

# **Background Quality Report**

## **Quarterly NHS Commissioning Population Statistics: based on military and civilian medical patient registrations**

### **1. Introduction**

1. This quarterly Official Statistic provides summary statistics on the number of serving UK Armed Forces personnel and civilian personnel with a Defence Medical Services (DMS) registration. Reports are released quarterly, eight weeks after the reporting point.

### **Background**

2. This report is being released to enable the MOD, the Department of Health (DH), NHS England (and devolved administrations), Public Health England, Local Area Authorities (LAA) and Clinical Commissioning Groups (CCG) to make informed decisions regarding the commissioning of clinical services in different parts of the country depending on the size and make-up of the populations requiring access to care, and to contribute to the MODs commitment to release information where possible.
3. Data are presented for personnel with a DMS registration. This includes UK Armed Forces Serving personnel comprising Regular personnel, Gurkhas, Officer Designates and Full Time Reserve Service (FTRS) personnel with a Full Commitment (FC). Civilian personnel data presented comprise Service personnel family dependants and MOD employed civilian personnel who are entitled to care.
4. Across the UK the systems and policies regarding the provision of healthcare varies between the devolved administrations of England, Wales, Scotland and Northern Ireland.
5. Gaining an understanding of the local population is vital to any assessment of health. The make up of the UK Armed Forces population is very different to that of the UK as a whole, which has implications for the planning and provision of public services. The UK Armed Forces population is typically young males who tend to be physically fit, but due to the nature of their employment can sustain more injuries than in the civilian population.
6. The nature of military employment also means that the population is transient, and regularly moves around the country and to overseas locations.
7. Throughout 2013 the provision of healthcare by the MOD also changed. Prior to 2013, the Single Services (Naval Service, Army and RAF) were responsible for the provision of care through the medical centres located at their units. From April 2013 clinical provision was restructured so that one headquarters organisation; Defence Primary Health Care (DPHC), became responsible for the provision of care across all MOD medical centres in the UK and overseas (excluding Operations). The project achieved Initial Operating Capability on 1 April 2013 when the command and control of Medical Centres in the South region, Regional Occupational Medicine Departments, Regional Rehabilitation Units, and Defence Community Mental Health

units started to pass from the single Services to the new HQ DPHC. The transfer of medical centres in the remaining regions began in October 2013, with Full Operating Capability achieved in April 2014.

## Methodology

8. In the previous publication, released 26 February 2015, Defence Statistics noted that the numbers of personnel with 'unknown' patient registration location details had increased. Investigations revealed a large proportion of these were due to blank registration location details in the electronic patient record data warehouse. This issue has continued through this quarter with 8,600<sup>P</sup> UK Armed Forces personnel with no patient registration location details as at 1 April 2015. Defence Statistics is working to investigate this issue. These records are included in data presented in Table 1, and are categorised as those with an 'unknown' registration location. All subsequent tables are based on specific locations and therefore do not include these records.
9. The analysis provided in this publication is based on patient registration information from the Defence Medical Information Capability Programme (DMICP) and cross-referenced with the Joint Personnel Administration system (JPA) for Service personnel.
10. A DMS registration<sup>1</sup> at a MOD medical centre means that the MOD are responsible for providing long term, permanent and full primary healthcare; however these individuals will be referred to the NHS for secondary healthcare provision as required. In the first report in this series (published on 25 September 2013) all Regulars, Gurkhas, Officer Designates and FTRS personnel were included. Following a methodology review, from the second report (published on 28 November 2013) onwards, registration types have been checked and any individuals with a 'non DMS' registration have been excluded. A 'non-DMS' registration denotes that a persons Primary Healthcare is delivered by the NHS, with a record also being held on DMICP. This record is used for when they access healthcare facilities in DMS medical centres for emergency or ad hoc treatment, and for treatment whilst on operations.
11. FTRS personnel on Home or Local Commitment (excluding aircrew) are not DMS entitled. These personnel should hold a 'non DMS' registration and have a registration within the NHS. FTRS on Full Commitment (FC) and FTRS aircrew should be DMS registered. However, some of these individuals are registered incorrectly and so are excluded from this report. It is also possible for some individuals such as FTRS on Local or Home Commitment, foreign military personnel and civilian employees to incorrectly hold a DMS registration. Such personnel are incorrectly included in this report.
12. Following a methodology review, two separate errors led to some personnel being double counted in the first report published on 25 September 2013. The first error was due to the fact some military personnel had two separate medical IDs. These were treated separately, when in fact they referred to the same individual. The second was due to an error in processing the data. The size of the double counting errors in the previous report was approximately 6,200 individuals (5,800 military and 400 civilians). This impacted mainly on the London and Birmingham areas in the following places:

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<sup>1</sup> DMICP Process – Patient Registration, Transfer and Ceasing from DMS Care PHCUG/DMICP Process\_PatientRegistration/1.0

- DPHC Regions of London and South East (around 5,100 military personnel were double-counted) & Wales and West Midlands (around 620 military personnel & 400 civilians were double-counted).
- LAA Regions of Inner London (around 2,650 military personnel were double-counted), Outer London (around 2,450 military personnel were double-counted) and West Midlands (around 620 military personnel & 400 civilians were double-counted).
- CCG Regions of NHS Central London (Westminster) (around 1,020 military personnel were double-counted), NHS Hillingdon (around 860 military personnel were double-counted), NHS Hounslow (around 580 military personnel were double-counted), NHS Greenwich (around 900 military personnel were double-counted), NHS Lambeth (around 1,600 military personnel were double-counted), NHS Richmond (around 110 military personnel were double-counted), and NHS Birmingham CrossCity (around 620 military personnel & 400 civilians were double-counted).

All other regions in this report were largely unaffected (no more than 15 people were double counted in any other region). These errors were corrected for the second report (published on 28 November 2013) onwards.

13. Personnel registered at a MOD medical centre in Germany or Cyprus have been presented in these categories. This will enable stakeholders to identify any changes in the populations of these areas, and any subsequent impact on UK MOD medical centres, for example the drawdown of troops in Germany and the return of these personnel to UK locations.
14. At any time there are large numbers of UK Armed Forces personnel stationed/deployed overseas. In order to allow commissioning bodies to make decisions regarding the possible numbers of personnel who may need access to services, it is important to include as many of these personnel as possible in the analysis. Therefore, for UK Armed Forces personnel registered at medical centres in overseas locations (other than Germany and Cyprus), or on Operations at the time of the data extract, Defence Statistics (Health) identified the medical centres at which they were previously registered in the last 12 months. Where this was a UK, Cyprus or Germany medical centre, the personnel have been allocated to their most recent UK, Cyprus or Germany location and presented for the corresponding region. These figures have been presented as 'registrations'. Where a previous UK, Cyprus or Germany medical centre could not be identified in the last 12 months they have remained categorised as 'Other overseas'.
15. Due to movements of UK Armed Forces personnel, potentially to a non DMICP enabled location, and the movements of troops on deployment, it is necessary to have data management practices set up for the handling and movement of patient records. These practices perform a legitimate function, but sometimes records are not correctly moved out of these locations and become a data quality issue. For Service personnel registered at data management practices, Defence Statistics (Health) identified the medical centres at which they were previously registered in the last 12 months. Where this was a UK, Cyprus or Germany medical centre, the personnel have been allocated to their most recent UK, Cyprus or Germany location and presented for the corresponding region. These figures have been presented as

'registrations'. Where a previous UK, Cyprus or Germany medical centre could not be identified in the last 12 months they have remained categorised as 'unknown'.

16. Where UK Service personnel are incorrectly registered at non primary care locations (e.g. Regional Occupational Health Teams (ROHT), Regional Rehabilitation Units (RRU), Departments of Community Mental Health (DCMH) and Primary Care Rehabilitation Facilities (PCRF)), Defence Statistics (Health) identified the medical centres at which they were previously registered in the last 12 months. Where this was a UK, Cyprus or Germany medical centre, the personnel have been allocated to their most recent UK, Cyprus or Germany location and presented for the corresponding region. These figures have been presented as 'registrations'.
17. Where civilian personnel are registered overseas, at a data management practice or at non primary care practices such as ROHTs, RRUs, DCMHs etc, they have been put in an 'Other' category. Previous registrations for civilians were not looked into due to of the sporadic nature of their care patterns and locations. Civilians under military care are known to move between NHS and military practices. As such, tracing back civilians to their last known UK, Cyprus or Germany military medical centre could create a false impression of civilian registrations. It is not possible to tell when civilians are registered under NHS care and as such, current practice registrations only are used in this report.
18. All UK medical centres identified from DMICP were mapped to an NHS Clinical Commissioning Group (CCG) using a list published by the DH and provided from the Office of National Statistics (ONS).

