EXECUTIVE SUMMARY

- Introduction
The Scottish Veterans Health Study, which has been in progress at the University of Glasgow since 2012, provides an insight into mental health conditions in a large cohort of veterans who served between 1960 and 2012 over a 32-year follow-up period, irrespective of length of service, deployment or combat, in comparison with a matched group of people who have never served, from a Scottish perspective.

- To what extent do current statistics accurately reflect the level of mental health issues in serving armed forces personnel and veterans, including PTSD?
Although figures are published by the Ministry of Defence for mental health consultations by serving personnel, there are no routinely-issued statistics in respect of veterans in Scotland. The Scottish Veterans Health Study provides retrospective information on mental health conditions of sufficient severity to warrant admission or to be noted on a death certificate over the period 1981-2012.

- What are the challenges to accurately assessing the extent of mental health issues in serving armed forces personnel and veterans and how could government improve its understanding of those issues?
Accurate assessment of the extent of mental health issues in veterans requires that veterans can be readily identified on the databases from which population health statistics are derived. This is possible in Scotland but not currently in the other UK nations. The inclusion of information on veteran status on the decennial census would be beneficial. Varying thresholds for help-seeking dictate that care is taken in the interpretation of mental health consultation data, and collection and analysis of primary care data remains challenging.

- How does the level of mental health issues, services and outcomes in serving armed forces personnel and veterans:
  - compare both to the actual level in the general population and to public perceptions of mental health issues in armed forces personnel and veterans?
There remain widespread misconceptions about the extent of mental health problems in serving personnel and veterans despite publication of a number of research studies.

  - vary between different groups of serving and former personnel, including reservists, those who have been deployed on operations and early leavers?
The Scottish Veterans Health Study showed that the most vulnerable were generally those with the shortest service (early service leavers) whilst longer service was protective. Older veterans were more likely to suffer mental health problems, but there was also an increase in risk of PTSD in the youngest veterans.

  - vary regionally across the UK and across the devolved administrations?
Comparison between Scotland and the other UK nations was out of scope for the Scottish Veterans Health Study but regional variations were demonstrated within Scotland. The reasons are likely to be multi-factorial.
What proportion of mental health issues in veterans is attributable to service in the Armed Forces and how well is this measured and understood?
The finding that the risk of adverse mental health outcomes was highest in those with the shortest service suggests that military service is not predominantly causal, but pre-service adversity may reduce resilience and increase vulnerability to in-service stressors. In-service health education may ‘uncover’ previously concealed mental ill-health and encourage treatment-seeking.

To what extent does the military environment for serving armed forces personnel mitigate against the development of mental health issues?
Theoretically the structured environment and camaraderie of the military should be protective and this is borne out by the finding that mental health is better, in general, in those with the longest service. Early service leavers may not have served for long enough to benefit from this, or from in-service mental health promotion.

1. Introduction

a. Dr Beverly Bergman, a former military GP and consultant public health physician who served at the Army Medical Directorate and subsequently as Military Medical Liaison Officer to the Scottish Government, in the rank of Colonel, has been conducting a study into the long-term health outcomes experienced by veterans, in comparison with the general population, since 2012. The research has been taking place at the Institute of Health and Wellbeing, University of Glasgow, which is one of the seven Research Institutes within the College of Medical, Veterinary and Life Sciences and aims to improve population health and wellbeing and reduce inequalities in health. The Scottish Veterans Health Study comprises 57,000 veterans born between 1945 and 1985 who served between 1960 and 2012, and a comparison group of 173,000 people with no record of military service, matched for age, sex and postcode. Admission records for both acute and psychiatric hospitals, and death records, were used to compare health outcomes over the period from 1981 to 2012 for a wide range of mental and physical health conditions, using Scottish linked NHS heath data. Statistical analysis was used to assess any differences between the veteran and non-veteran groups, overall and by subgroup. This is one of the largest studies ever conducted on a broad, national cohort of veterans irrespective of deployment, combat experience or length of service, and provides an insight into whether the health of veterans differs from that of the wider community. Many of the findings of the study have been published in national and international peer-reviewed journals.
This response is submitted in an individual capacity and does not represent an official response on behalf of the University of Glasgow.

2. To what extent do current statistics accurately reflect the level of mental health issues in serving armed forces personnel and veterans, including PTSD?

a. Routine health statistics in Scotland published by the Information Services Division of NHS Scotland (ISD) cover a wide range of mental health issues but do not distinguish between serving personnel, veterans and the general population. The Scottish Veterans Health Study provides information on mental health issues resulting in acute or psychiatric hospital admission, or recorded on death certificates, for all veterans who were resident in Scotland both before and after military service, in the period between 1 January 1981 and 31 December 2012. The mental health conditions for which routinely-collected data are available include mood disorders (depression), anxiety (and as a subset of anxiety, severe stress and PTSD), psychosis including schizophrenia, dementia, suicide, and non-fatal self-harm. ISD are able to provide data on request for research purposes, following approval by the Public Benefit and Privacy Panel. Serving personnel were out of scope for the Scottish Veterans Health Study. Other studies have been conducted by other research groups including the King’s Centre for Military Health Research, and statistical data on episodes of mental health care for serving personnel are published annually by the Ministry of Defence. The Scottish Veterans Health Study complements these other studies.

