

Background Quality Report

Official Accredited Statistics Notice: Deaths in the UK regular armed forces Suicides in the UK regular armed forces

Official Statistics: Training and Exercise deaths in the UK armed forces UK armed forces Operational deaths post World War II

1 Contact

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2 Introduction and Statistical Presentation

1. Defence Statistics produce a series of publications detailing the deaths of serving UK regular armed forces personnel.
2. The **Deaths in the UK regular armed forces** publication is an annual Official Accredited Statistic that was first released in 2001. It provides:
 - i) Information on the major categories of cause of death for the previous ten year period.
 - ii) Comparison between each of the three Services and against the UK general population.
 - iii) Summary information on Land Transport Accident deaths that have occurred among the UK regular armed forces for the previous five year period with time trend graphs since the start of data collection in 1984.
 - iv) Information on Reservist on-duty deaths.

Each year previously published data on the number of incidents and cause of death are updated from the latest information received from death certificates and coroner reports.

3. The **Suicides in the UK regular armed forces** publication is an annual Official Accredited Statistic that was first released in 2004. It provides:
 - i) Summary information on suicides that have occurred among the UK regular armed forces for the previous twenty year period with time trend graphs since the start of data collection in 1984.
 - ii) Detailed analysis by age and service demographics.
 - iii) Information on methods used when dying by suicide.

Each year previously published data on the number of incidents and cause of death are updated from the latest information received from death certificates and coroner reports.

4. The **Training and Exercise deaths in the UK armed forces publication** is an Official Statistic that was first released on 30 March 2017. The information provided in this report was previously released in adhoc statistical bulletins in January 2016, March 2016 and November 2016. It provides:

- i) Summary information on deaths in the UK regular Armed forces and 'on duty' reserve personnel which occurred whilst on Training and Exercise since 2000.
 - ii) Detailed analysis by type of training and activity type.
5. The **UK armed forces Operational deaths post World War II** publication is an annual Official Statistic that was first released in 2014. It provides:
- i) Summary information on the number of in-Service deaths among UK armed forces personnel which occurred as a result of a British, United Nations (UN) or North Atlantic Treaty Organisation (NATO) medal earning operation since World War II.
6. These statistics can all be found on the [gov.uk website](https://www.gov.uk).

3 Statistical Processing

3.1 Source Data

7. Defence Statistics receive weekly notifications of all in Service UK regular armed forces deaths from the Joint Casualty and Compassionate Cell (formerly the single Service casualty cells). Defence Statistics also receive cause of death information from military medical sources in the single Services. At the end of each calendar year, Defence Statistics cross-reference the medical information it holds against publicly available death certificate information available from the NHS. Regarding suicides, to ensure the highest accuracy of information and that all cases previously recorded as 'awaiting verdict' have been followed up, Defence Statistics carry out an annual audit of MOD data held by the ONS and other authorities.
8. Defence Statistics have undertaken a review of the deaths for which a verdict was outstanding (waiting verdict), as a proportion occurred a number of years ago and in some instances the deaths occurred overseas. Following investigations with ONS and the Defence Inquest Unit, Defence Statistics have deemed it unlikely that the final outcome of deaths (such as inquests) will be traced after five years, especially where the death occurred overseas. Thus the waiting verdicts identified in this notice cover the period 2019-2023, these records will be updated once the result of the coroner inquests are made available.
9. Defence Statistics regularly check all deaths against the information held on the Armed Forces Memorial Database (AFMDB) owned by the Joint Casualty and Compassionate Centre (JCCC).
10. To record information on cause and circumstances of death, Defence Statistics uses the World Health Organisation's International Statistical Classification of Diseases and Health-related Problems 10th revision (ICD-10). In addition, Defence Statistics also record the casualty reporting categories used by the Joint Casualty and Compassionate Cell, used for reporting to the Chain of Command and for notifying the next of kin.
11. The deployment data presented in this report represent deployments to the wider theatre of operation and not deployment to a specific country i.e. deployment to Op TELIC includes deployment to Iraq and other countries in the Gulf region such as Kuwait and Oman. Therefore, this data cannot be compared to data on personnel deployed to a specific country such as Iraq.
12. Deployment markers were assigned using the criteria that an individual was recorded as being deployed to the Iraq and/or Afghanistan theatres of operation if they had deployed to these theatres prior to their death. Person level deployment data for Afghanistan was not available between 1 January 2003 and 14 October 2005. Therefore, it is possible that some UK Armed forces personnel who were deployed to Afghanistan during this period and subsequently died have not been identified as having deployed to Afghanistan in this report but have been

captured in the overall figures for LTA deaths. Please note: this report compares those who had been deployed before their death with those who have not been identified as having deployed before their death.

