

Background Quality Report

Types of Injuries Sustained by UK Service Personnel on Op HERRICK in Afghanistan, 1 April 2006 to 30 November 2014

Overview

A one-off Official Statistic on Types of Injuries Sustained by UK Service Personnel on Op HERRICK in Afghanistan, 1 April 2006 to 30 November 2014 (this corresponds to the opening of the UK Field Hospital at Camp Bastion and the closure of Operation HERRICK), was published on 25 February 2016. The report provides statistical information on the types and mechanism of injuries sustained by UK Armed Forces personnel in Afghanistan.

1. Methodology and Production

UK Service personnel who sustained an injury on Op HERRICK only and were admitted to the field hospital are included in this report. Natural Causes (includes illness, disease and pregnancy) records have been excluded. Includes UK Service Personnel admitted to the field hospital who died of their wounds/injuries and those who survived to the point of leaving the field hospital. Excludes those who were Killed in Action (KIA) or Killed Non Enemy Action (KNEA).

Definitions:

Killed in Action (KIA): A battle casualty who is killed outright or who dies as a result of wounds or other injuries before reaching a medical treatment facility.

Killed Non-Enemy Action (KNEA): A casualty has died outright as a result of Non-Enemy Action.

Died of Wounds (DOW): A battle casualty who dies of wounds or other injuries received in action, after having reached a medical treatment facility. This only includes those who have died of wounds whilst under the care of Defence Medical Services.

Died Non-Enemy Action (DNEA): As casualty has died of their injuries after reaching a hospital as a result of Non-Enemy Action.

Field Hospital Admissions

- The number of UK Service personnel with an injury has been compiled from the Field Hospital data (J97 Field Hospital returns, Operational Emergency Department Attendance Register, Joint Theatre Trauma Register and Whole Hospital Information System).
- The numbers include UK Service personnel with an admission record. UK Service personnel who attend the Field Hospital but who are not admitted have been excluded.
- Individuals were counted for each event where they sustained an injury. If an individual has been injured on multiple events they were counted for each event where the injury reported is not linked to a previous event.
- For each event only the initial admission was included, no follow up admissions have been counted.
- The Field Hospital data started on 1 April 2006. Initially the data only included patients admitted to the field hospital. Attendance data was also received from 1 May 2010, attendance records were excluded from this report.

Trauma Admissions

The number of UK Service personnel with a trauma record has been compiled from the JTTR. This data is a subset of the Field Hospital cohort, every individual with a trauma record also has a Field Hospital record.

- Individuals were counted for each even where they sustained an injury. If an individual has been injured on multiple events they are counted for each event where the injury reported is not linked to a previous event.

Mechanism of Injury

Mechanism has been categorised as Explosion, Small Arms Fire, Other Battle Injury or Non Battle Injury. There were personnel injured by more than one mechanism but it was only possible to record one mechanism in the casualty data sources. Therefore in this publication each event had one mechanism of injury. These categories have been determined by the free text information in each Field Hospital record;

- **Explosion** includes injuries caused by either an IED (improvised explosive device) or mine strike.
- **Small Arms Fire** includes injuries caused by; a gun shot, grenade, RPG (rocket propelled grenade), mortar or IDF (indirect fire).
- **Other Battle Injury** includes battle injuries that do not fit into the above categories or where there isn't enough information available to determine the type of mechanism.
- **Non Battle Injury** includes injuries caused by a non-hostile act e.g. road traffic accidents, trips and falls, heat injury or illness, bites and stings or sports injuries. There were a small proportion of personnel injured by explosions and small arms fire that were non battle injuries, such as negligent discharge. These casualties are included in Explosion and Small Arms Fire.

UK Service personnel with Natural Causes (includes illness, disease and pregnancy) have not been included.

Types of Injuries

The injury details of all UK Service personnel with a trauma record have been coded using the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10).

Number of UK Service Personnel

- The tables show the number of UK Service personnel who sustained an injury or illness displayed by ICD-10 Chapter.
- Individuals were counted once per ICD-10 Chapter. For example an individual could have multiple injuries that have different ICD-10 descriptions but they all fall into the same ICD-10 Chapter, in this case that person would be counted once for that ICD-10 Chapter. Whereas if the multiple injuries fall into different ICD-10 chapters then that person is counted once for each ICD-10 Chapter.

Number of Injuries/Illness

- The tables show the number of injuries/illnesses sustained by UK Service personnel displayed by ICD-10 Chapter.

- All of the injuries sustained have been counted, regardless of whether multiple injuries relate to one person.

Rates and Significance Testing

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

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 difference of rates excludes 0 then the statistical test for the difference between the two values would be significant at the 0.05 level. The rates presented have been rounded to 1 decimal place and the confidence intervals presented have been rounded to 2 decimal places.