3. What are the challenges to accurately assessing the extent of mental health issues in serving armed forces personnel and veterans and how could government improve its understanding of those issues?

a. This response will focus on veterans, since serving personnel were excluded from the study. Although there are validated survey measures of mental health for both clinical and research purposes, which can provide an important estimate of the extent of the problem, the most valuable assessments come from large-scale epidemiological studies using routinely collected health and demographic data, which are not subject to the biases which can impact on survey data collected specifically for research purposes. Such large-scale studies are only

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1 Information Service Division (ISD) NHS Scotland http://www.isdscotland.org/Health-Topics/Mental-Health

2 https://www.gov.uk/government/collections/defence-mental-health-statistics-index
possible where the veterans can be accurately identified. This is possible in Scotland where the NHS Central Registry database includes confidential data on military service, including dates of joining and leaving if appropriate (and therefore length of service) for every individual registered. It is understood that this is not held in the same way in any other UK nation.

b. If current/prior military status was recorded in this way on other UK nations’ NHS databases, it would greatly facilitate accurate assessment and monitoring of major mental health issues in veterans and furthermore it would be feasible (and highly advantageous) for selected health outcomes in veterans to be routinely reported. This would provide a nationwide early indication of current and emerging health issues in veterans. It would also provide information on trends to show whether initiatives to improve veterans’ health were proving effective, would demonstrate where inequalities exist in comparison with the wider community, and would provide validated data to help allay myths and misconceptions.

c. A further challenge is that of the ‘clinical iceberg’\(^3\), whereby mental health issues generally only become visible, and therefore measurable, when they present to a healthcare provider. The portion of the ‘iceberg below the waterline’ represents hidden need; this may differ between veterans and non-veterans although it cannot be quantified from routinely-collected data. Formal surveys for research purposes may help but those who are least likely to engage with treatment services may also least be likely to be included in a survey population. This is a well-recognised problem in health surveillance and does not lend itself to simple resolution. It is especially problematic for mental health where the threshold for seeking help varies widely between individuals.

d. Since a number of personal and demographic factors may be associated with mental health issues, accurate demographic data on veterans would assist in pinpointing potential areas of need. The inclusion of a question on veteran status, and length of time served in the Armed Forces, on the decennial census would aid planning services for veterans, and could highlight potentially vulnerable veterans such as early service leavers.

e. Finally, most routinely-reported health data comes from hospital admissions, and thus represents the more severe end of the spectrum of mental ill-health, but most mental health issues, even if moderately disabling, are managed in primary care. Currently, large-scale analysis of primary care data is less well advanced than for secondary care. This may improve in the future but primary care coding systems are often symptom-based rather than diagnosis-based, which lends itself less well to large-scale data extraction and reporting. Care will also be needed with privacy if primary care data are linked to military status, as veterans may be unwilling to identify themselves to their GP as having served in the Armed Forces.

4. How does the level of mental health issues, services and outcomes in serving armed forces personnel and veterans:
   - compare both to the actual level in the general population and to public perceptions of mental health issues in armed forces personnel and veterans?

a. In our paper Long-Term Mental Health Outcomes of Military Service\(^4\), we reported that 5.0% of veterans had experienced at least one episode of mental health disorder of sufficient severity to warrant admission, compared with 4.5% of non-veterans, over the 32-year follow-up period. Overall the veterans were at 20% increased risk compared with the general population. We found that the greatest increase in risk was for anxiety including PTSD, with a smaller increase for mood disorders. Veterans were at reduced risk of psychotic disorders, and there was no increase in risk of dementia although the number of older people included in the study was small. The data drawn from NHS records show a far lower incidence of mental health disorder than is perceived by the public; in a study published by Lord Ashcroft in 2012, over 90% of people believed that it was common for veterans to have physical, emotional or mental health problems as a result of their service, whilst 10% of employers thought that they would be “aggressive, institutionalised or likely to have problems”\(^5\).


- vary between different groups of serving and former personnel, including reservists, those who have been deployed on operations and early leavers?

b. We found that the veterans with the greatest increase in risk of mental health disorders were those with the shortest service (Early Service Leavers (ESL)), whilst those with the longest service were at reduced risk overall and for each condition separately. Among the early leavers, those who left before completing initial training demonstrated the highest increase in risk. This was highest for PTSD where the untrained ESL had a 150% increase in risk compared with people who had never served\(^6\). Since untrained ESL cannot have deployed, and exposure to extreme trauma is very rare in the tightly-controlled environment of recruit training, military service is unlikely to have been causal during their short period of service (up to 20 weeks in this study, with a mean length of service of 6 weeks). It is likely that pre-service stressors such as adverse childhood events, which are known to be more common in ESL\(^7\), were major contributors to the long-term risk of mental health disorder, and may also have contributed to the risk of leaving service prematurely.