Data Coverage

13. The information on deaths presented in the 'Deaths in the UK regular armed forces' and 'Suicides in the UK regular armed forces' are for the regular armed forces, including all trained and untrained personnel. Non-regulars who died on deployment are also included since they are classified as 'regular' personnel for the duration of their overseas deployment. The data exclude the Home Service of the Royal Irish Regiment, full time reservists, Army Reserve and Naval Activated Reservists since Defence Statistics do not receive routine notifications of all deaths among reservists and non-regulars, and because reliable denominator data to produce interpretable statistics are not available.
14. The information on deaths presented in the 'Training and Exercise Deaths in the UK armed forces' report are for all regular and 'on duty' reservist UK Armed forces personnel who died whilst taking part in training or on exercise. Members of the Royal Fleet Auxiliary, Merchant Navy and MOD civilians are not included.
15. The information on deaths presented in the 'UK armed forces Operational deaths post World War II' report are for all regular and reservist UK armed forces personnel only who died as a result of an operation in a medal earning theatre. Members of the Royal Fleet Auxiliary, Merchant Navy and MOD civilians are not included.

3.2 Data Collection Methods

16. In order to compare time trends and to take into account the different age and gender structures of their respective single Service strengths, rates are age and gender standardised. In order to facilitate comparisons with previously published reports, data are standardised to the current armed forces population.
17. In order to understand if a difference in rates is statistically significant, 95% confidence intervals are used. Statistical significance indicates that a finding is 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 a 95% confidence interval around a rate excludes the comparison value, then a statistical test for the difference between the two values would be significant at the 0.05 level. If two confidence intervals do not overlap, a comparable statistical test would always indicate a statistically significant difference.
18. The effects of standardisation may, on occasion, lead to unexpected results particularly where small numbers are involved. Standardised rates can also be strongly influenced by variations in the age and gender structure of the deaths concerned, even when totals may remain the same.
19. To enable comparisons with deaths in the UK population, Standardised Mortality Ratios (SMR), adjusted for age, gender and year, are calculated.
20. The 95% confidence interval for a SMR 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 the confidence interval for an SMR does not include 100, the result is deemed to be statistically significant. The small number in some of the sub-group analysis may result in wide confidence intervals in the corresponding ratio. 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.

21. The UK population estimates used to calculate SMR refer to the usually resident population on 30 June of each year. The usually resident population is defined by the standard United Nations definition for population estimates and includes people who reside in the area for a period of at least 12 months whatever their nationality. ONS mid-year population estimates are based on updates from the most recent census, allowing for births, deaths, net migration and ageing of the population. The UK general population data for 2022 and 2023 was not available for this report to calculate standard mortality ratios (SMRs), therefore, Defence Statistics has used the 2021 data as an estimate for the 2022 and 2023 figures as there is little year on year variation for the UK figures. Thus, any patterns reported here may be subject to minor fluctuations when the 2022 and 2023 data becomes available.
22. In 2006 the ONS changed from reporting the number of deaths that occurred in each year to the number of deaths that were registered in each year. A major driver for this change was that for an annual extract of death occurrences to be acceptably complete, it must be taken some months after the end of the data year to allow for late death registrations. This change has little effect on annual totals but allows the output of more timely mortality data. The UK death figures reported are based on deaths registered in the data year and therefore the year in which a death is registered may not correspond to the year in which the death occurred. Therefore the UK death data used by Defence Statistics up to and including 2005 is based on deaths that occurred in the year. The UK death data used by Defence Statistics for 2007 onwards is based on deaths that were registered in the year. Using UK population deaths that both occurred and were registered in year resulted in an increased denominator population for the 2006 SMR calculation which resulted in a lower SMR for 2006 (when compared with the 2006 SMR reported in publications before this change in methodology). Users should note that this revised corrected methodology has brought the 2006 SMR findings in line with the SMR findings for other years.