2. Background Notes

Field Hospital Data

J97 Returns

Defence Statistics received information on the patients who were admitted to or attended the UK Field Hospital at Camp Bastion from the J97 Returns. The J97 return also included those patients admitted to the following two locations:

- The HQ of Multinational Brigade (South) in Kandahar maintains a Field Hospital which provides support for International Security Assistance Force (ISAF) and Coalition personnel. This facility includes additional capabilities to that of the Role 2 including specialist diagnostic resources and specialist surgical and medical capabilities. (Information on Role 1,2,3 or 4 medical support can be found here: <http://www.nato.int/docu/logi-en/1997/lo-1610.htm>)
- In Kabul, UK Personnel may be admitted to either the French or Greek Field Hospital. There is also a US facility which provides physiotherapy and dentistry.

Data is available from 1 April 2006 to 22 September 2014 due to the closure Camp Bastion. From 23 September 2014 to 30 November 2014 Field Hospital data was sourced from Coalition Medical Facilities only.

The data quality of J97 Returns is reasonable. Service numbers and nationalities are sometimes entered incorrectly. The level of detail provided in the 'Nature of Injury' field, which is used to help determine whether a casualty is correctly recorded as Battle Injury, Non Battle Injury or Natural Cause, can be quite poor and hard to categorise, especially when there are no other casualty records to compare against.

Operational Emergency Department Attendance Register (OpEDAR)

Up until 31 December 2011, the OpEDAR database recorded all patients who had attended or been admitted through the A&E department of the UK operational field hospital. The data included all patients including UK Service personnel, other NATO forces, civilians (both UK and nationals) and detainees. This register was replaced with a new IT system; Whole Hospital Information System (WHIS).

Whilst most of the data is captured via drop down menus, some fields, including 'Diagnosis' were free text and thus the quality of medical information captured is variable.

OpEDAR captures diagnosis at the initial assessment. It is possible for diagnosis to change over the course of treatment or for a patient to have multiple conditions, however, this information is not captured in this database

Whole Hospital Information System (WHIS)

The WHIS was the Patient Administration system for the field hospital at Camp Bastion. It commenced 1 October 2010 and ceased on 22 September 2014 when the field hospital closed. The WHIS system was decommissioned and returned to the UK.

The data quality of WHIS is reasonable. The majority of Service numbers could be validated but there are some records with blanks in this field so this data cannot be used. There is a Discharge Method column which determines whether the patient was admitted to the field hospital and a Patient Group field to determine whether a patient has a Battle Injury, Non-Battle Injury or Natural Causes (including Disease), these are fully populated.

Joint Theatre Trauma Register (JTTR)

The JTTR commenced during 2003 to improve the care of the seriously injured patient from the point of injury to the point of discharge from hospital treatment. A casualty is entered onto the JTTR if the incident triggers activation of the trauma team in a deployed field hospital.

The data quality of JTTR is reasonable. Pre 2010 Service numbers and nationalities were sometimes entered incorrectly, meaning UK Personnel could occasionally be missed from the overall number of casualties. Since 2010 the JTTR data was linked to the Joint Personnel Administration system (JPA) which has resolved this problem. The Type of Injury was recorded for all personnel and aligns with other sources of casualty data.

International Statistical Classification of Diseases and Related Health Problems (ICD-10)

The Types of Injuries presented are based on ICD-10 chapters (see links below) e.g. Injuries to the head, Injuries to the hand and wrist etc.

Instruction Manual

http://apps.who.int/classifications/icd10/browse/Content/statichtml/ICD10Volume2_en_2010.pdf

ICD-10 Version:2010

<http://apps.who.int/classifications/icd10/browse/2010/en>

3. Relevance

This report has been published to support the MOD's commitment to release information on operational casualties wherever possible. It was agreed to produce a single bulletin which will be published on the Gov.uk website.

The MOD are committed to making information on Operational Casualties public but have to draw a line between how much information is provided regularly in the public domain and information which compromise operational security of UK Armed Forces personnel or which risks breaching an individual's right to medical confidentiality.

The release is used to answer parliamentary questions and Freedom of Information requests. The report is also useful for internal customers in PJHQ, the Ops Directorate and the single Services.

This report is currently limited in terms of the amount of information it can include, specifically in relation to the type of casualties seen, as it can harm the Operational security of service personnel that are still deployed on Operations and due to the small numbers of casualties on current operations, it may affect the patient's rights to medical confidentiality.

