



Suicides in the UK regular armed forces: Annual summary and trends over time

1 January 1984 to 31 December 2021

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This annual Statistical Notice provides summary information on suicides that have occurred among serving UK regular armed forces personnel during the 20-year period 2002-2021. This information updates previous notices and includes new data for 2021. The notice provides numbers and rates for the latest 20-year period, with all time trend graphs presenting rates since the start of data collection in 1984.

The data are presented for the whole UK regular armed forces and separately for each of the services; Royal Navy (Royal Navy and Royal Marines), Army (including the Gurkhas) and Royal Air Force. This release presents comparisons to the UK general population in addition to comparisons between the three services. Due to the low numbers of suicides among female service personnel since 2002 (n=21), analysis for females aged 16-59 has been presented separately at the beginning of this notice. The rest of the analysis in this notice has then been restricted to males only, aged 16-59 years.

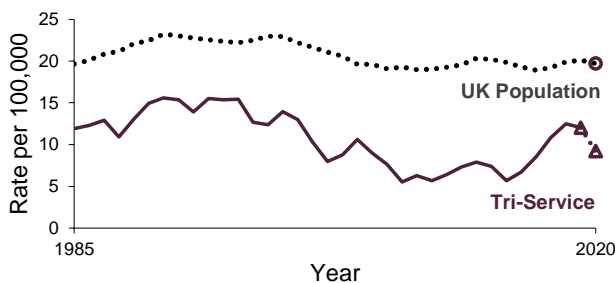
2021 Key points and trends

For the 20-year period 2002-2021, 285 suicides occurred among UK regular armed forces personnel: 264 among males, and 21 among females. This represents an addition since the previous notice of one death in 2018, two deaths in 2019, seven deaths in 2020 and seven deaths in 2021 that have now been confirmed as suicide by a coroner.

Suicide remains a rare event in the UK armed forces; in 2021 there were seven coroner confirmed suicides, with an additional 22 deaths that may result in a suicide verdict once Coroner Inquests are held. This represents less than one death per 1,000 armed forces personnel.

UK regular armed forces and UK general population male suicide, three-year moving average, age standardised rate per 100,000

1984-2021



The UK regular armed forces have seen a declining trend in male suicide rates since the 1990s and were consistently lower than the UK general population over the last 35 years. However, in the last five years the number of army male suicides have been increasing and since 2017, the risk of suicide among army males was the same as the UK general population for the first time since the mid 1990's.

An emerging trend has been identified when considering confirmed with suspected suicides; suicides in the UK regular armed forces are increasing, partly driven by deaths in the Royal Navy and Army, including Army females. Historically, the number of suicides among UK armed forces females was low, with on average one death per year in the latest twenty-year period. However, the number of coroner confirmed and suspected suicides among females has risen in the last two years.

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Background Quality Report

Would you like to be added to our contact list so that we can inform you about updates to these statistics and consult you if we are thinking of making changes? You can subscribe to updates by emailing: Analysis-PQ-FOI@mod.gov.uk

# Contents

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Introduction.....	3
Things you need to know about this release.....	3
Results: Overall numbers and rates of suicide.....	4
Overall suicides and waiting verdicts.....	4
Female suicides and waiting verdicts.....	4
Trends over time – Service.....	5
Trends over time – Comparison to UK general population.....	8
Trends over time – Age and service.....	10
Results: Methods used to commit suicide.....	12
Overall number by method.....	12
Trends over time – Methods.....	13
Methodology.....	17
Data sources.....	17
Data coverage.....	18
Calculating a rate.....	18
Calculating standardised mortality ratios (SMR).....	18
Strengths and weaknesses of data presented in this notice.....	19
Changes to previously published data.....	19
Annex A – UK regular armed forces suicides 1984-2021, additional table.....	21

## Supplementary tables containing:

- all tables and figures presented in this publication alongside the underlying data for figures
- tables with rates and SMR numbers and 95% confidence intervals can be found in the [UK armed forces suicides index](#)

## Information for the media

If you are a journalist covering a suicide-related issue, please consider following the Samaritans' media guidelines on the reporting of suicide, due to the potentially damaging consequences of irresponsible reporting. In particular, the guidelines advise including links to sources of support for anyone affected by the themes in the article, such as [Samaritans](#).

## National Statistics Status

National Statistics Status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

The continued designation of these statistics as National Statistics was confirmed in November 2013 following a compliance check by the Office for Statistics Regulation.

The statistics last underwent a full assessment against the Code of Practice in 2012.

Since the latest review by the Office for Statistics Regulation, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements:

- aided user understanding by improving explanations on rates, confidence intervals and Standardised Mortality Ratios.

## Introduction

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This annual Statistical Notice provides summary information on suicides that have occurred among serving UK regular armed forces personnel during the 20-year period 2002-2021. The data are presented for the whole UK regular armed forces and separately for each of the services; Royal Navy (Royal Navy and Royal Marines), Army (including the Gurkhas) and Royal Air Force. Due to the low number of suicides among female service personnel since 2002 (n=21), analysis for females aged 16-59 has been presented separately at the beginning of this notice. The rest of the analysis in this notice has then been restricted to males only, aged 16-59 years.

The notice includes suicides in line with the definition used by the Office for National Statistics (ONS) in the publication of National Statistics. The National Statistics definition of suicide includes deaths given an underlying cause of intentional self-harm or an injury/poisoning of undetermined intent. In England and Wales, it has been customary to assume that most injuries and poisonings of undetermined intent are cases where the harm was self-inflicted, but there was insufficient evidence to prove that the deceased deliberately intended to kill themselves<sup>a</sup>, thus given an open or narrative verdict by the coroner. The convention has been adopted across the UK.

In accordance with ONS practice, all deaths are coded to the International Classification of Diseases 10<sup>th</sup> edition (ICD-10) which is produced by the World Health Organisation (WHO). Information held in death certificates and coroner's verdicts is analysed and assigned the appropriate ICD code to ensure that deaths included in this notice are only those which meet the National Statistics definition of suicide. To ensure the highest accuracy of information and that all cases previously recorded as 'waiting verdict' were followed up, Defence Statistics carry out an annual update with data held by the ONS and other authorities (refer to 'Methodology' and 'Changes to previously published data').

Trend graphs present data from the start of data collection in 1984 to show the changing picture over time. However, to provide a balance between presenting analysis for a sufficient time period from which to provide meaningful data with the need to monitor the impact of MOD policy, all tables and graphics are presented as numbers and rates aggregated for the latest 20-year period. In addition, numbers and rates for the latest three or five-year period are used to present recent changes in trends. However, as these rates use small numbers, they may be less reliable, increasing the likelihood of the findings being a result of chance. Tables presenting the number of suicides per year since 1984 can be found at **Table A2, Annex A**.

To compare suicides among the UK regular armed forces with those among the UK general population, Standardised Mortality Ratios (SMR) have been calculated for each service for the 38-year-period 1984-2021 (shown in **Additional Figure 9** presented in the web supplementary tables) and age specific mortality ratios for each service. Yearly changes in the UK general population have been taken into account in these calculations. See the '**Methodology**' section for further details.

Details of the data sources and methods used to collect and analyse the data and additional information are described briefly in the section '**Methodology**' and in more detail in the Background Quality Report. In line with National Statistics protocols, amendments have been annotated by the letter 'r' and explanations provided in the section '**Changes to previously published data**'.

### Things you need to know about this release

#### *Change in the standard of proof used by coroners in England and Wales*

In England and Wales, all deaths caused by suicide are certified by a coroner. In July 2018, the standard of proof used by coroners to determine whether a death was caused by suicide was lowered to the "civil standard" – balance of probabilities – where previously a "criminal standard" was applied – beyond all reasonable doubt. The change does not affect Northern Ireland or Scotland. It is possible that lowering the standard of proof may result in an increased number of deaths recorded as suicide, possibly creating a discontinuity in our time series.