Cause of Death

23. Defence Statistics have included the Joint Casualty Compassionate Cell categories of killed in action and died of wounds which together provide information on the number of service personnel who have died on operations as a result of hostile action. The term 'killed in action' is used when a battle casualty has died outright or as a result of injuries before reaching a medical facility, whilst 'died of wounds' refers to battle casualties who died of wounds or other injuries after reaching a medical treatment facility.
24. When identifying deaths due to COVID-19, Defence Statistics report using the definition used by the Office for National Statistics. Deaths were identified as those with an underlying cause, or any mention of COVID-19 on the death certificate. A doctor can certify the involvement of COVID-19 based on symptoms and clinical findings – a positive test result is not required. Defence Statistics do not use Public Health England's method of reporting those who had a positive COVID-19 test within 28 days prior to death.
25. In 2016 ONS modified their definition of Suicide to include deaths from intentional self harm in 10-14 year old children, in addition to deaths from intentional self harm and events of undetermined intent in people aged 15 and over. This change has no impact on the findings in the Deaths and Suicide reports since the data used to calculate the overall age-standardised rates for the UK general population and SMRs are for those aged 16-59 years only.
26. The National Statistics definition of suicide includes deaths given an underlying cause of intentional self-harm or an injury/poisoning of undetermined intent. In England and Wales, it has been customary to assume that most injuries and poisonings of undetermined intent are cases where the harm was self-inflicted, but there was insufficient evidence to prove that the deceased deliberately intended to kill themselves, thus given an open or narrative verdict by the coroner. The convention has been adopted across the UK.

27. The notice includes suicides in line with the definition used by the Office for National Statistics (ONS) in the publication of National Statistics. In accordance with ONS practice, all deaths are coded to the International Classification of Diseases 10th edition (ICD-10) which is produced by the World Health Organisation (WHO). Information held in death certificates is analysed and assigned the appropriate ICD code to ensure that deaths included in this notice are only those which meet the National Statistics definition of Suicide.
28. The codes used to define suicides are: ICD-10 codes: X60-X84: intentional self harm; Y10-Y34¹: injury or poisoning of undetermined intent; Y87.0 and Y87.2² : sequelae of intentional self harm, injury or poisoning of undetermined intent.
29. In November 2018, Defence Statistics liaised with the ONS to seek clarification of their suicide methodology for deaths returned by coroner as narrative verdicts. The ONS provided Defence Statistics with the criteria for coding text held in the deaths certificates relating to narrative verdicts and as a result seven deaths among UK armed forces personnel since 2004 were reclassified as suicide and added to the notice.
30. Suicide remains a rare event in the UK regular armed forces; as a result some of the numbers presented in the notice are small. As such, when presenting standardised rates and mortality ratios over time, the results can be affected when there are changes to the population at risk (the denominator). This may, on occasion, lead to unexpected results particularly where small numbers are involved.
31. Whilst Defence Statistics receive the duty status of all personnel who died in the UK armed forces via the NOTICAS reporting system, to identify those deaths that occurred on training or exercise a search of all free text information for mention of 'training' or 'exercise' and any associated abbreviations in the available data sources had to be completed. Therefore figures presented may be subject to change should further information become available.
32. In line with ICD-10 definition a land transport accident is defined as any accident involving a device that has been designed for, or is being used at the time for, the conveyance of either goods or people from one place to another on land, therefore the definition covers incidents that occur on and off the public highways and incidents that involve non-motorised forms of transport.
The definition therefore includes all military specific vehicles irrespective of where the accident took place. Road traffic accidents refer only to accidents on a public road.
The scope of this definition does NOT include any deaths occurring in a vehicle as a result of Hostile Action. Due to the ICD-10 definition, numbers in this report include all occupational specific vehicles (specific to the UK armed forces, for example: Military Land Rover, Ridgeback, Seddon Atkinson truck, Jackal). These incidents are presented as 'occupation specific' and NOT included with deaths as a result of motor vehicles.
33. A summary of the methodology is available in each publication under the section Methodology.

4 Quality Management

4.1 Quality Assurance

34. 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

¹ Excluding Y33.9 where the coroner's verdict was pending in England and Wales, up to 2006. From 2007, deaths that were previously coded to Y33.9 are coded to U50.9.

² Y87.0 and Y87.2 are not included for England and Wales.

mechanism for reporting and reviewing revisions/corrections to Official Statistics; (3) Ensuring BQRs are published alongside reports and are updated regularly.

4.2 Quality Assessment

35. Each report was last quality assessed in 2022 and all deemed to be of low quality risk.

5 Relevance

5.1 User Needs

Users

36. In specific reference to the UK Statistics Authority report, The Use Made of Official Statistics, the four publications are used by:

- i) Government – Policy Making
- ii) Government – Policy Monitoring
- iii) Supporting Third Sector Activity (lobbying)
- iv) Academia – Facilitating Research

37. Additionally, by the nature of the content within the publications, these statistics play an important role in:

- i) Accountability (i.e. helping to ensure the MOD's accountability to the British public)

38. The key external users include the general public, the media, medical academics and the charitable sector e.g. Royal British Legion.