## 2. Relevance

### Coverage

19. The report findings are split into five main sections, the first four of which are made up of two subsections. Each of the first four main sections refers to a specific country in the UK: England, Wales, Scotland or Northern Ireland. For each of the four countries, NHS Commissioning population statistics have been presented by Clinical Commissioning Group (or equivalent for devolved administrations) and by Local Area Authority (or equivalent for devolved administrations). The two presentation types make up the two subsections for each country. In the fifth main section, Defence Primary Health Care findings are presented. Following this are a number of Annexes which present tables on age and gender in relation to each of the five main sections. There is also a mapping table, showing which Clinical Commissioning Groups fit into which DPHC regions, and a table showing which UK MOD medical centres offer care to the dependants of Service personnel.
20. The report also presents figures for registrations not in the UK. It shows the number of personnel who are currently registered in Germany, Cyprus, and those records from Operations and other non-UK locations whose previous registrations over the last 12 months were also not in the UK. This group includes registrations in:
  - British Forces Germany (BFG)
  - Cyprus
  - Other overseas locations
  - Operations (presented as "Other overseas")
  - Exercises (presented as "Other overseas")

- Reserve practices
- A data management or holding practice (presented as "Unknown")
- Decommissioned Naval Service vessels (presented as "Unknown")
- Blank records - persons without a named medical centre and/or without a specified registration type - (presented as "Unknown")

## **User Needs**

21. This statistical notice will provide information to commissioning and public health bodies to enable them to understand the MOD population at risk and in order that the needs of the Armed Forces can be considered in the commissioning of clinical services and provision of public health initiatives. Information has been presented by<sup>2</sup>:
- Clinical Commissioning Group and Local Area Authority (England)
  - Local Health Board and Local Area Authority (Wales)
  - Community Health Partnership and Council Area (Scotland)
  - Local Commissioning Group and Local Government District (Northern Ireland)
  - Defence Primary Health Care Region (UK)
22. The information can also be used by NHS England, Public Health England, the DH, equivalent bodies for the devolved administrations, local government departments and charities to enable a better understanding of the MOD population at risk. Defence Statistics aim to carry out future internal and external consultations to review the NHS Commissioning Official Statistic to ensure it is coherent and continues to meet users' needs.

## **3. Accuracy**

23. Individual MOD medical centres are responsible for ensuring the accuracy of clinical and registration information in the electronic patient record, which forms the 'front end' of the Defence Medical Information Capability Programme (DMICP). All coded (not free text) information is saved into the central data warehouse at regular intervals; usually every three days. The DMICP system is a large clinical and administrative database and is subject to the data quality issues of any large administrative system with data collated by a large number of medical and administrative staff for clinical delivery purposes.
24. Demographic data for UK Armed Forces personnel is cross referenced with the Joint Personnel Administration (JPA) system. This is the MODs 'official' source of the truth for personnel information and is used to maintain personnel records and pay their salaries. Defence Statistics hold cleansed and validated monthly snapshots of JPA data for the production of National and Official Statistics. Extracts are taken from JPA each month and stored on a separate database to form a time series. The extracts are taken six calendar days after the end of the month and the situation as at the first of the month is calculated. This ensures most late-reporting is captured.
25. The data goes through a series of automatic validation checks and edits to ensure the basic quality of the data and a series of derived fields are calculated.

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<sup>2</sup> As advised by the Office of National Statistics (ONS)

26. The data is then made available to Defence Statistics single Service manpower branches. They undertake a wide range of validation checks and implement specialist editing rules using their expert knowledge and experience as well as data obtained from other sources within the Department.
27. The main sources of potential error in the NHS Commissioning population statistics are as follows:
- Incomplete or inaccurate data from the DMICP or JPA system
  - Data processing errors resulting in incorrect data outputs
  - Manual error during production of report tables and commentary
28. To ensure that potential errors are identified and resolved, Defence Statistics (Health) implement a series of data quality checks throughout the report production. When required, these checks involve close liaison with personnel in DPHC headquarters who are responsible for providing service delivery, to ensure the accuracy of the figures published.