<sup>a</sup> Adelstein A and Mardon C (1975) 'Suicides 1961–1974', Population Trends 02, 13–18

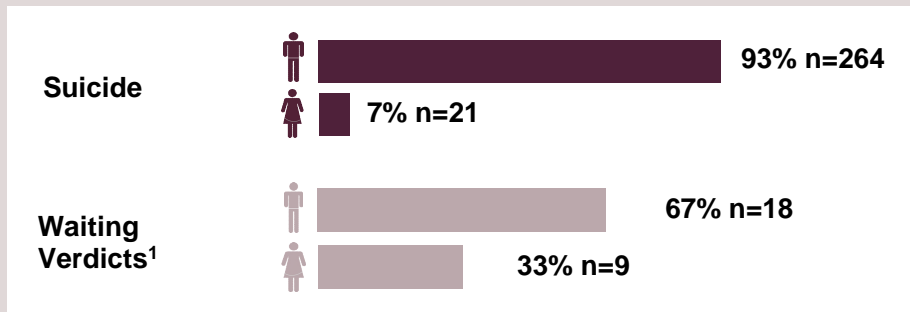
## Results: Overall numbers and rates of suicide

### Overall suicides and waiting verdicts

- For the latest 20-year period 2002-2021, there were 285 suicides in the UK regular armed forces. A further 27 deaths have been referred to a coroner (or Scotland, the Procurator Fiscal) since 2017 where the mechanism of injury indicated possible suicide, which may be returned as suicide following an inquest (22 of which occurred in 2021).
- There were **264** suicides among UK regular armed forces males during the period 2002-2021. During the same period **21** suicides (7%) occurred among female personnel. Details of deaths by gender for each year between 1984 and 2021 are shown in **Table A2 (Annex)**.

**Figure 1: UK regular armed forces suicide and waiting verdict deaths<sup>1</sup> by gender, numbers and percentages<sup>2</sup>**

2002-2021



Source: Defence Statistics Health

<sup>1</sup> Waiting verdicts since 2017

<sup>2</sup> Percentages (%) have been rounded to the nearest whole number.

### Female suicides and waiting verdicts

- Female suicide remains a rare event in the UK regular armed forces with on average around one death per year in the latest 20-year period. However, the numbers of confirmed and suspected suicides among regular armed forces females have increased in the last two years. The number of female coroner confirmed suicides and waiting verdicts have been presented in **Table 1**.

**Table 1: UK regular armed forces<sup>1</sup> female suicides and waiting verdicts<sup>2</sup>, numbers**  
2017-2021

Year	Coroner Confirmed Suicides	Waiting Verdicts <sup>2</sup>
All	6	9
2017	1	0
2018	1 <sup>p</sup>	1 <sup>p</sup>
2019	0 <sup>p</sup>	1 <sup>p</sup>
2020	3	0
2021	1 <sup>p</sup>	7 <sup>p</sup>

Source: Defence Statistics Health

<sup>1</sup> Figures are for female regular personnel and only those female reservists who have died whilst on operational deployment.

<sup>2</sup> Waiting verdicts since 2017.

'p' data is provisional and subject to change in accordance with the outcome of waiting verdicts.

## Results: Overall numbers and rates of suicide (cont.)

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4. Whilst the number of coroner confirmed suicides among UK regular armed forces females has risen in recent years, the number of coroner confirmed suicides remains small and therefore all subsequent analysis, tables and graphs in this notice focus on suicides among **males** aged 16-59 years. Please note, only deaths confirmed as suicide were included in this analysis; deaths awaiting coroner verdict were not included.

### Trends over time

5. In order to compare trends in the rates for each service over the period 1984-2021 and to take into account the different age structure of the three services, rates have been age standardised. **Figure 2** illustrates these trends as a three-year moving average to eliminate some of the random year on year variation in rates due to small numbers of suicides and to give a clearer picture of trends.
6. It should be noted there were 15 **male** deaths which occurred in 2021 where the mechanism of injury suggests possible suicide that are awaiting a coroner's inquest (waiting verdict). It is therefore likely that the suicide rates may be revised when the results of any outstanding inquests are known (see 'Methodology' and 'Changes to previously published data' section).

