



# Employment and mental health among UK ex-service personnel during the initial period of the COVID-19 pandemic

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## ABSTRACT

**Introduction:** The COVID-19 pandemic has interrupted participation in the labour force and may have affected mental health, both directly through the effects of illness and isolation and indirectly through negative effects on employment. Former military personnel may be at particular risk as a result of both additional exposure to risk factors for poor mental health and barriers to labour market participation raised by the transition from military to civilian working environments. This article examines furlough and unemployment as a result of the COVID-19 pandemic among UK working-age ex-service personnel and its associations with poor mental health. **Methods:** Participants from an existing cohort study of Iraq- and Afghanistan-era UK Armed Forces personnel were invited to provide information on employment before the COVID-19 pandemic and how it has changed since the pandemic. Mental health was measured using the General Health Questionnaire and compared with data collected pre-pandemic. **Results:** Although Veteran unemployment is not higher than civilian unemployment (4.7% and 4.8%, respectively, in September 2020), it rose during the pandemic from a lower level (1.3%). Part-time and self-employed Veterans were more likely than full-time employees to experience furlough or unemployment. A negative impact on employment was associated with the onset of new mental ill health. **Discussion:** Employment of ex-service personnel was more negatively affected by the COVID-19 pandemic, possibly because ex-service personnel are mostly men, and men were more affected in the UK general population. This employment instability has negative consequences for mental health that are not mitigated by furlough.

**Key words:** COVID-19, employment, furlough, mental health, military, pandemic, Veterans, UK, United Kingdom

## RÉSUMÉ

La pandémie de COVID-19 a forcé la main-d'œuvre à interrompre sa participation au marché du travail et peut affecter la santé mentale, directement, par les effets de la maladie et de l'isolement, et indirectement, par des effets négatifs sur l'emploi. Les vétérans(e) sont particulièrement à risque, en raison d'une exposition supplémentaire à des facteurs de risque pour la santé mentale et d'obstacles à la participation au marché du travail associés à la transition entre des milieux de travail militaire et civil. Cet article examine les congés et le chômage accordés en raison de la COVID-19 aux vétérans(e) en âge de travailler au Royaume-Uni et leurs liens avec une santé mentale défaillante. Les participant(e)s d'une étude de cohorte sur le personnel militaire britannique déployé en Irak et en Afghanistan ont été invité(e)s à fournir des informations sur leur emploi avant la pandémie et les changements qui le touchent depuis. La santé mentale est mesurée à l'aide du Questionnaire sur la santé générale et comparée à des données recueillies avant la pandémie. Le taux de chômage des vétérans(e) n'est pas plus élevé que celui des civil(e)s (4,7 % et 4,8 % respectivement, en septembre 2020), mais il est plus élevé après la pandémie qu'avant (1,3 %). Les vétérans(e) travaillant à temps partiel ou à leur compte sont plus susceptibles d'être en congé ou au chômage que les personnes employées à temps plein. Une répercussion négative sur l'emploi correspond à l'apparition de nouveaux problèmes de santé mentale. La pandémie de COVID-19 affecte plus négativement l'emploi des vétérans(e), peut-être parce qu'il s'agit d'hommes principalement et que les hommes sont plus touchés que la population en général au Royaume-Uni. Cette instabilité de l'emploi a des conséquences négatives sur la santé mentale qui ne sont pas atténuées par un congé.

**Mots-clés :** congé, COVID-19, emploi, militaire, santé mentale, pandémie, Royaume-Uni, R.-U., vétéran(e)s

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## LAY SUMMARY

This article examines how employment status changed for working-age UK ex-military personnel in the early period of the COVID-19 pandemic and how this relates to their mental health. Overall, the unemployment rate among ex-military personnel was not worse than that in the general population; however, because ex-military personnel generally have a lower unemployment rate than the general population, this suggests they were worse hit by the pandemic. Part-time and self-employed personnel were more likely to experience negative changes to their employment situation. Both becoming unemployed and being furloughed were correlated with negative changes in mental health. However, it should be noted that the mental health data used for this comparison predate the onset of the pandemic; hence, other factors related to both change in employment status and change in mental health could be the cause of this apparent relationship.