Older veterans born in the 1940s and 1950s were at higher risk than veterans born from 1960 onwards, in comparison with age-matched non-veterans. This was especially so for mood disorder where the younger birth cohorts were at no increased risk, and for anxiety excluding PTSD. For severe stress and PTSD, there was an increased risk in all birth cohorts examined (1945 through to 1985) but there has been a steady increase in people born from 1960 onwards. There is a complexity in the findings in respect of PTSD which requires further research.

The Scottish Veterans Health Study was unable to identify reservists, and as the data were drawn from NHS records, there was no information on service (Royal Navy, Army, Royal Air Force), military trade, deployment history or combat exposure. Thus the study represents a broad cross section of regular veterans.

- vary regionally across the UK and across the devolved administrations?


c. The Scottish Veterans Health Study did not include a comparison with the other UK nations; however, differences were demonstrated in the health of veterans living in the urban Central Belt region of Scotland, in comparison with the more rural Highlands, Islands and Borders. It is likely that the reasons are complex and could include post-service occupational factors as well as selection bias, whereby those with pre-existing health problems may choose to live in urban areas to facilitate access to healthcare. Anecdotally there are reports of socially isolated veterans who have chosen to live in very remote areas of Scotland, supporting the view that those in greatest need of mental health support may also be the hardest to reach. It is likely that the numbers involved are small, which limits the utility of epidemiological analysis in this respect.

5. What proportion of mental health issues in veterans is attributable to service in the Armed Forces and how well is this measured and understood?

a. It is often problematic to identify the cause of a mental health problem as many cases are multi-factorial in origin. However, the inverse relationship between length of service and the incidence of mental health disorder, and especially PTSD, which has been demonstrated in the Scottish Veterans Health Study suggests that the majority of mental health problems have their origins in factors external to service, and that for most people, service is not predominantly causal. It is plausible that these external factors (generally pre-service eg adverse childhood events, but possibly post-service in cases presenting many years after service) may have reduced individuals’ resilience to common in-service stressors.

b. There is a common perception, even among civilian healthcare professionals, that all mental health problems in veterans must be attributable to service, and indeed there may be a belief among veterans themselves that this is the case, as it may be easier to ‘accept’ a service-related cause rather than one attributable to a prior lifestyle or a family problem. Anecdotally there is also a reluctance among civilian healthcare professionals to explore possible service-related antecedents fully, fearing ‘opening up wounds’ or inadvertently asking for information which is classified. This latter is further reinforced by some veterans who, when asked for further detail by a healthcare professional, will claim that they are unable to talk about their experiences, or that their service medical records have been destroyed. Both these claims are highly unlikely to be true except for a very small number of veterans, and should be regarded as clinical ‘red flags’ alerting the healthcare professional to
the need for further sensitive exploration. More widespread knowledge of the existence of
the Veterans and Reserves Mental Health Programme would be helpful for those healthcare
providers who are uncomfortable with exploring service-related matters in depth. Training for
civilian healthcare providers in taking a comprehensive mental health history from veteran
patients, covering the full life-course, and highlighting the common myths, misconceptions
and potential pitfalls, would also be valuable. Erroneous attribution of the underlying cause
of a mental health problem is likely to impede successful treatment.

6. To what extent does the military environment for serving armed forces personnel
mitigate against the development of mental health issues?

a. Commonly-recognised protective factors for mental health include self-esteem, structure
and control, personal bonds and relationships, and the development of coping skills. All
these are provided by the military environment, and develop to a greater extent with longer
service, which accords with the finding of an inverse relationship between mental disorder
and length of service in the Scottish Veterans Health Study. Furthermore, there is a selection
effect, in that those who are least suited to the military environment leave earliest, either of
their own volition or because they are compulsorily discharged. This contributes to the
observed ‘healthy worker effect’, with the longer-serving, and therefore more resilient,
Senior ranks acting as role models to more junior personnel. Those who leave the services
earliest are least likely to benefit from the supportive military environment and may simply
return to the challenging social environment which they left; those with longer service have
had longer exposure to the supportive environment and are likely to be better equipped to
make a fresh start when they return to civilian life.

b. In recent years, mental health education for serving personnel and the ready availability of
trained mental health support in service has done much to overcome stigma and encourage
uptake of services by those at most risk. It is important that any increase in consultations as a
result of better uptake of the services offered is not misinterpreted as a worsening of in-
service mental health; it may simply be a shifting of the ‘clinical iceberg’ (para 3c) to reduce

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the burden of hidden mental ill-health, which may ultimately reduce the long-term burden of mental health issues.

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