4. Accuracy and Reliability

Defence Statistics used J97 Field Hospital returns, OpEDAR, JTTR and WHIS to collate the Types of Injuries statistics. Validation routines on each of the datasets was carried out to check the names and Service numbers of casualties, to ensure the accuracy in counting UK Military casualties and to check whether they've previously been included in the statistics. Defence Statistics also then carry out additional validation of the casualty and fatality data by linking it with three other sources of data, namely the Defence Patient Tracking System (DPTS), Aeromedical Evacuation Control Cell (AECC) and the Notification of Casualty (NOTICAS). This allows us to check on both the Operational Theatre and the classification of injury/illness/death. Any mismatches between the datasets are investigated and amendments are made to the raw data if necessary before the report is processed, ensuring accuracy.

The main sources of error within the report sit in the source data itself. It's possible for Service numbers and nationalities to be recorded incorrectly. If that casualty does not appear in another dataset, Defence Statistics have no other sources to validate against and will assume they have been entered correctly at source. It is therefore possible to exclude a UK casualty if the nationality and service number have been recorded incorrectly.

5. Timeliness and Punctuality

This one-off report will be published on 25 February 2016.

This report is being published now as combat operations in Afghanistan have ended. It has taken Defence Statistics time to validate all data sources and cross check them against each other for accuracy, which was required prior to publication.

6. Accessibility and Clarity

The report was published on the Gov.UK website at:

<https://www.gov.uk/government/publications/mod-national-and-official-statistics-by-topic>.

It can also be accessed via the UK National Statistics Publication Hub or through an internet search engine such as Google.

24 hour pre-release access to the report was available to a limited distribution list within the MOD. The full list can be found in the Pre-Release access list available on the Gov.UK website.

The statistics provided were straightforward counts, rates and percentages in tables. Some sections include statistical significance testing for which explanation is provided in the report

and more information in this background quality report. Each table has a number of footnotes clarifying what is included/ excluded and provides appropriate caveats.

7. Coherence and Comparability

The Defence Statistics figures in the Types of Injuries Sustained by UK Service personnel on Op HERRICK in Afghanistan are the definitive statistics in the MOD. There are no other publically available regular publications on the types of injured casualties with which to ensure coherence.

The information provided in this statistical bulletin is comparable in terms of field hospital admissions with those presented in the Statistical releases for Afghanistan. These statistical releases presented numbers of UK Service personnel and entitled civilians who died, were very seriously injured and seriously injured, who were admitted to a Field Hospital or who were aero-medically evacuated.

8. Trade-offs between Output and Quality Components

The main trade-off is between the level of information presented in the output, without breaching medical confidentiality or compromising operational security.

The MOD are committed to making information on Operational Casualties public but have to draw a line between how much information is provided regularly in the public domain and information which compromise operational security of UK Armed Forces personnel or which risks breaching an individual's right to medical confidentiality.

9. Assessment of User Needs and Perceptions

Defence Statistics developed the Types of Injuries Sustained by UK Service Personnel on Op HERRICK in Afghanistan report in response to increased interest from the general public and Ministers for the types of injuries sustained by UK Service Personnel in Afghanistan.

Users are encouraged to provide feedback on the publication itself and Defence Statistics also welcome feedback from any other internal and external customers.

There is currently no process in place to assess the satisfaction of users for this report, though it is an objective of Defence Statistics (Health) to assess each part of the quality report for all of our Official and National Statistics. This will result in an assessment of user needs and may lead to a consultation process for internal and external users to assess their satisfaction with the report.

10. Confidentiality, Transparency and Security

Security

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. The databases supplied by our external customers are password protected.

Confidentiality

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 pseudo-anonymisation process can only be reversed in exceptional circumstances controlled by the Caldicott Guardian under strict protocols.

The tables in this report have been scrutinised to ensure individual identities have not been revealed inadvertently. In line with Defence Statistics rounding policy (May 2009), in keeping with the Office for National Statistics Guidelines, all numbers fewer than five have been suppressed and presented as '~'. Where there is only one number in a row or column that is fewer than five, the next smallest number (or numbers where there are tied values) has also been suppressed so that numbers cannot simply be derived from totals.

Transparency

The Types of Injuries Sustained by UK Service Personnel on Op HERRICK in Afghanistan report is currently a basic statistic, which contains tables and identifies any issues or caveats to the data with limited commentary. This quality report provides further information on the method, production process and quality of the output.

The Types of Injuries Sustained by UK Service Personnel on Operations in Afghanistan report is an Official Statistic and was produced in line with the UK Code of Practice for Official Statistics. The publication date was pre-announced on the UK National Statistics Publication Hub. 24 hour pre-release access was provided to an agreed list of people, with the list being available on the Gov.UK website

(<https://www.gov.uk/government/publications/defence-statistics-pre-release-access-list>). A ministerial submission accompanies the pre-release publication, which contains the key information about the publication and also lines to take for Defence media communications.

Contact details

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We welcome feedback on this Background Quality Report or any of the statistics mentioned.