Strengths and weaknesses in relation to user needs

39. By sitting on a variety of internal steering groups Defence Statistics are well placed to understand the policy needs within the department and to either provide bespoke information or, where appropriate, reassess what is released in routine publications. For example, as a result of both internal and external interest in Land Transport Accident (LTA) deaths reported in the Deaths in the UK regular armed forces publication, Defence Statistics produced the new Annex in this publication. This provides more detail of LTA deaths (for example, breakdowns by Service, age group, time period, location, duty status etc) and a more detailed comparison to the UK population. The UK Armed forces deaths by medal earning theatre statistic was developed in response to requests from the public for information to populate local war memorials and for use at public addresses during the Remembrance Day period.

40. Defence Statistics Health carried out an external consultation in February in 2013 on the publication; Suicide in the UK regular armed forces. The consultation was carried out in order to assess whether there was a continuing need to present data back to 1984 for all tables and graphs, or, whether it was deemed reasonable to adjust this to the latest 20 years and avoid obscuring more recent trends. The result of the consultation saw the publication move to analysis of the latest 20 year period for numbers and rates whilst still providing time trend graphs back to 1984.

41. On the 16 October 2015 the Sub-Committee of the House of Commons Defence Select Committee announced an inquiry into the duty of care of Service personnel during military training: Beyond endurance? Military exercises and the duty of care inquiry. The Training and Exercise deaths in the UK armed forces Official Statistics has been developed in support of this inquiry and to provide Official Statistics to meet the continued public interest in the number of UK armed forces who die whilst on training and exercise. Publishing this information ensures

the public has equal access to the information and supports the MOD's commitment to release information where possible.

42. The UK Armed forces Operational deaths post World War II publication has been produced following increasing public demand in the form of Freedom of Information (FOI) requests for such information. Many of these requests are received in the months before Remembrance Sunday but are also received from Veterans of campaigns, researchers and local parish councils.
43. Defence Statistics Health also maintain a log of all internal and external deaths information requests (i.e. all PQs, internal ad hocs and FOI requests). This log is kept under constant review to identify possible changes to:
 - i) the format of publications
 - ii) the level of detail included that would help meet user needs.
44. Defence Statistics invite feedback on all external releases, with contact details provided on the first page of each publication.

6 Accountability and Reliability

6.1 Overall Accuracy

45. These publications meet user need as, together with Defence Statistics bi-annual casualty and fatalities Official Statistic; they form the single source of deaths statistics within the Ministry of Defence. Efficient methods are adopted to capture the Armed forces deaths information and considerable validation is undertaken to ensure that the information provided is accurate. Users trust the statistics and Defence Statistics receive numerous requests regarding the information presented.
46. The principal strength of this data is that it includes ALL deaths that occur in service among UK regular armed forces personnel, regardless of the cause of death. Defence Statistics receive weekly updates from the personnel administration system, and then on an annual basis we link those deaths to the single UK authoritative source (NHS central registries) to receive the death certificates. Thus, we are confident that the data presented is 100% complete and comprehensive.
47. A limitation of the publications is that some information is not available at the time of the annual updates. Data supply issues prevented the audit of cause of death with the death certificates for all armed forces deaths since 2014.
48. Please note cause of death information presented is subject to change. Some causes of death (including possible suicides) require a Coroner's report before the cause of death can be formally classified and there is often a time lag between when the death occurred and when the Coroner's inquest takes place. Since 2021 there has been an increased delay in the time taken to process an inquest, likely due to a backlog of cases caused by the COVID-19 pandemic³. This has resulted in a higher than usual number of suspected suicides awaiting verdict. In addition, there is often a delay accessing death certificate information from NHS Digital and The General Registrars Office Scotland where cause of death information is not available from military medical sources. These deaths are reported as 'other accidents' (for possible suicides) or 'cause not available' whilst waiting for final cause of death to be determined and can lead to revisions in the cause of death categories when Coroner's verdicts and death certificates are

³ [ONS: Suicides in England and Wales](#)

returned (see 'Changes to previously published data' section for more information about the extent of these revisions).

49. Due to the delay in the time taken to process an inquest it is likely the numbers of suicides presented in the 'Deaths in the UK regular armed forces' and 'Suicide in the UK regular armed forces' publications will rise once the outcome of these coroner inquests are known.