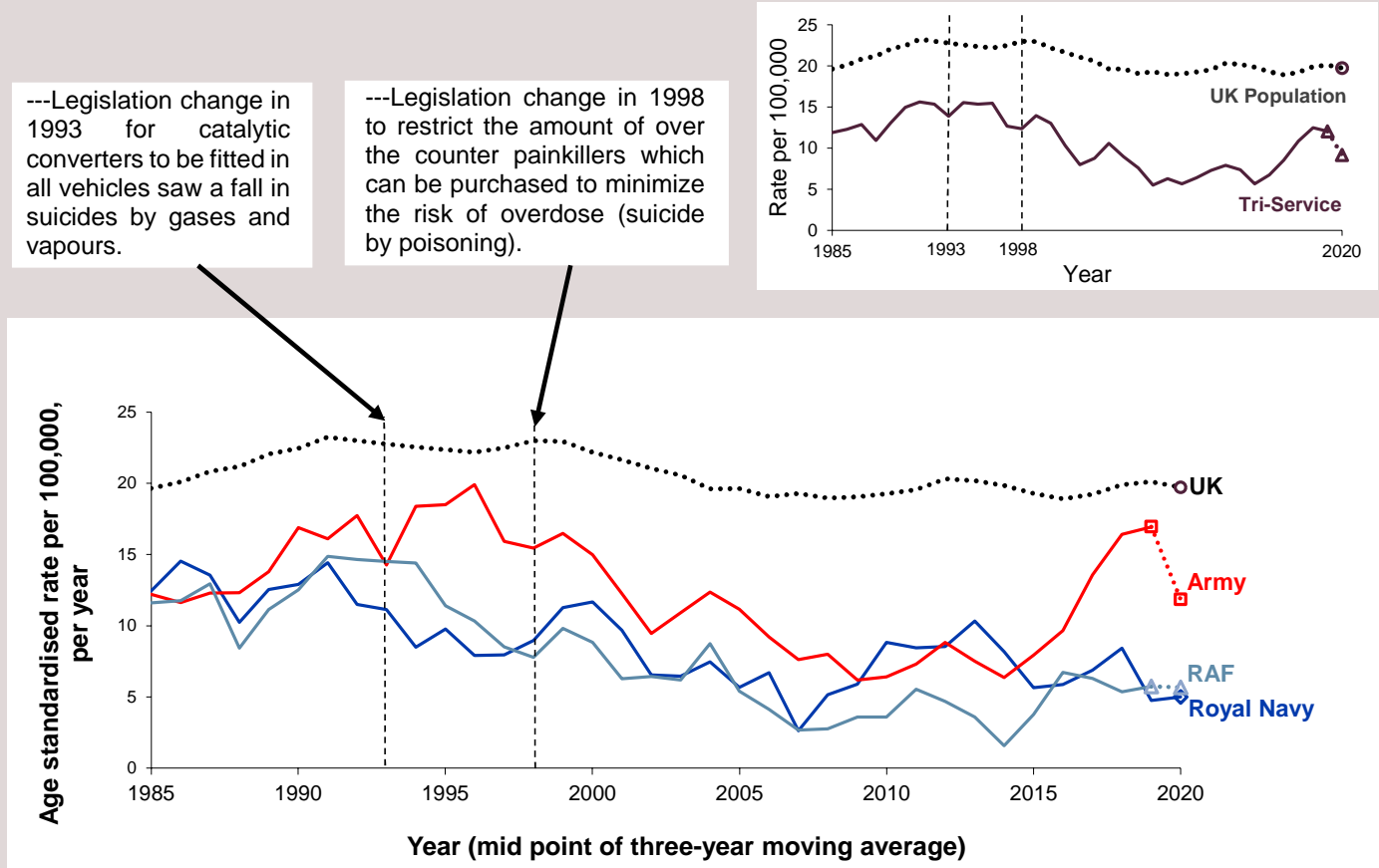
### *UK armed forces as a whole*

7. Suicide rates in the UK regular armed forces as a whole have shown a **declining trend** since the 1990's greater than that seen in the UK general population (**Figure 2**). However, in the five years up to 2019, the number of UK regular armed forces male suicides increased. The number of suicides among males in the UK general population also increased in 2018 and 2019 before falling in 2020 (latest information available for the UK general population).
8. Rates among UK regular armed forces males have risen from 7 per 100,000 in 2015 to 12 per 100,000 in 2019 (latest three-year average rate less likely to be impacted by the number of deaths awaiting verdict, as rates may be revised when the results of any outstanding inquests are known). See 'Methodology' and 'Changes to previously published data' sections for further information.

**Rates** – The Army, Royal Navy and RAF have different age structures. Rates enable comparisons between the services taking account of these differences, by representing the three quantities in the same unit i.e. per 100,000. This is done by calculating number of deaths divided by number of personnel at risk, multiplied by 100,000 (see methodology).

## Results: Overall numbers and rates of suicide (cont.)

**Figure 2: UK regular armed forces and UK general population male suicide by service<sup>1</sup>, three-year moving average<sup>2</sup>, rates<sup>3,4,5,6</sup> 1984-2021**



**Male suicide rates for the UK regular armed forces as a whole were consistently lower than the UK general population**

**Army male suicide rates have increased in the last five years**

**As a result of deaths awaiting a coroner's inquest, the rates of suicide for each service since 2018 may increase.**

**Source: Defence Statistics Health**

<sup>1</sup> Royal Navy includes Royal Navy and Royal Marines.

<sup>2</sup> The year shown is the mid-point of a three-year average, e.g. 1985 refers to the period 1984-1986.

<sup>3</sup> Rates have been age standardised to the 2021 armed forces population, expressed per 100,000 personnel at risk.

<sup>4</sup> If there are any waiting verdicts in the three-year period, the data point is shown as hollow and the line marked as '-'. These rates may change once the result of coroner inquests are known.

<sup>5</sup> Values presented to two decimal places.

<sup>6</sup> 2021 UK population deaths data is unavailable, 2020 data has been used as a proxy, this is represented by a hollow data point.

**Figure 3: UK regular armed forces male suicides by service<sup>1</sup>, age-standardised<sup>2</sup> rates 2002-2021**



<sup>1</sup> Royal Navy includes Royal Navy and Royal Marines.

<sup>2</sup> Rates have been age standardised to the 2021 armed forces population, expressed per 100,000 personnel at risk.

## Results: Overall numbers and rates of suicide (cont.)

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### Trends over time - Service

9. Suicide remains a rare event in the UK regular armed forces and **Figure 2** shows suicide rates across all three services have fallen since the 1990s. However, in the last five years there was an increase in the rate of suicide among Army males from six per 100,000 in 2014 to 17 per 100,000 in 2019.
10. Rates among Army personnel were higher than the other services throughout most of the period presented. For the latest 20-year period (2002-2021) the rate of suicides was significantly lower in the RAF compared to the Army. There were no significant differences between any of the other services.
11. It should be noted that the small number of suicides each year in each service can impact the three-year moving average rate. A small increase in suicides from one in 2015 to two in 2016 and two in 2017 had a cumulative effect on the three-year moving average rate of RAF suicides covering this period.

## Results: Overall numbers and rates of suicide (cont.)

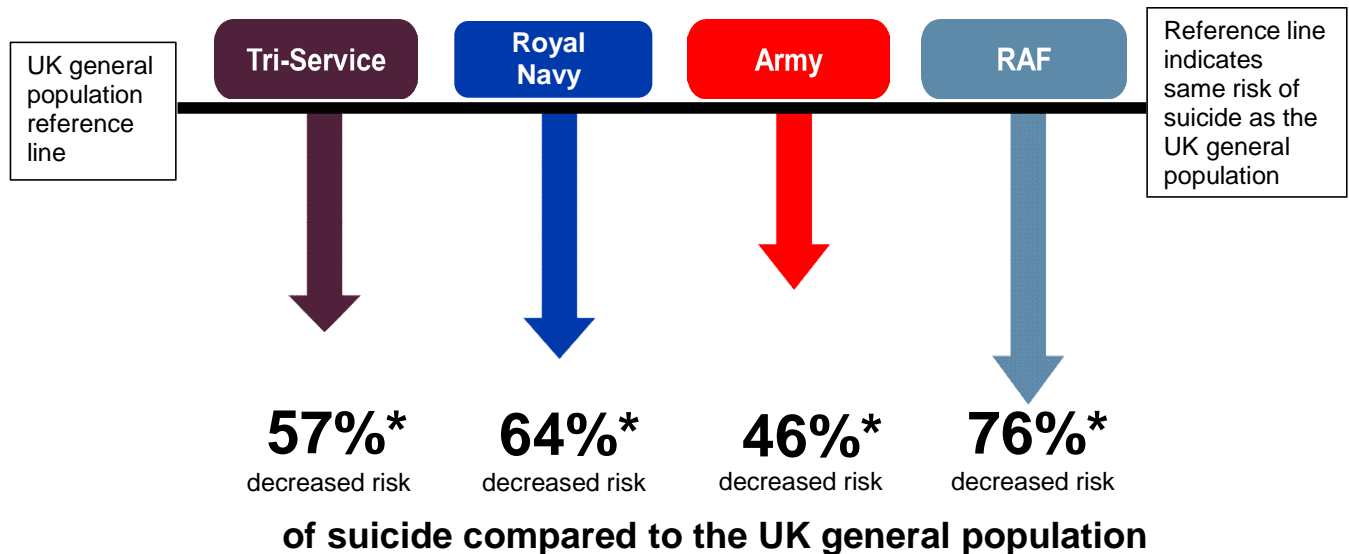
### Trends over time – Comparison to UK general population

#### Standardised Mortality Ratios (SMR)

To make comparisons between suicide rates in the UK armed forces and the UK general population, an SMR is calculated which takes account of the different age structure in the two populations. The SMR is the ratio of the number of deaths observed in the armed forces to the number of deaths expected if the armed forces population had the same age specific rates as the UK general population in each year. An SMR over (or under) 100 indicates a higher (or lower) number of observed deaths than expected compared to the UK general population and represents whether the armed forces are at an increased or decreased risk of death compared to the UK population. An SMR of 100 implies there is no difference in rates when comparing the UK regular armed forces population with the UK population. An SMR where the 95% confidence interval does not encompass 100 implies there is a statistically significant difference in rates when comparing the UK regular armed forces population with the UK general population.

12. Since 1984, the UK regular armed forces as a whole had suicide rates lower than would be expected if the UK regular armed forces had the same age profile as the UK general population (as indicated by UK regular armed forces Standard Mortality Ratios (SMR) being below the black reference line in **Additional Figure 9** presented in the web supplementary tables).
13. For the latest 20-year period 2002-2021, the suicide rate for each service and the UK regular armed forces as a whole was **statistically significantly lower** than would be expected if the armed forces had the same age profile over time as the UK general population (see **Additional Table 4** in the web supplementary tables for more details).
14. **Figure 4** presents the percentage decreased risk of suicide for the UK regular armed forces as a whole and for each service compared to the UK general population for the latest 20-year period 2002-2021.

**Figure 4: UK regular armed forces male suicides by service<sup>1</sup>, standardised mortality ratios<sup>2</sup> 2002-2021**



Source: Defence Statistics Health

<sup>1</sup> Royal Navy includes Royal Navy and Royal Marines.

<sup>2</sup> Ratios have been standardised for age and calendar year.

\* Statistically significant risk of suicide compared to the UK general population. If there is no asterisk (\*), then there is no statistical significant difference between the service and the UK general population.



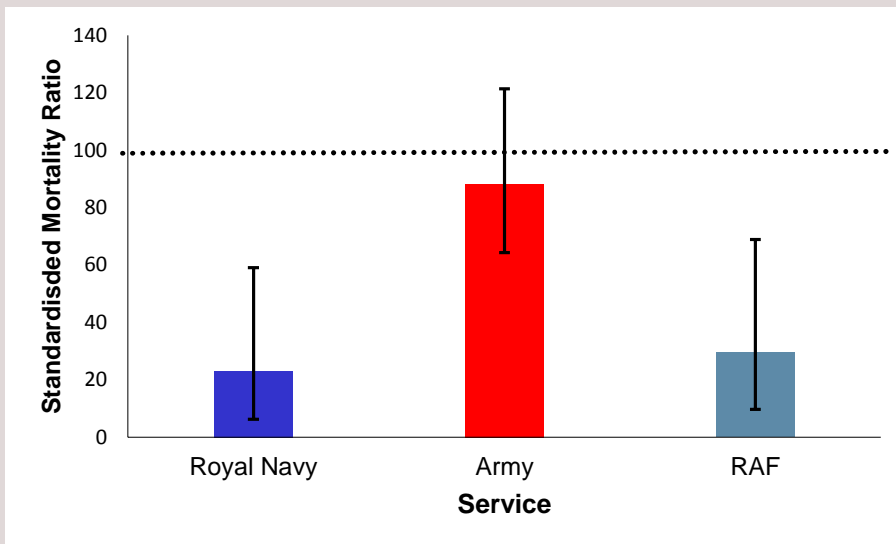
## Results: Overall numbers and rates of suicide (cont.)

### Recent trends

15. Whilst the UK armed forces as a whole had lower suicide rates than the UK general population throughout the period presented, Army male suicides have risen over the last five years (**Figure 2**). In order to understand this rise within the context of UK general population suicides, **Figure 5** presents comparisons to the UK general population for a three-year period by service. The three-year period 2018-2020 was selected to remove the effect of the number of male deaths awaiting verdict in 2021 (n=15), as rates may be revised when the results of any outstanding inquests are known (see 'Methodology' and 'Changes to previously published data' sections).

16. Since the mid 1990's the risk of suicide among army males was lower than the UK general population. However, for the period 2018-2020, the **risk of suicide among army males was the same as the UK general population**. The risk of suicide in males in the Royal Navy and RAF remain significantly lower than the risk among males in the UK general population (Figure 5).

**Figure 5: UK regular armed forces male suicides by service<sup>1</sup>, standardised mortality ratios<sup>2,3,4</sup> 2018-2020**



For the period 2018-2020, the **risk of suicide in Royal Navy and RAF males was significantly lower than the UK general population**. This was indicated by the SMR being below 100 and 95% confidence intervals which exclude 100.

For the period 2018-2020, the **risk of suicide in the Army was the same as for males in the UK general population**. This was indicated by the 95% confidence intervals encompassing 100.

**Source: Defence Statistics Health**

<sup>1</sup> Royal Navy includes Royal Navy and Royal Marines.

<sup>2</sup> Ratios have been standardised for age and calendar year.

<sup>3</sup> The black dotted reference line indicates the same risk of suicide as the UK general population.

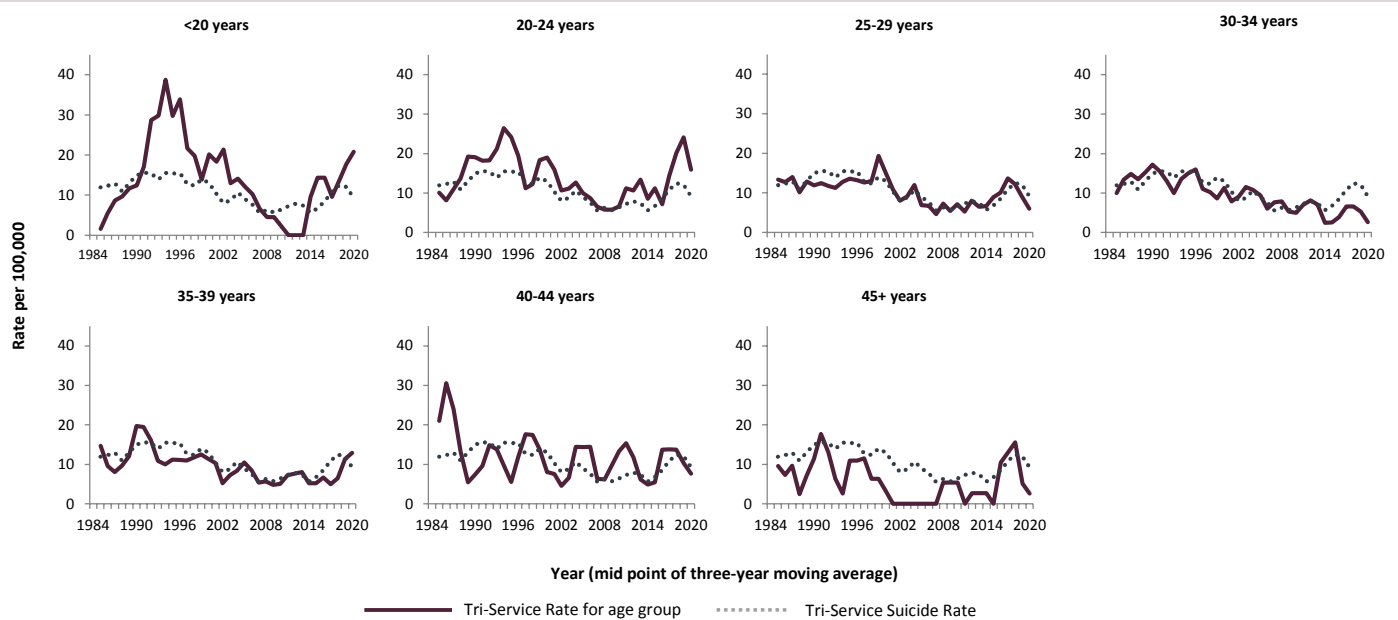
<sup>4</sup> 2021 UK population deaths data is unavailable, 2020 data has been used as a proxy to calculate the SMR.

## Results: Overall numbers and rates of suicide (cont.)

### Trends over time – Age and service

17. **Figure 6** presents the three-year moving average male suicide rate for UK regular armed forces by age group. **Additional Figure 10** in the [supplementary tables](#) presents comparisons, by service, with male suicides in the same age group in the UK general population.

**Figure 6: UK regular armed forces male suicides by age group, three-year moving average<sup>1</sup> rates<sup>2,3</sup> 1984-2021**



In the latest twenty-year period, for all age groups except those aged under 20, UK armed forces male suicides were lower than would be expected in the UK general population. Those aged under 20 were at the same risk as males of the same age in the UK general population.

In the last three-year period, suicide rates were highest among UK regular armed forces males aged under 24 and those aged 35-39 years.

#### Source: Defence Statistics Health

<sup>1</sup> The data shown is the mid-point of a three-year average, e.g. 1985 refers to the period 1984-1986.

<sup>2</sup> Values presented to two decimal places.

<sup>3</sup> 2021 UK population deaths data is unavailable, 2020 data has been used as a proxy.

18. In the latest three-year period, males aged under 20 years, 20-24 years and 35-39 years had the highest rates of suicide. Each of these age groups had higher rates than the UK armed forces as a whole.
19. Rates of suicide among UK regular armed forces males have increased among those aged under 20 years and 35-39 years in the last three years (**Figure 6**). This increasing trend has been seen in the UK general population for males aged 35-39 years, but not for males aged under 20 years.
20. In the latest three-year period, suicide rates were lowest amongst UK regular armed forces males aged 45 years and over. This contrasts with the UK general population where males aged over 45 years had the highest suicide rate of any age group.

## Results: Overall numbers and rates of suicide (cont.)

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21. In the 1990's, Army males aged under 20 years of age were at a statistically significant increased risk of suicide compared to the UK general population. However, since 2000, the risk of suicide in young Army males has remained the same as the risk in males of the same age in the UK general population.
22. Whilst the UK regular armed forces saw similar patterns among the different age groups for the rates of suicide as the UK general population, in the latest twenty-years the risk of suicide remained significantly lower than the UK general population for all ages except those aged under 20 years, where the suicide risk was the same as the UK general population.
23. Unemployment, economic hardship<sup>b</sup> and marital breakdown in middle aged men within the UK general population are considered high risk factors for suicide, which may explain the higher rate of suicide in those aged 45-49 years. It is difficult to make comparisons for all of these risk factors with UK regular armed forces personnel as these personnel are in full employment with a regular income; this may partially explain the lower mortality rates among middle-aged military personnel compared to the UK general population.
24. The lower age-specific mortality rates and SMR's in the UK regular armed forces may also partially be explained by the 'healthy worker effect' often observed in occupational studies. This is deemed to occur when 'workers' are found to have lower mortality or other adverse health outcome rates than the general population because certain groups of people are excluded from employment, particularly those who are ill or who have disabilities. This is to be expected in studies of armed forces mortality, as they are generally a highly selected group of individuals who are likely to have higher than usual levels of fitness and lower levels of ill-health.
25. Several other factors, specific to service life both on and off duty, may also play a role in reducing the risk of suicide in the UK regular armed forces compared to the UK general population. This may include the strong group loyalty, bonding and mutual dependence encourage at all levels in the services, particularly in small combat units.

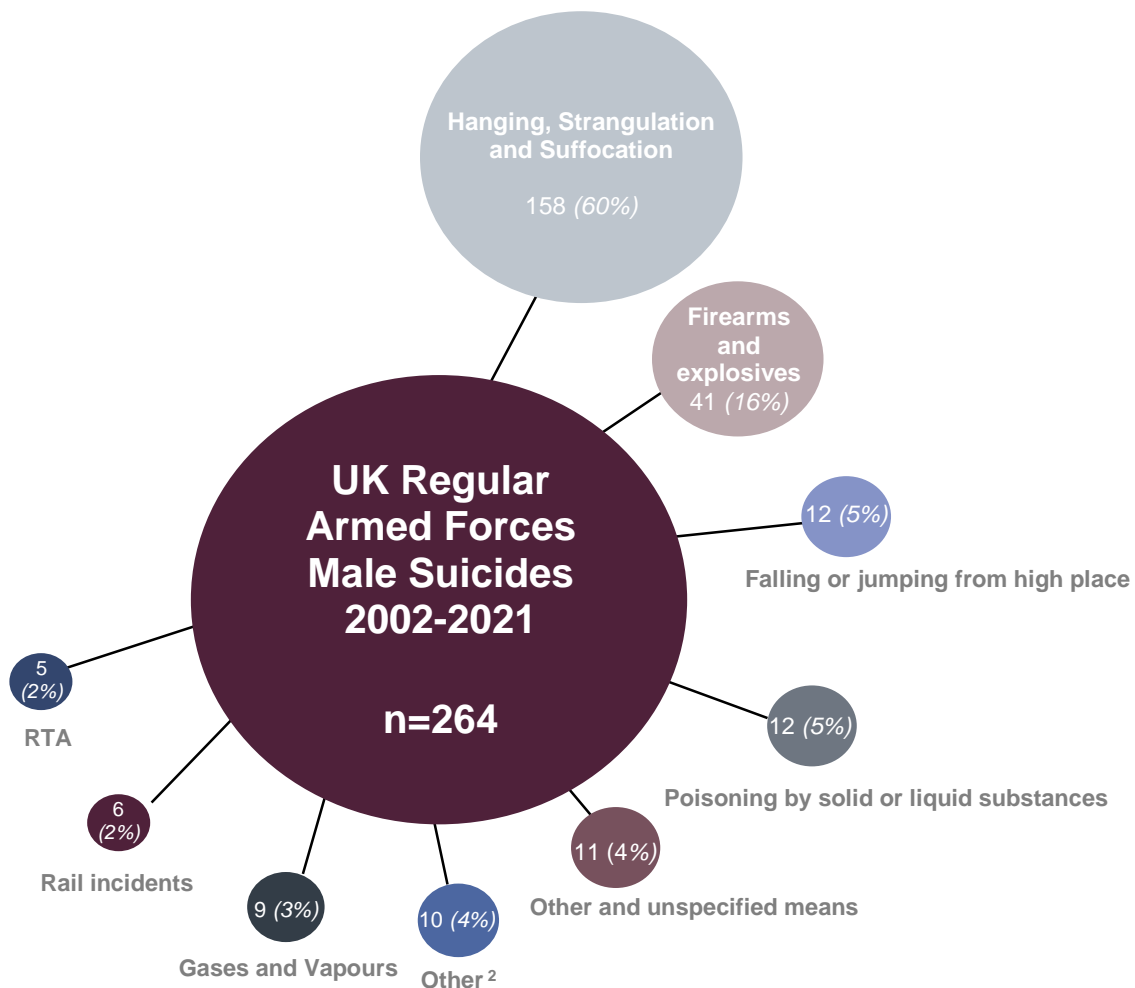
<sup>b</sup> [ONS: Suicides in England and Wales](#)

## Results: Methods used to commit suicide

### Overall number by method

26. **Figure 7** provides details of the methods used to commit suicide by personnel in all three services during the period 2002-2021.
27. The likelihood of committing suicide depends on the ease of access to and knowledge of an effective method. The following methods account for 86% of all cases in the UK regular armed forces; hanging, strangulation and suffocation (60% of all cases); firearms and explosives (16% of all cases); poisoning by solid or liquid substances (5% of all cases); and falling or jumping from a high place (5% of all cases).
28. Suicide by hanging, strangulation and suffocation was the most common method of suicide in males in the UK general population for 2020<sup>p</sup> where it accounted for 61% of all male suicides. Poisoning by solid or liquid substances accounted for 16% of all male suicides.
29. UK regular armed forces suicides using firearms and explosives were not comparable with the UK general population due to UK laws restricting access to firearms in the general population.

**Figure 7: UK regular armed forces male suicides by method, numbers and percentages<sup>1</sup> 2002-2021**



**Source: Defence Statistics Health**

<sup>1</sup> Percentages (%) have been rounded to the nearest whole number. Percentages may not add to 100% due to rounding.

<sup>2</sup> Other includes Submersion (Drowning) 2% (n=4), Cutting and piercing 2% (n=4) and Air transport incident 1% (n=2).

## Results: Methods used to commit suicide (cont.)

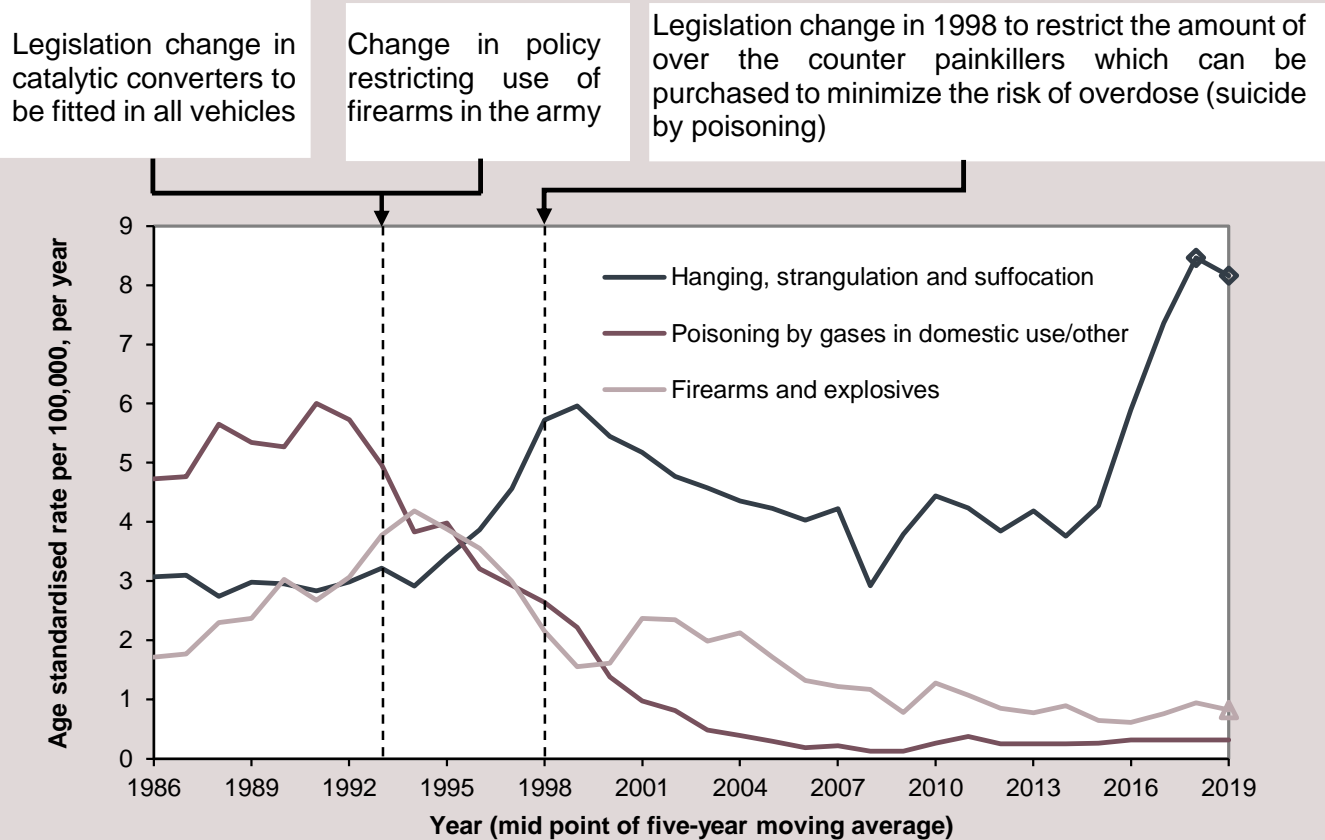
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### Trends over time – Methods

30. **Figure 8** illustrates the changes in the use of the three most common methods of UK regular armed forces suicide over the period 1984-2021. Due to small numbers involved, the data have been aggregated to give five-year moving averages. This eliminates some of the random variation that can occur due to small numbers and provides a clearer picture of trends.
31. The likelihood of committing suicide is related to access to means. The impact of changes in legislation and policy on the types of method employed to commit suicide can be seen in **Figure 8**. The use of 'poisoning by gases and vapours' was the most common method of suicide in the UK regular armed forces until UK legislation was changed in 1993 to fit catalytic converters to vehicles following which there was a steep decline in the rate of suicide by gases and vapours. In recent years, the rate of poisonings by gases and vapours has fallen to a rate similar to poisonings by solid or liquid substances. The change in policy in the mid-1990's restricting access to weapons in the Army also resulted in a fall in the rate of suicides by 'firearms and explosives'. In the latest 20-year period (2002-2021), 'Hanging, strangulation and suffocation' remains the most common method for suicide in the UK regular armed forces.
32. The UK regular armed forces rate of male suicide by 'Hanging, strangulation and suffocation' rose in the mid-1990's following the restrictions in access to gases and vapours and firearms as a result of legislative and policy changes. In the period 2006-2010, there was a declining trend in the rate of 'Hanging, strangulation and suffocation' to a low of 3 per 100,000. However, the rate of suicide by this method has increased in recent years to 8 per 100,000.
33. The rates of suicide in the UK regular armed forces by 'gases and vapours' and 'firearms and explosives' remain low for the latest five-year period 2017-2021, at less than one per 100,000.

## Results: Methods used to commit suicide (cont.)

**Figure 8: UK regular armed forces male suicide rates by method and five-year moving average<sup>1</sup>, age-standardised<sup>2</sup> rates<sup>3,4</sup> 1984-2021**



Source: Defence Statistics Health

<sup>1</sup> The year shown is the mid-point of a five-year average, e.g. 1986 refers to the period 1984-1988.

<sup>2</sup> Rates have been age standardised to the 2021 armed forces population, expressed per 100,000 strength.

<sup>3</sup> If there are any waiting verdicts in the five-year period, the data point is shown as hollow.

<sup>4</sup> Values presented to two decimal places.

**Suicide by 'Hanging, strangulation and suffocation' was the most common method of suicide among UK regular armed forces males since the mid 1990's. This could be due to changes in legislation restricting access to other methods.**

**Suicide by 'Hanging, strangulation and suffocation' was also the most common method of suicide in the UK general population.**

## Glossary

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**Army** – The British Army consists of the General Staff and the deployable Field Army and the regional forces that support them, as well as joint elements that work with the Royal Navy and Royal Air Force. Its primary task is to help defend the interests of the UK.

**Confidence Interval** – For a given statistic calculated for a sample of observations (e.g. the mean), the confidence interval is a range of values around that statistic that are believed to contain, with a certain probability (e.g. 95%), the true value of that statistic (i.e. the population value).

**Coroner** – A government official whose role is to confirm and certify the death of an individual within a jurisdiction. A coroner may also conduct or order an inquest into the manner or cause of death, and investigate or confirm the identity of unknown person who has been found dead within the coroner's jurisdiction.

**International Statistical Classification of Diseases and Health-Related Disorders 10<sup>th</sup> edition (ICD-10)** is the standard diagnostic tool for epidemiology, health management and clinical purposes. It is a medical classification developed by the World Health Organisation.

**Northern Ireland Statistics and Research Agency (NISRA)** is the principal source of official statistics and social research in Northern Ireland.

**Procurator Fiscal** is a public prosecutor in Scotland. They investigate all sudden and suspicious deaths in Scotland (similar to a coroner in other legal systems), conduct fatal accident inquiries (a form of inquest unique to the Scottish legal system) and handle criminal complaints against the police.

**Royal Air Force (RAF)** – The RAF is the aerial defence force of the UK.

**Royal Marines (RM)** are sea-going soldiers who are part of the Naval Service. RM officer ranks were aligned with those of the Army on 1 July 1999.

**Royal Navy (RN)** – The sea-going defence forces of the UK but excludes the Royal Marines and the Royal Fleet Auxiliary service (RFA).

**Strength** is defined as the number of serving UK regular armed forces personnel at a point in time.

**UK regulars** are full time service personnel, including nursing services, but excluding FTRS personnel, Gurkhas, Naval activated reservists, mobilised reservists, Military Provost Guarding Service (MPGS) and Non Regular Permanent Service (NRPS). Unless otherwise stated, includes trained and untrained personnel.

- **FTRS (Full-Time Reserve Service)** are personnel who fill service posts for a set period on a full-time basis while being a member of one of the reserve services, either as annex-regular or as a volunteer. An FTRS reservist on:

**Full Commitment (FC)** fulfills the same range of duties and deployment liability as a regular service person;

**Limited Commitment (LC)** serves at one location but can be detached for up to 35 days a year;

**Home Commitment (HC)** is employed at one location and cannot be detached elsewhere.

Each service uses FTRS personnel differently:

- The Royal Navy predominantly uses FTRS to backfill gapped regular posts. However, they do have a small number of FTRS personnel that are not deployable for operations overseas. There is no distinction made in terms of fulfilling baseline liability posts between FTRS Full Commitment (FC), Limited Commitment (LC) and Home Commitment (HC).

## Glossary (cont.)

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- The Army employ FTRS(FC) and FTRS(LC) to fill regular Army liability (RAL) posts as a substitute for regular personnel for set periods of time. FTRS(HC) personnel cannot be deployed to operations and are not counted against RAL.
- The RAF consider that FTRS(FC) can fill regular RAF liability posts but have identified separate liabilities for FTRS(LC) and FTRS(HC).
- **Gurkhas** are recruited and employed in the British and Indian Armies under the terms of the 1947 Tri-Partite Agreement (TPA) on a broadly comparable basis. They remain Nepalese citizens but in all other respects are full members of HM forces. Since 2008, Gurkhas are entitled to join the UK regular forces after five years of service and apply for British citizenship.
- **Military Provost Guard Service (MPGS)** provides trained professional soldiers to meet defence armed security requirements in units of all three services based in Great Britain. MPGS provide armed guard protection of units, responsible for control of entry, foot and mobile patrols and armed response to attacks on their unit.
- **Mobilised reservists** are volunteer or regular reserves who have been called into permanent service with the regular forces on military operations under the powers outlined in the Reserve Forces Act 1996. Call-out orders will be for a specific amount of time and subject to limits (e.g. under a call-out for warlike operations (Section 54), call-out periods should not exceed 12 months, unless extended.)
- **Non Regular Permanent Staff (NRPS)** are members of the Army Volunteer Reserve force employed on a full-time basis. The NRPS comprises Commissioned Officers, Warrant Officers, Non-Commissioned Officers and soldiers posted to units to assist with the training, administrative and special duties within the Army reserve. Typical jobs are Permanent Staff Administration Officer and Regimental Administration Officer. Since 2010, these contracts are being discontinued in favour of FTRS (Home Commitment) contracts. NRPS are not included in the Future Reserves 2020 Volunteer Reserve population as they have no liability for call out.



# Methodology

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## Data sources

Defence Statistics receive weekly notifications of all UK regular armed forces deaths from the Joint Casualty and Compassionate Centre (formerly the single service casualty cells). Defence Statistics also receive cause of death information from military medical sources and the Defence Inquest Unit. At the end of each calendar year, Defence Statistics cross-reference the in-service deaths notifications it holds against publicly available death certificate information available from NHS Digital and the General Registrar's Office (GRO).

To ensure the highest accuracy of information and that all cases previously recorded as 'waiting verdict' have been followed up, Defence Statistics carry out an annual audit of MOD data with that held by the ONS and other authorities, including the General Register Office (GRO) Scotland and Northern Ireland Statistics and Research Agency (NISRA). Defence Statistics also regularly check all deaths for information on coroner's verdicts and the results of investigations with these authorities. In this notice, all these results are referred to as "coroner's verdicts". There is an obligation for all accidental deaths, and those resulting from violent action, to be referred to these officials. Inquests are usually held within a few months of the death, but occasionally a few years may elapse, therefore some recent deaths may not have clearly defined causal information. In these cases, deaths are identified as waiting verdicts and are not analysed in the main body of this notice.

## Definition

The National Statistics definition of suicide includes deaths given an underlying cause of intentional self-harm or an injury/poisoning of undetermined intent. In England and Wales, it has been customary to assume that most injuries and poisonings of undetermined intent are cases where the harm was self-inflicted, but there was insufficient evidence to prove that the deceased deliberately intended to kill themselves<sup>a</sup>, thus given an open or narrative verdict by the coroner. The convention has been adopted across the UK.

The notice includes suicides in line with the definition used by the Office for National Statistics (ONS) in the publication of National Statistics. In accordance with ONS practice, all deaths are coded to the International Classification of Diseases 10<sup>th</sup> edition (ICD-10) which is produced by the World Health Organisation (WHO). Information held in death certificates is analysed and assigned the appropriate ICD code to ensure that deaths included in this notice are only those which meet the National Statistics definition of suicide. The codes used to define suicides are:

ICD-10 codes: X60-X84: intentional self-harm; Y10-Y34<sup>c</sup>: injury or poisoning of undetermined intent; Y87.0 and Y87.2<sup>d</sup>: sequelae of intentional self-harm, injury or poisoning of undetermined intent.

In November 2018, Defence Statistics liaised with the ONS to seek clarification of their suicide methodology for deaths returned by coroner as narrative verdicts. The ONS provided Defence Statistics with the criteria for coding text held in the deaths certificates relating to narrative verdicts and as a result seven deaths among UK armed forces personnel since 2004 were reclassified as suicide and added to this notice.

Defence Statistics have undertaken a review of the deaths for which a verdict was outstanding (waiting verdict), as a proportion occurred a number of years ago and in some instances the deaths occurred overseas. Thus, the waiting verdicts identified in this notice cover the period 2017-2021, these records will be updated once the result of the Coroner Inquests are made available.

One death in 2003 given an open verdict by the coroner has been excluded as it was the result of hostile action. There was one death in 2003 returned as an open verdict by the Procurator Fiscal for Scotland, which has been classified by MOD as a Road Traffic Accident, as it was an incident involving multiple deaths and a MOD Board of Inquiry found all the deaths to be the result of an operational accident.

General population deaths data for England and Wales are supplied by and used with the permission of ONS. Deaths in Northern Ireland are supplied by and used with the permission of NISRA and GRO Scotland supply deaths for the general population in Scotland.

<sup>c</sup> Excluding Y33.9 where the coroner's verdict was pending in England and Wales, up to 2006. From 2007, deaths that were previously coded to Y33.9 are coded to U50.9

<sup>d</sup> Y87.0 and Y87.2 are not included for England and Wales.

## Methodology (cont.)

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### Data coverage

Deaths presented here were for the UK regular armed forces. The dataset included all trained and untrained regular service personnel. Non-regular service personnel that were deployed on operations at the time of their deaths were also included. The data exclude the Home service of the Royal Irish Regiment, full time reservists, Army Reserves and Naval Activated reservists who were not deployed on operations at the time of their death, as Defence Statistics do not receive routine notifications of all deaths among reservists and non-regulars, and because reliable denominator data to produce interpretable statistics were not available.

### Calculating a rate

Rates enable comparisons between groups and over time, taking account of the number of personnel in a group (personnel at risk) at a particular point in time. The number of events (i.e. deaths) is divided by the number of personnel at risk and multiplied by 100,000 to calculate the rate.

In order to compare time trends and to take into account the different age structure of their respective single service populations, rates have been age standardised. In order to facilitate comparisons with previously published reports, data has been standardised to the 2021 UK regular armed forces population. For this direct standardisation process, Defence Statistics have estimated the rates that would have been observed if each study population (i.e. each of the single services) had the same age structure as the standard population (the 2021 male armed forces population).

### Calculating standardised mortality ratios (SMR)

To enable comparisons with deaths in the UK population, Standardised Mortality Ratios (SMR), adjusted for age, gender, and year, were calculated. An SMR is defined as the ratio of the number of deaths *observed* in the study population to the number of deaths *expected* if the study population had the same age- and gender-specific rates as the standard population in each specific year multiplied by 100 by convention. An SMR over (or under) 100 indicates a higher (or lower) number of observed deaths than expected (based on standard population rates). An SMR of 100 implies that there is no difference in rates when comparing the UK regular armed forces population with the UK population.

The UK population estimates and deaths data for 2021 was not available for this report to calculate standard mortality ratios (SMRs), therefore, Defence Statistics has used the 2020 data as an estimate for the 2021 figures as there is little year on year variation for the UK figures. Thus, any patterns reported here may be subject to minor fluctuations when the 2021 data becomes available.

### Calculating a confidence interval

**Confidence Intervals** use the standard error to derive a range in which we think the true value is likely to lie. It gives an indication of the degree of uncertainty of an estimate and helps to decide how precise a sample estimate is by giving a range of values likely to contain the given statistic. The wider the interval, the less precise the estimate is.

A 95% confidence interval means that if we drew 20 random samples and calculated a 95% confidence interval for each sample using the data in that sample, we would expect that, on average, 19 out of the 20 (95%) resulting confidence intervals would contain the true population value and 1 in 20 (5%) would not.

In order to calculate confidence intervals around an estimate we use the standard error for that estimate. The estimate and its 95% confidence interval are presented as: the estimate plus or minus the margin of error. The lower and upper 95% confidence limits are given by the sample estimate plus or minus 1.96 standard errors. The margin of error is calculated as:

Margin of error = 1.96 × standard error

## Methodology (cont.)

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### Strengths and weaknesses of data presented in this notice

A strength of this publication is that considerable validation is undertaken against military and public records to ensure that the information provided is complete and accurate. Users of this publication should be confident that the numbers of suicides presented are accurate.

However, suicides require a coroner's report before the cause of death can be formally classified and there is often a time lag between when the death occurred and when the Coroner's Inquest takes place. This can result in final cause of death information not being timely and complete for recent years and these deaths are reported as 'waiting verdicts' whilst waiting for final cause of death to be determined (and thus not included in this report beyond capturing the number of waiting verdicts). This can lead to revisions in the number of suicides reported in this notice when these verdicts are returned (see 'Changes to previously data' section for more information about the extent of these revisions).

A further strength of this report is the use of the ONS definition of suicide to include all coroner confirmed suicides, providing comparable data with the UK general population.

The information presented in this publication has been structured in such a way to release sensitive deaths information into the public domain in a way that contributes to the MOD accountability to the British public but which doesn't risk inadvertently revealing individual identities and therefore breaching the rights of the families of the deceased personnel (for which the MOD has a residual duty of care).

### Changes to previously published data

In preparing this document, Defence Statistics carried out a review of the data recorded on deaths to service personnel to ensure the highest accuracy of information and that all cases previously recorded as 'waiting verdict' have been followed up with the ONS and other authorities:

- **one** death in 2018, **two** deaths in 2019 and **seven** deaths in 2020 previously reported as 'waiting verdicts' have now been confirmed as suicide.

## Further information

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### Symbols

p provisional  
r revised

### Rounding

Rounding has not been used in this report. All values are actual figures and no statistical disclosure control was used. Rates have been presented to two decimal places to aid presentational purpose for the reader.

### Revisions

Corrections to the published statistics will be made if errors are found, or if figures change as a result of improvements to methodology or changes to definitions. When making corrections, Defence Statistics will follow the Ministry of Defence Statistics Revisions and Corrections Policy. All corrected figures will be identified by the symbol "r", and an explanation will be given of the reason for and size of the revision. Corrections which would have a significant impact on the utility of the statistics will be corrected as soon as possible, by reissuing the publication. Minor errors will also be corrected, but for convenience these corrections may be timed to coincide with the next annual release of the publication.

### Contact us

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 Health

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Email: [Analysis-Health-PQ-FOI@mod.gov.uk](mailto:Analysis-Health-PQ-FOI@mod.gov.uk)

If you require information which is not available within this or other available publications, you may wish to submit a Request for Information under the Freedom of Information Act 2000 to the Ministry of Defence. For more information, please see the [gov.uk page on the Freedom of Information Act 2000](#).

#### Other contact points within Defence Statistics are:

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Price Indices	030 6793 2100	<a href="mailto:Analysis-Econ-PI-Contracts@mod.gov.uk">Analysis-Econ-PI-Contracts@mod.gov.uk</a>
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Army Workforce	01264 886175	<a href="mailto:DefStrat-Stat-Army-Enquiries@mod.gov.uk">DefStrat-Stat-Army-Enquiries@mod.gov.uk</a>
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## Annex A – UK regular armed forces suicides 1984-2021, additional table

**Table A2: UK regular armed forces<sup>1</sup> suicides by year, gender and service<sup>2</sup>, numbers 1984 to 2021**

Year	Suicides	Waiting Verdicts <sup>3</sup>	Gender		Service		
			Male	Female	Royal Navy	Army	RAF
<b>All</b>	<b>905</b>	<b>27</b>	<b>873</b>	<b>32</b>	<b>153</b>	<b>566</b>	<b>186</b>
1984	27		26	1	3	15	9
1985	30		29	1	8	17	5
1986	44		44		9	20	15
1987	27		26	1	5	14	8
1988	41		40	1	8	25	8
1989	36		35	1	4	25	7
1990	50		49	1	10	24	16
1991	48		48		9	29	10
1992	37		37		6	22	9
1993	43		42	1	5	25	13
1994	34		34		6	20	8
1995	43		42	1	2	32	9
1996	32		31	1	7	19	6
1997	26		26		4	17	5
1998	19		19		2	13	4
1999	30		29	1	6	20	4
2000	37		36	1	6	23	8
2001	16		16		2	12	2
2002	15		13	2	4	11	
2003	25		23	2	3	15	7
2004	20		18	2	2	16	2
2005	22		22		5	13	4
2006	12		12			10	2
2007	10		9	1	4	6	
2008	10		9	1		8	2
2009	15		15		3	10	2
2010	7		6	1	4	2	1
2011	15		13	2	4	10	1
2012	20		19	1	2	14	4
2013	9		8	1	3	6	
2014	10		9	1	4	5	1
2015	8		8			7	1
2016	13		12	1	2	9	2
2017	16		15	1	5	8	3
2018	18 <sup>p</sup>	1 <sup>p</sup>	17	1 <sup>p</sup>	1	15	2 <sup>p</sup>
2019	17 <sup>p</sup>	1 <sup>p</sup>	17	<sup>p</sup>	2	14 <sup>p</sup>	1
2020	16 <sup>p</sup>	3 <sup>p</sup>	13 <sup>p</sup>	3	2	10 <sup>p</sup>	4 <sup>p</sup>
2021	7 <sup>p</sup>	22 <sup>p</sup>	6 <sup>p</sup>	1 <sup>p</sup>	1 <sup>p</sup>	5 <sup>p</sup>	1 <sup>p</sup>

**Source: Defence Statistics Health**

<sup>1</sup> Figures are for regular personnel and only those reservists who have died whilst on operational deployment. Figures include male and female personnel.

<sup>2</sup> