The full list can be found in the pre-release access list available on the Gov.UK website: <https://www.gov.uk/government/statistics/defence-statistics-pre-release-access-list>.

MS Excel versions of all Health and Safety report tables are also available on the Gov.uk website alongside each published report.

A glossary of key terms is provided in the report to aid understanding.

9.2 Clarity

Users with an interest in the key findings can read a short summary of main messages within the Introduction. The report is then split into distinct sections to help users navigate their way through the publication.

10. Trade-offs Between Output Quality Components

Defence Statistics minimise the cost to Government of producing these statistics by using data already collated for internal reporting to the MOD Defence Board. Since data are returned by individual TLBs, data between datasets are of varying quality and completeness. This limits the information available.

11. Cost and Respondent Burden

Annual updates of the health and safety statistics take two members of staff approximately 8 weeks to prepare, including data preparation, validation and report writing.

The Health and Safety report uses administrative data sources which are already collected by the MOD. Therefore, the main operational cost to production of the statistics is liaison with the health and safety reporting systems, for quality assurance and data interpretation.

12. Confidentiality and Security

12.1 Confidentiality – Policy

Prior to analysis data sources have been linked using a pseudo-anonymisation process. The individual identifiers were stripped from datasets and replaced by a pseudo-anonymiser, generated, effectively, by an automated sequential numbering system. The key to the system is that it recognises previous occurrences of a given Service number and allocates the same pseudo-anonymiser on each occasion. This also enables the data to be linked with the other data sources, which have also already been pseudo-anonymised. The tables in the report are scrutinised to ensure individual identities are not revealed inadvertently.

The MOD Health and Safety Statistics: Annual Summary & Trends Over Time is an Official Statistic and is produced in line with the UK Code of Practice for Official Statistics and comply with the pre-release access arrangements. The Defence Statistics Pre-Release Access lists are available on the GOV.UK website

12.2 Confidentiality – data treatment

In line with the directives of the JSP 200, disclosure control is conducted on all statistical information provided by the MOD to safeguard the confidentiality of individuals. Within these statistics a risk of disclosure has been considered to be high where numbers presented are fewer than three. In cases where a risk of disclosure exists, one of two appropriate disclosure control methods have been applied:

- a) Figures have been suppressed: In most cases where there may be a risk of disclosure, numbers fewer than three have been suppressed and marked as '~'. Where there is only one cell in a row or column that is fewer than three, secondary suppression has been applied where the next smallest number has also been suppressed so that numbers cannot simply be derived from totals.
- b) Where numbers fewer than three have been presented, each occurrence has been scrutinised and the risk of disclosure has been assessed as low.

12.3 Security

Defence Statistics Health has data access agreements with all health and safety reporting systems with respect to obtaining the health and safety data extracts. All Defence Statistics Health staff involved in the production of the casualty statistics have signed a declaration that they have completed the Government wide Responsible for Information- General User training and they understand their responsibilities under the Data Protection Act and the Official Statistics Code of Practice. All MOD, Civil Service and data protection regulations are adhered to. The data is stored, accessed and analysed using the MOD's restricted network and IT systems.