7 Timeliness and Punctuality

7.1 Timeliness

50. Publication dates for each of the statistics are set as the last Thursday in March every year. Except on the occasions when the Good Friday UK bank holiday falls on the last Friday in March, the publication date will be the first Thursday in April on these occasions. The training and exercise deaths report will also be updated on the last Thursday in September every year. The armed forces deaths by medal earning theatre will also be updated six weeks after the end of each continuing or new medal earning Operation.

7.2 Punctuality

51. The Official Accredited and Official Statistics reports have all been published on time to meet preannounced release dates. A one-year release schedule outlining the following financial year's publication date is published on the [gov.uk Official Statistics Release Calendar](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61222/gov-uk-official-statistics-release-calendar-2017-2018.pdf). Future publication dates will also be announced on the UK Statistics Authority hub at least one month in advance.

8 Coherence and Comparability

52. Each of the following statistics gives a time series comparison for comparability.

- i) The Deaths in the UK regular armed forces publication provides a ten-year rolling time series.
- ii) The Suicides in the UK armed forces publication presents data back to 1984 with analysis of the latest 20-year period.
- iii) The Training and Exercise deaths in the UK armed forces publication presents data back to 2000 with analysis of the whole time period.

This gives the user the opportunity to assess trends over time for different causes of death, providing a balance between presenting analysis for a sufficient period of time from which to provide meaningful data with the need to monitor the impact of MOD policy.

53. The UK armed forces deaths by medal earning theatre publication provides deaths since the end of World War II.
54. In order to allow comparison against the UK general population, Defence Statistics Health uses the World Health Organisations (WHO) International Statistical Classification of Diseases and Related Health Problems Tenth Revision (ICD-10).

9 Accessibility and Clarity

Accessibility

55. All the deaths publications listed in this report are published on the [gov.uk website](#). All publications are available from 0930 hours on the day of release.
56. Each report is published in an accessible PDF file. Tables and figures from each statistic are separately available in both accessible Excel and Open Data Source (ODS) formats to download. This allows for use in individual research and reports. Defence Statistics are currently ensuring all published information is equally accessible by everyone.
57. Each report is accompanied by detailed commentary in order to provide the user with key points and give understanding in each section.

10 Trade-offs between Output Quality Comments

58. Where possible Defence Statistics minimise the cost to Government of producing these statistics through using data already collated for operational delivery purposes within the MOD's Joint Personnel Administration system. As a large administrative system, data quality across fields is of varying quality and completeness and this limits the information available in real time, particularly on specific medical cause of death. This information is therefore captured from the death certificate and provided at cost from the National Health Service Medical Research Information Service (NHS MRIS) at the end of each year.

11 Cost and Respondent Burden

59. Annual updates of each publication take two members of staff three weeks to prepare, including data preparation, validation and report writing. In addition Defence Statistics Health incur a cost for each individual death certificate (approx £2.50 per electronic certificate) from NHS Digital.
60. The use of custom designed databases in conjunction with the automatically updating Microsoft Excel documents ensures the minimum production time is required, thus keeping production costs to a minimum and ensuring data are as timely as possible.

12 Confidentiality and Security

12.1 Confidentiality – Policy

61. All Defence Statistics staff involved in the production have signed a declaration that they have completed the government wide Protecting Information Level 1 training and they understand their responsibilities under the Data Protection Act and the Official Statistics Code of Practice. All staff involved in the production process have signed the Data Protection Act, and all MOD, Civil Service and data protection regulations are adhered to. All data are stored, accessed and analysed using the MOD's restricted network and IT systems.
62. Deaths data in England and Wales are supplied by and used with the permission of ONS. Deaths in Northern Ireland are supplied by and used with the permission of Northern Ireland Statistics and Research Agency (NISRA) and National Records of Scotland (NRS) supply deaths in Scotland.
63. Defence Statistics adhere to the principles and protocols laid out in the Code of Practice for Official Statistics and comply with pre-release access arrangements. The Defence Statistics Pre-Release Access lists are available on the [gov.uk website](#).

12.2 Confidentiality – Data Treatment

64. None of the deaths publications contain any identifiable personal data. The information presented in each publication has been structured in such a way to release sensitive deaths information into the public domain that contributes to the MOD accountability to the British public but which doesn't compromise the operational security of UK armed forces personnel nor that risk breaching the rights of the families of the deceased personnel (for which the MOD has a residual duty of care).

12.3 Confidentiality – Security

65. The files are all stored on a secure MOD network, with access to files limited to individuals in Defence Statistics Health. All MOD, Civil Service and data protection regulations are adhered to.