## INTRODUCTION

Lockdown due to the COVID-19 pandemic generated job insecurity and associated mental distress in the UK population, although furlough may be protective of the consequences to mental health.<sup>1</sup> Mental health has previously been linked to employment status, with the prevalence of psychological problems among unemployed people around twice that of those who were employed.<sup>2,3</sup> UK ex-service personnel (Veterans) may be at higher risk of some mental health conditions than the general population and at particular risk as a result of the economic consequences of the pandemic.<sup>4</sup>

In the UK labour market, unemployment rose from 3.9% of working-age adults in March 2020 (the commencement of COVID-19-related restrictions) to 4.8% in September 2020 (the end of data collection for this study).<sup>5,6</sup> The rise in unemployment was higher among men (increasing from 4.1% to 5.2%) than among women (from 3.7% to 4.3%). Because the UK Armed Forces population, and hence the Veteran population, is disproportionately men, Veterans may be at increased risk of the economic consequences of the pandemic.

UK national statistics show that increases in unemployment were driven by those in part-time employment and the self-employed,<sup>7</sup> who make up 21.4% and 15.1%, respectively, of the workforce.<sup>8</sup> Ex-service personnel in the United Kingdom are more likely to be self-employed than the general population,<sup>9</sup> so this may be a further factor placing them at higher risk of unemployment during the pandemic. Conversely, losses related to part-time employees occurred primarily among women and, thus, possibly had less impact on the Veteran population. Rising unemployment rates were somewhat mitigated by an increase in full-time employment among women;<sup>7</sup> however, because of the disproportionately small number of female Veterans, this is likely to be less of a factor among UK ex-service personnel.

The longitudinal cohort of serving and ex-service personnel studied by the King's Centre for Military Health Research (KCMHR) provides a unique

opportunity to examine changes in employment resulting from the COVID-19 pandemic, and the mental health consequences, among this population.

This article aims to determine the impact of the COVID-19 pandemic on employment in a sample of mostly working-age UK Veterans and examines how change in employment is related to mental health and alcohol misuse. Specific hypotheses tested were as follows:

1. Veterans who are part-time or self-employed before COVID-19 will be more at risk of negative impact to their employment.
2. Negative impact to employment resulting from COVID-19 will be associated with new onset of mental health difficulties.
3. Negative impact to mental health will be reduced for those who are furloughed compared with those who become unemployed.

## METHODS

An ongoing cohort, the KCMHR Health and Well-being Survey, was used to identify UK Armed Forces personnel who left service and were potentially working in the civilian labour market. The cohort was initially designed to be representative of the deployable force at the beginning of the Iraq conflict and includes some who deployed to Iraq and Afghanistan and others who did not but were otherwise deployable. There were three phases of data collection before the COVID-19 pandemic (2004-06,<sup>10</sup> 2007-09,<sup>11</sup> and 2014-16).<sup>12</sup> Around 18,000 serving and ex-serving personnel responded in at least one phase of data collection. The sample for this study is composed of those in the KCMHR cohort who took part in an extra wave of data collection as part of the Veterans-CHECK study, which assessed the impact of the COVID-19 pandemic on the health and well-being of the UK ex-service community.<sup>13</sup> Eligibility included those who left the UK Armed Forces, served as part of the Regular Force (as opposed to Reserve Force), were resident in the United Kingdom, and provided

necessary consent and contact details. Only emails were used because of restrictions on using paper questionnaires during the pandemic. A total of 3,547 cohort participants were invited to take part. Full ethical approval was obtained from the King's College London Research Ethics Committee (ref. no. HR-19/20-18626).

Data and consent were collected online through a secure survey application.<sup>14</sup> An invitation was emailed to participants in June 2020, with up to three email reminders, sent in June, July, and August 2020. Data collection ended in September 2020. The questionnaire consisted of sections on socio-demographics (including employment status before COVID-19 and change since the onset of the pandemic), COVID-19 experiences and stressors, and current mental health and well-being measures. The full study protocol is available online.<sup>13</sup> Data not related to current status (e.g., education and military career and experiences) were extracted from the underlying cohort study.

For employment status before the COVID-19 pandemic, responses were "full-time employed," "part-time employed," "self-employed," "out of work," "student," "homemaker," "retired," "disabled," and "unpaid work." Where multiple responses were provided, priority was given to retired, then paid employment, then disabled, student, homemaker, out of work, and unpaid work. A derived variable was generated that encompassed the categories paid work, out of work, retired, and economically inactive (the last including all responses that did not fall into one of the other categories).

Respondents were also asked how their employment status changed during the period of the pandemic. Options included "no change," "became unemployed," "furloughed or paid leave," "voluntary redundancy," "became employed," "salary reduced," and "salary increased." For the purposes of the analysis, "no change," "became employed," and "salary increased" were combined into a no-negative-change category, "furloughed or paid leave" and "salary reduced" were combined into a negative-change category, and "became unemployed" and "voluntary redundancy" were combined into a job-loss category.

Common mental disorders (CMD; i.e., non-psychotic symptoms of anxiety and depression affecting the performance of daily activities) were determined using the 12-item General Health Questionnaire (score range 0-12) using a cut-off of 4 or more to define caseness.<sup>15,16</sup> Alcohol misuse was assessed using the Alcohol Use Disorder Identification Test (AUDIT; score range 0-40)

using a cut-off of 8 to identify hazardous drinking.<sup>17</sup> Presence or absence of mental health condition or alcohol misuse before COVID-19 was taken at the last measurement before the pandemic in 2014-2016.

Analyses were weighted for response and defined as the inverse probability of responding once sampled. This was calculated from variables empirically shown to predict response. Differences between proportions were determined using  $\chi^2$  tests. Associations between variables were determined using multinomial or binomial logistic regression (as appropriate). Associations were adjusted for factors commonly found to be related to mental health: gender, age, military rank while in service (categorized into commissioned officer, non-commissioned officer, and private-equivalent other ranks), service arm (categorized into Naval Services, army, and Royal Air Force), educational attainment, and relationship status. Change in employment was categorized into those who became unemployed after the COVID-19 outbreak, those who were furloughed or received reduced wages, and those whose employment status did not change. New-onset CMD was determined by identifying individuals whose scores on mental health measures did not qualify them as probable cases of CMD the last time their data were collected before COVID-19 (October 2014-December 2016) and then determining who scored as a case for CMD when data were collected during the COVID-19 pandemic. Because there were very few missing data, analysis was performed on a complete case basis. Analyses were performed using Stata release 16.1 (StataCorp, College Station, TX), with survey commands used to account for weighting. Weighted percentages and odds ratios are presented in tables to account for response weights, together with unweighted cell counts.

## RESULTS

A total of 1,562 of 3,547 participants contacted responded (response rate 44%). This study used those who responded and provided data regarding their employment status (N = 1,556). A total of 89.3% of the sample were men, with a median age of 53 years (interquartile range 47-60 y); 52.2% left service 10 or more years earlier, with only 1.3% leaving service in the past year. Thus, the sample primarily represents older working-age Veterans who left military service some time ago.

Before the COVID-19 pandemic, most Veterans were employed (83.4%), with only 1.3% out of work

and 4.1% not economically active (Table 1). Of those who were employed before the COVID-19 pandemic, most remained employed (77.5%), and a small percentage experienced a salary increase (0.7%), whereas 3.9% became unemployed after the outbreak of the COVID-19 pandemic (Table 2). Among those who were out of work before COVID-19, two individuals gained employment. Including those who were out of work at the outset of COVID-19 (and did not gain employment) and those who were employed but became unemployed after the onset of COVID-19, 4.7% of the Veterans in this study were unemployed at time of data collection (encompassing those who were out of work before COVID-19 and did not gain new employment and those who became unemployed subsequent to COVID-19).

Those who were employed part time or self-employed before the pandemic were more likely to report a negative impact to their jobs and job loss during the COVID-19 pandemic (Table 3).

The association between change in employment status and new onset of CMD was examined (Table 4). Those who were furloughed or had income reductions

during the pandemic were more likely to be new cases of CMD than those with no change in their employment status, as were those who became unemployed.

## DISCUSSION

Among the Veterans in this sample, unemployment increased from 1.3% before the COVID-19 pandemic to 4.7% around the time of data collection (September 2020). Both unemployment and work reduction (including furlough, paid leave, and salary reduction) were higher among those employed part time and self-employed than among those who were employed full time. Work reduction and being unemployed were associated with new-onset CMD.

Veteran unemployment during the pandemic (4.7%) was not higher than that seen among the general population, which was 4.8% at the end of data collection,<sup>6</sup> suggesting that Veterans were no worse off than the general population regarding unemployment due to the pandemic. However, the unemployment rate was lower among Veterans (1.3%) than the general population before the pandemic,<sup>7</sup> suggesting that Veterans may have been hit harder by the employment consequences of COVID-19. This could be partly explained by the gender imbalance among Veterans. Nearly 90% of the sample were men, most of whom were full-time employees, and men working full time or self-employed were substantial drivers of job losses among men in the general population.<sup>7</sup> The small proportion of women also reduces the main mitigating factor to unemployment in the general population, which was increasing employment among full-time women employees.<sup>7</sup> Both work reduction and unemployment were greater among part-time and self-employed Veterans than among full-time employed Veterans. The latter finding is unsurprising, because self-employed men were a driver of unemployment in the general population,<sup>7</sup> but the former finding is more difficult to explain. In the general population, part-time job losses occurred predominantly among women,<sup>7</sup> who number relatively few in this sample (making up 32.3% of part-time employees and 2.9% of all employed Veterans). This suggests that there may be other factors explaining the risk of job loss to part-time Veterans, possibly including the roles that part-time Veterans are taking up once leaving.

The finding that mental health worsens for those who become unemployed or who experience other negative employment impact is consistent with prior findings with this sample that work and financial difficulties

**Table 1.** Employment status before COVID-19 among UK veterans (N = 1,556)

Employment status	n (weighted %)
All employed	1,246 (83.4)
Full-time employed	967 (66.0)
Part-time employed	127 (7.5)
Self-employed	152 (10.0)
Not economically active	61 (4.1)
Student	6 (0.4)
Homemaker	12 (0.8)
Unable to work due to disability	24 (1.9)
Unpaid work	19 (1.0)
Retired	232 (11.2)
Out of work	17 (1.3)

Note: COVID-19 = coronavirus disease 2019.

**Table 2.** Change in employment status during COVID-19 pandemic, for those employed before the pandemic (n = 1,246)

Change in employment status	n (weighted %)
None or new employment	963 (77.5)
Became unemployed (including voluntary redundancy)	55 (4.0)
Furloughed or paid leave	141 (11.9)
Salary reduced	79 (5.9)
Salary increased	8 (0.7)

**Table 3.** Negative impact to employment by prior employment status

Employment status before COVID	None or positive, n (%)	Furlough, paid leave, or salary reduction		Became unemployed or voluntary redundancy	
		n (%)	mOR (95% CI)	n (%)	mOR (95% CI)
Full-time employed	801 (82.5)	140 (14.8)	1	26 (2.7)	1
Part-time employed	83 (64.6)	32 (26.8)	2.78 (1.70-4.57)*	12 (8.7)	3.47 (1.43-8.41)†
Self-employed or own business	89 (60.1)	48 (30.2)	2.88 (1.82-4.55)*	15 (9.7)	5.55 (2.70-11.40)*

Note: mOR = median odds ratio.

\*  $p < 0.01$

†  $p < 0.001$

**Table 4.** Associations between change in employment and change in mental health outcome (adjusted for gender, age group, rank in service, service arm, educational attainment and relationship status)

Change in employment	n (%)		Unadjusted OR (95% CI)	Adjusted OR (95% CI)
	Not a case at either time	New case during COVID-19		
No change	825 (82.8)	151 (17.2)	1.00	1.00
Furlough or reduced wage	124 (71.6)	48 (28.4)	1.91 (1.29-2.83)*	1.85 (1.22-2.81)*
Became unemployed	22 (58.6)	15 (41.4)	3.40 (1.69-6.85)*	4.06 (1.94-8.50)†

\*  $p < 0.01$ .

†  $p < 0.001$

are associated with CMD.<sup>13</sup> This should be considered in the context that CMD generally remained stable in the UK Veteran population, and hazardous drinking decreased.<sup>18</sup> Prior research regarding the relationship between employment and mental health during the COVID-19 pandemic showed that job instability was associated with poor mental health, but that furlough may mitigate this effect.<sup>1</sup> This study found that those with negative changes to their employment status had increased rates of CMD, irrespective of whether they were furloughed or unemployed. There was no statistical difference between the furloughed and unemployed groups. This could be due to financial strain, impact on personal status and identity, or boredom and isolation from no longer being active in a workplace.

Overall, these findings provide evidence that Veterans seem to have been hit harder than the general population regarding employment during the COVID-19 pandemic. This may be particularly problematic because there are noted barriers to Veteran employment (aside from the pandemic) such as translation of skills and employer stigma regarding Veteran mental health, *inter alia*.<sup>19</sup> The higher employment rates of Veterans pre-COVID-19 indicates that most overcame these barriers in the past, but they may nonetheless create difficulties in returning to the labour market as COVID-19 restrictions reduce. Given the concurrent impact on

mental health combined with increased mental health risk factors (in this case, unemployment), government and charities in mental health and employment sectors may want to target support to unemployed, furloughed, and self-employed Veterans.

### Strengths and limitations

Data in this study are from a cohort of UK Armed Forces personnel who served at the time of the recent Iraq and Afghanistan conflicts and have since left the military. Thus, generalizability is limited to Veterans of that era, that is, older working-age Veterans. This is unlikely to greatly affect the results, because older Veterans of prior eras would largely have been retired before the COVID-19 outbreak, and personnel serving after this era who have since joined the labour market are comparatively few in number in this sample. Nonetheless, it is possible that this study underestimates the negative consequences of COVID-19 as a result of the small number of younger Veterans, because younger people are more likely to have been affected by job losses during COVID-19. This study applies to the effects of unemployment in the period of the COVID-19 pandemic from June to September 2020 and is not necessarily generalizable to the impact of unemployment on mental health in other contexts. The consequences of the second and third lockdowns in the United Kingdom

from November 2020 to March 2021 and the stopping of government furlough in September 2021 have further impacts on the Veteran group that should be monitored into the future. New onset of mental health difficulties is approximate, because the measure before COVID-19 was taken between 2014 and 2016 and may have changed between that phase of data collection and the onset of the pandemic. The low numbers of women in the sample, although a potential explanation for the observed effects on employment, limits the analysis and utility of these findings in assessing the impact on women Veterans.

## Conclusions

Overall, although Veteran unemployment is not worse than that among the general population, the disproportionate rise in unemployment among Veterans indicates that they were more affected by the COVID-19 pandemic than the general population. This is likely a result of the high proportion of men Veterans; former full-time men employees are the largest driver of unemployment in the general population, and the largest group of new employees that would counterbalance full-time job losses among men (i.e., full-time women) are under-represented. Negative impact on employment was greater among part-time and self-employed Veterans (as in the general population), suggesting that these groups should be priorities for support as the job market stabilizes after the pandemic and in future situations involving large-scale contractions of the job market.

## AUTHOR INFORMATION

**Howard Burdett**, MBiochem, MSc, LLB, PhD, is a research fellow at the King's Centre for Military Health Research (KCMHR). His research has focused on socio-economic trajectories from in-service to post-service life of UK military personnel and has also examined the long-term socio-economic and well-being consequences of battlefield injury during Operation HERRICK and associated recuperation. Burdett's experience is in mixed-methods research, including cross-sectional studies, longitudinal studies, randomised controlled trials, meta-analysis, and data linkage.

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**Sir Simon Wessely**, M.A., M.Sc., M.D., M.R.C.Psych, founded the King's Centre for Military Health Research and has been Civilian Consultant Advisor in Psychiatry to the British Army since 2001. He is a fellow of the Royal College of Physicians, Royal College of Psychiatrists, Academy of Medical Sciences, and Royal Society, as well as being Past President of the Royal College of Psychiatrists and Royal Society of Medicine. Wessely is currently Executive Dean of the Institute of Psychiatry, Psychology, and Neuroscience, King's College London.

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## COMPETING INTERESTS

H Burdett, S Wessely, and NT Fear are funded in part by a grant from the UK Ministry of Defence. M Jones's salary is supported by funding granted to King's College London by the UK Office for Veterans' Affairs. D Murphy is a trustee at the Forces in Mind Trust (FiMT). FiMT funds Veterans research but did not fund this project. S Wessely is Honorary Civilian Consultant Advisor in Psychiatry for the British Army (unpaid) and is affiliated with the National Institute for Health Research Health Protection Research Unit in Emergency Preparedness and Response at King's College London in partnership with Public Health England, in collaboration with the University of East Anglia and Newcastle University.

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## ETHICS APPROVAL

This research was approved by the Kings College London Research Ethics Committee, London, United Kingdom, on May 13, 2020.

## INFORMED CONSENT

N/A

## REGISTRY AND REGISTRATION NO. OF THE STUDY/TRIAL

N/A

## ANIMAL STUDIES

N/A

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## PEER REVIEW

This article was peer reviewed.

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