Background Quality Report
Alcohol Usage in the UK Armed Forces

1. Introduction
1.1 Overview

1. This one-off report provides statistics on a Defence initiative to introduce an alcohol screening tool (the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C)) and brief advice (an Alcohol Brief Intervention) for all UK Armed Forces Personnel attending routine dental inspections from 1 June 2016. This report includes data collected between 1 June 2016 and 31 May 2017.

1.2 Background and Context

2. Alcohol-related harm impacts on the individual and society and represents a major public health problem. Public Health England (PHE) state that the consumption of alcohol has almost doubled since the 1950s and 25% of adults in England drink more than 14 units per week[1]. At the individual level, alcohol consumption has multiple short, medium and long term negative health effects, ranging from poor mood, anxiety, accidents and injury, weight gain and reduced fitness, to possible long-term effects of increased cardiovascular disease, diabetes and cancer risks. It is a major cause of breakdown in relationships, trauma, hospitalization, prolonged disability and early death[2].

3. Previous evidence published in academic literature indicates that alcohol misuse within the UK Armed Forces population is significantly higher than in the UK general population[3,4], with estimates of increased risk drinking levels within the Armed Forces ranging from 39%[5] to 67%[3] of the total Service. There is a tradition of alcohol consumption in the Armed Forces and drinking in moderation, as in wider society, is still considered to be a significant part of bonding and unit cohesion. However, excessive alcohol use has immediate effects that increase the risk of many harmful health conditions. An institute of Employment Studies report on Alcohol in the Armed Forces[6] identified a requirement to introduce interventions to reduce the impact of excessive alcohol consumption in Armed Forces personnel. The recommendations support the use of alcohol screening tools, the provision of education and training for practitioners and an agreed protocol of care.

---

[1] Delivering better oral health: an evidence-based toolkit for prevention
https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention
[2] AUDIT The Alcohol Use Disorders Identification Test Guidelines for Use in Primary Care Second Edition, Thomas F. Babor, John C. Higgins-Biddle, John B. Saunders, Maristela G. Monteiro World Health Organization.
http://www.alcohollearningcentre.org.uk/_library/WHO_-_AUDIT.pdf
[3] Fear NT, Iversen A, Meltzer H, Workman L, Hull L, Greenberg N, et al. Patterns of drinking in the UK Armed Forces. Addiction. 2007;102(11):1749-59
[4] Henderson A, Langston V, Greenberg N. Alcohol misuse in the Royal Navy. Occupational medicine. 2009;59(1):25-31
[5] Field PR - Service Evaluation of an alcohol screening tool (AUDIT-C) and the delivery of alcohol brief interventions within Defence Dental Centres : Masters in Public Health Dissertation 2014
[6] Tamkin P. Alcohol and the Armed Forces. Defence Human Capability Science and Technology Centre: Institute of Employment Studies (DHCSTC), 2013

4. National Institute of Clinical Excellence (NICE) guidance on alcohol recommends that healthcare professionals ask patients about alcohol consumption and that brief interventions (short, structured advice) and/or signposting to support services are delivered[7]. PHE[7] and NICE[8] recommend the use of alcohol screening tools and Alcohol Brief Interventions (ABI) as tools to help reduce levels of alcohol misuse, and therefore reduce the risk of adverse health outcomes.

5. Dental teams are in a unique position to provide brief advice and support patients who drink above the lower risk levels as they have regular contact with patients during dental check ups[9]. Drinking above the lower risk guidelines adversely affects oral health in a range of ways including the increased risk of oral cancers and dental trauma and facial injury through accidents or violence.

6. A MOD alcohol screening tool and alcohol brief advice initiative was implemented on the 1 June 2016 across Defence Primary Healthcare (DPHC) dental centres as part of routine dental inspections. Screening is implemented by use of a World Health Organisation developed questionnaire (the AUDIT-C). Questions are delivered by trained dental centre staff and accompanied by brief advice (Alcohol Brief Intervention) if required and signposting of personnel to support services where appropriate. The overall goals of screening and providing brief advice to patients includes raising awareness of drinking guidelines and whether patients are exceeding these lower risk levels and offering them feedback on how their drinking may adversely affect their oral and general health.

7. The Alcohol Use Disorders Identification Test (AUDIT) is a tool developed by the World Health Organization (WHO) as a 10 question screen to assist in identifying potentially increased risk drinking. The Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) was developed as a shortened three question version of the AUDIT intended for rapid use in a clinical environment to help identify patients whose alcohol use may potentially place them at increased risk[10]. The AUDIT-C has been used in a wide range of primary care settings and populations but this is the first time it has been used at scale in a military population.

8. The AUDIT-C consists of three questions scored on a scale of 0-4. Patients are invited to complete the questions at the dental centre when attending for a dental inspection; they are free to refuse to do so.

9. Each of the scores from the three questions were added together to produce a score on a scale of 0-12[11].
   - A score of 0 indicates non-drinkers and no risk of harm from alcohol.

---

[7] Delivering better oral health: an evidence-based toolkit for prevention
https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention
[8] NICE 2015. Oral health promotion: general dental practice. https://www.nice.org.uk/guidance/ng30
[9] Delivering better oral health: an evidence-based toolkit for prevention
https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention
[10] AUDIT The Alcohol Use Disorders Identification Test Guidelines for Use in Primary Care Second Edition, Thomas F. Babor, John C. Higgins-Biddle, John B. Saunders, Maristela G. Monteiro World Health Organization.
http://www.alcohollearningcentre.org.uk/_library/WHO_-_AUDIT.pdf
[11] Delivering better oral health: an evidence-based toolkit for prevention
https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention

- A score of less than five indicates that the patient is at a lower risk of harm from alcohol.
- A score of five or more indicates that the patient is potentially at increasing or higher risk from alcohol-related problems.
- If the patient has a score of 10 or more they should be given the brief intervention, but also advised on the importance of seeking further advice from their GP or a local alcohol support service.

10. The resulting risk category informs whether the individual should be offered further advice or signposting.

- **Score 0:** No risk, no further action.

- **Score 1 - 4:** Feedback that the patient is potentially at a lower risk of harm from alcohol. Provision of a patient information wallet card

- **Score 5 - 9:** Feedback that the patient is potentially at increasing or higher risk from alcohol-related problems. Provision of ABI and a patient information wallet card.

- **Score 10 - 12** ABI, wallet card and offer of referral to local medical facility to be seen by the General Medical Practitioner to discuss alcohol consumption.

11. An Alcohol Brief Intervention (ABI) is a short, evidence-based, structured conversation about alcohol consumption with a patient, that seeks to motivate and support the individual to consider reducing their consumption[12].

12. AUDIT-C is not a diagnostic tool. It is a brief screen that can be used to help identify individuals who might be at potential risk from their drinking and may benefit from advice or signposting to support services.

13. AUDIT-C scores do not represent sequential stepped increases in alcohol consumption or risk, e.g. a score of 4 does not signify drinking twice as much, or being at twice as much risk of harm as a score of 2.

14. AUDIT-C does not discriminate between occasional binge drinkers, who may be at risk of accidental injury, and regular heavy drinkers who could be at risk from more widespread impacts on health. It is possible to drink within the Chief Medical Officer's Low Risk Drinking Guidelines[13] which advise not to regularly drink more than 14 units a week and yet still achieve an AUDIT-C score that indicates potentially increasing or higher risk from alcohol-related problems.

---

[12] NHS Education for Scotland. 2010. Delivery of Alcohol brief Interventions: A Competency Framework.
http://www.nes.scot.nhs.uk/media/3125/Delivery_of_Alcohol_brief_Interventions_spring_2010.pdf
[13] DH 2016. Alcohol consumption: advice on low risk drinking. Available at;
https://www.gov.uk/government/publications/alcohol-consumption-advice-on-low-risk-drinking

15. This statistic focuses on the introduction of AUDIT-C at scale in the UK Armed Forces population, this represents one aspect of Defence's broader population approach to promoting sensible drinking in the UK Armed Forces.

1.3 Methodology and Production

16. The analysis provided in this publication is based on personnel serving as at 1 June 2017 who have completed an AUDIT-C between 1 June 2016 and 31 May 2017. Personnel who completed an AUDIT-C but left Service before 1 June 2017 have not been included in this report.

17. Both trained and untrained Regular UK Armed Forces personnel have been included. Reservists may receive dental care when they mobilise for deployment but they majority of their dental care is delivered by the NHS, therefore Reservist personnel have been excluded from this report.

18. Where personnel have been given the AUDIT-C more than once in between 1 June 2016 and 31 May 2017, only the latest entry in the medical record has been included.

19. AUDIT-C screening tools completed at all types of dental appointment have been included. The majority (97%) were carried out at dental inspections.

20. In accordance with NICE guidelines[14], UK Armed Forces personnel should attend a dental inspection at a frequency of between 6 and 24 months, based on an individual's assessed oral disease risk. There are two possible reasons why 100% of personnel did not complete the AUDIT-C in the 12 month period: Personnel on a recall frequency of greater than 12 months would not have attended a routine dental inspection. Personnel may be overdue for their routine dental inspection if they were unable to attend their appointment.

21. It is possible that not all personnel who had a dental appointment between 1 June 2016 and 31 May 2017 were offered the AUDIT-C. Due to staff turnover and the use of locum staff there may have been occasions when the dentist carrying out the appointment did not know that they should have offered the AUDIT-c or may not have yet had the training to deliver the programme.

22. Coded data was searched for using the Dental AUDIT-C template. Information entered as free text in the patient record is not available in the data warehouse and is not included in this publication. Only templates filled in by dental staff have been included in this publication.

23. Dentists are able to enter inconsistent data on the templates and are able to omit data items. The AUDIT-C scores have been validated resulting in 4% of scores being corrected and 3% of risk categories being changed. Defence Dental Services are addressing the accuracy of template use through training. See the background quality report for further information on data validation. Personnel with incorrect scores entered have been counted as having completed the

---

[14] NICE Clinical Guideline 19 – Recall Intervals Between Routine Dental Examinations – October 04

AUDIT-C and may have received alcohol brief interventions. However, the interventions are not included this report as the patient cannot be put in a potential risk category.

24. The validated score has been calculated by summing the score for the three AUDIT-C questions and identifying invalid scores. 2% of personnel had an invalid score. Scores were identified as invalid if:
    - The score is missing for any question
    - The score is greater than 4 for any question
    - The total score is greater than 12

25. There are also initiatives led by the Chain of Command to deliver Alcohol Brief Intervention (ABIs) by non-clinical personnel. It is not currently possible to measure how many of these ABIs have been delivered as there is no requirement to capture the information on a central reporting system. Therefore the number of ABIs given by dental clinicians is a minimum.

26. **95% Confidence Intervals (CIs)** are a statistical device designed to provide a measure of the likely variation of a given statistic. They provide the range of values within which we expect to find the actual value of the variable. In this bulletin, confidence intervals were calculated with a probability of 95%.

27. The **Z test for independent proportions** evaluates if two rates are different to a statistically significant degree. The confidence level to which this test was run in this report was 95%: this means that if the test determined two populations to have different percentages of personnel who scored 5+ on the AUDIT-C, this was true in greater than 95% of cases.

28. In order to identify age groups with a significantly higher than average percentage of personnel who scored 5+, Z tests for a single proportion were performed comparing each age group to the average percentage of personnel who scored 5+.

2. Relevance

29. The report refers to AUDIT-C questionnaires completed by Regular UK Armed Forces personnel between 1 June 2016 and 31 May 2017.

3. Accuracy

30. Individual MOD medical centres are responsible for ensuring the accuracy of clinical information in the electronic patient record. All coded (not free text) information is saved into the central data warehouse at regular intervals; usually every three days. The electronic patient record 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.

31. The main sources of potential error in the Alcohol Usage official statistic are as follows:

- Incomplete or inaccurate data from the data warehouse
- Manual error during production of report
- Data entered as free text are not available from the data warehouse

32. To ensure that potential errors are identified and resolved, Defence Statistics (Health) implement a series of data quality checks throughout the report production.

33. Selection bias: As personnel are completing the screening tool at dental appointments there could be a selection bias in the data.
    a. There was a higher proportion of personnel who were out of date for their routine dental inspections amongst personnel who did not complete the AUDIT-C during the time period.
    b. The demographics of personnel out of date for their routine dental inspection were representative of the whole Regular UK Armed Forces population.

34. Response bias: The AUDIT-C is open to response bias as the screening tool involved self-reported responses and therefore could be influenced by cognitive biases. The responses of personnel may not always be accurate or truthful.

35. It is possible that when personnel complete the questions that they do not accurately recall their levels of alcohol consumption, or decide to under report their alcohol consumption. Dental center staff give the questions to patients whilst they are in the waiting room and the results are then discussed between the patient and their dentist. The responses provided to the clinician are treated as medical in confidence.

36. A key difference to the delivery of healthcare in a military environment is that services are delivered by the patient's employer. This is not the case with the NHS where for the majority of personnel there is no relationship between patient's employer and the personnel providing medical or dental treatment. This may have had an impact on the cognitive biases.

4. Timeliness and Punctuality

37. Figures are published seven weeks after the end of the reporting period. This is due to the time lag in data availability and to allow time for the production of the statistic.

38. The release date for this publication was pre-announced on the [MOD's Calendar of Upcoming Releases](#) section of GOV.UK.

5. Accessibility and Clarity

39. Alcohol Usage statistics are published on the GOV.UK website. The publication is available from 0930 hours on the day of release.

40. Figures from the statistic are separately available in MS Excel format for users to download. This allows for use in individual research and reports.

41. Users with an interest in the key findings can read a short summary of main messages immediately on the front page or in the one page summary graphic.

6. Coherence and Comparability

42. The AUDIT-C is a validated WHO tool and is used by other countries and organisations including the NHS and Kings Centre for Military Health Research. This means that information will be comparable through time and across entities and based on a single version of the truth.

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 electronic patient record (DMICP) data warehouse. DMICP data was cross referenced with the MOD's Joint Personnel Administration (JPA) system to identify UK Armed Forces personnel and remove civilians. Both data systems are large administrative databases, and as such, data quality across fields is of varying quality and completeness.

8. Assessment of User Needs and Perceptions

44. Publication of this report has been in response to requests for information from the media, external academic institutions and general public about alcohol consumption and harmful levels of alcohol usage by UK Armed Forces personnel.This report also contributes to the MODs commitment to release information where possible.

45. The MOD invites users to provide feedback to the statistical output teams on any of their publications or reports using the contact information on the front of the publication.

9. Performance, Cost and Respondent Burden

46. The production of the Alcohol Usage Official Statistic required 0.2 FTE.

47. The Alcohol Usage Official Statistic 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

48. All Defence Statistics (Health) staff involved in the production of the AUDIT-C Official Statistic have signed a declaration that they have completed the Government wide Responsible for Information 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.

49. Defence Statistics (Health) also adhere to Joint Service Publication 200 (March 2016). Defence Statistics (Health) ensure that the AUDIT-C data is kept confidential by holding this data on a secure server. Only individuals who work on the reports have access to the data.

50. 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).

12. Contact Details

Defence Statistics welcome feedback on our statistical products. If you have any comments or questions about this publication or about our statistics in general, you can contact us as follows:

Defence Statistics (Branch)
Telephone: 030 67984423
Email: DefStrat-Stat-Health-PQ-FOI@mod.uk

Last Updated: 17/07/2017