## **4. Timeliness and Punctuality**

### **Timeliness**

29. Data are entered into the electronic patient record in real time and the data warehouse is updated every three days. Defence Statistics (Health) extract data, and publish NHS Commissioning figures on a quarterly basis.
30. Figures are published eight weeks after the end of the reporting period. This is due to the time lag in data availability, and to give time to process the figures. It is also so that the dates of publication are around the same time as the similar Quarterly Location Statistics which Defence Statistics publish one week prior to this statistic.

### **Punctuality**

31. The Official Statistics reports have 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 Defence Statistics website. Future publication dates will also be announced on the UK Statistics Authority hub at least one month in advance.

## **5. Accessibility and Clarity**

### **Accessibility**

32. NHS Commissioning population statistics are published on the GOV.UK website (<https://www.gov.uk/government/collections/defence-personnel-nhs-commissioning-quarterly-statistics-index>). The publications are available from 0930 hours on the day of release.

### **Clarity**

33. Users with an interest in the key findings can read a short summary of main messages immediately following the Introduction.
34. The report findings are split into five main sections, the first four of which are made up of two subsections. Each of the first four main sections refers to a specific country in the UK: England, Wales, Scotland or Northern Ireland. For each of the four countries, NHS Commissioning population statistics have been presented by Clinical Commissioning Group (or equivalent for devolved administrations) and by Local Area Authority (or equivalent for devolved administrations). The two presentation types make up the two subsections for each country. In Section Five, Defence Primary Health Care (DPHC) findings are presented. Following this are a number of Annexes which present tables by age and gender in relation to each of the five main sections. There is a mapping table, showing which Clinical Commissioning Groups fit into which DPHC regions and a table which shows the MOD medical centres in the UK which offer care to the dependants of Armed Forces personnel.
35. All tables in the report are separately available in MS Excel format for users to download (these are located on the Defence Statistics website alongside the main report). This allows for use in individual research and reports.

## **6. Coherence and Comparability**

### **Coherence**

36. The NHS Commissioning population statistics do cohere with Defence Statistics' Quarterly Location Statistics, which presents information on the stationed location of all UK Regular service and civilian personnel by UK Unitary Authority and Local Authority Area, as well as all international global locations. Although there are differences regarding the inclusion of certain groups of individuals between the two reports (e.g. Quarterly Location Statistics exclude reservists and Gurkhas; NHS Commissioning population statistics include full time reservists and Gurkhas), there is overlap between the two reports on the location of military personnel. The CCGs with the largest number of reported medical registrations in the Commissioning statistics also stand out as being the most heavily populated areas in terms of stationed locations within the military. However, the numbers of UK Armed Forces presented by location will be also different to those presented by Defence Statistics(Tri) as they are based on patient registration data and in order to ensure access to care is available for the maximum population in a region, where possible, overseas registrations have been tied back to a UK medical practice as in the majority of cases patients will be returned to the UK to access secondary health care.
37. Civilian data is not coherent between NHS Commissioning population statistics and the Quarterly Location Statistics. This is because the NHS Commissioning population statistics includes registrations of any civilian receiving primary care from MOD. This includes families of service personnel, regardless of whether they carry out MOD duties or not. Whereas the Quarterly Location Statistics, only account for civilians that work for MOD (such as Royal Fleet Auxiliary).
38. NHS Commissioning population statistics are coherent with location statistics produced by the Office for National Statistics (ONS). They follow the same presentational order, and use the same area boundaries and codes for Clinical

Commissioning Groups (or devolved administrative equivalent) and for Local Area Authority (or devolved administrative equivalent).

### **Comparability Over Time**

39. Figures 1 and 2 have been added to the main report from 01 July 2014 to aid visualisation of the data provided in the tables. These figures show the changes in the number of registrations by quarter for UK Armed Forces personnel and civilians who are registered within the UK.
40. Tables containing UK Armed Forces and civilian breakdowns (Tables 1 to 10) in the main report show the changes in population figures over the latest quarter (for all UK Armed Forces, and for civilians). Tables containing age and gender breakdowns in the annexes of the report (Tables A1.1 to D2.6) show changes in the population figures at the overall countrywide level only (top row of each table). The following arrows indicate percentage changes:
- $\triangle$  There has been between a 5% and 10% increase since the previous quarter;
  - $\blacktriangle$  There has been a greater than 10% increase since the previous quarter;
  - $\nabla$  There has been between a 5% and 10% decrease since the previous quarter;
  - $\blacktriangledown$  There has been a greater than 10% decrease since the previous quarter.
41. Percentage changes have not been shown where population figures were below 20 in both the current and previous quarters. This is because a difference of a small number of people can show a large percentage change, creating a false sense of change over the three month period.
42. Where no arrow is presented, but the population figure is at least 20 in the current and/or previous quarter, the percentage change between the population numbers over the last quarter is less than 5%.

## **7. Trade-offs between output quality components**

43. Where possible Defence Statistics (Health) minimise the cost to Government of producing these statistics by using data already collated for operational delivery purposes within MOD. The main source of data used for compiling these statistics is the Defence Medical Information Capability Programme (DMICP) data warehouse. Patient registration data (for military personnel only) from DMICP were cross referenced with the MOD's Joint Personnel Administration (JPA) system for UK Armed Forces personnel. Both data systems are large administrative databases, and as such, data quality across fields is of varying quality and completeness. This limits information available to customers in our statistics and requests for information.

## **8. Assessment of User Needs and Perceptions**

44. In reference to the UK Statistics Authority report, The Use Made of Official Statistics, the NHS Commissioning population statistics are used by:
- (i) MOD – Policy making and monitoring
  - (ii) NHS – Clinical service delivery



- (iii) Local Government – Public Health service delivery
- (iv) Academia – Facilitating research
- (v) Charities - Service delivery

45. External organisations such as NHS trusts and local Government use the reports and location figures as part of estimating and planning the provision of primary care e.g. to assess the numbers and needs of Service personnel and civilians in their local area.

### **Description of Users and Usage of Statistics**

46. The NHS Commissioning population statistics have been published in response to user demand. Interest has come from internal MOD policy makers, the NHS and charities.
47. The publication of the statistics also plays an important part in ensuring the Department's accountability to the British public.

### **Strengths and Weakness in Relation to User Needs**

48. Users external to the MOD are encouraged to give feedback via the MOD website. The publication provides details of how to give feedback.
49. Defence Statistics (Health) aim to carry out future internal and external consultations to review the NHS Commissioning Official Statistic to ensure it is coherent and continues to meet users' needs.
50. The key strength of the NHS Commissioning data is that the registration data used is the information held at each MOD medical centre in order to provide patient care. The timeliness of this data and the regular updates to the data model mean the most up to date information is available for analysis.
51. The key weakness is that Defence Statistics (Health) have no control over the quality of the raw data used to collate figures. The registration data in DMICP is input by administrative staff at the medical centres. It is possible for such staff to incorrectly register a patient and/or assign them the wrong registration status. User error and turnover of administrative staff can create such data quality issues. In order to partially overcome this problem, military data are matched to the JPA system, which is likely to have higher standards of data quality in relation to personnel administration data (though not in terms of medical data such as the medical practice an individual is registered at). For civilians, no such system for matching data exists.

## **9. Performance cost and respondent burden**

### **Operational Cost**

52. The production of the NHS Commissioning statistic has required 0.3 FTE in 2013 to develop the new statistic.
53. The NHS Commissioning report uses administrative data sources already collected by the MOD. As such, there is no respondent burden, and the main operational cost to production of the statistics is for quality assurance and data interpretation.

## 10. Confidentiality, Transparency and Security

54. All Defence Statistics (Health) staff involved in the production of NHS Commissioning Population statistics 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.
55. Defence Statistics (Health) also adhere to the Defence Statistics (Manpower) Rounding Policy. Defence Statistics (Health) ensure that the NHS Commissioning data is kept confidential by holding this data on a secure server. Only individuals who work on the reports have access to the data. In presenting patient registration information, Defence Statistics (Health) provide as much detail as possible, whilst maintaining the confidentiality of serving UK Armed Forces personnel and civilian patients under military care.
56. Defence Statistics (Health) 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 (<https://www.gov.uk/government/statistics/defence-statistics-pre-release-access-list>).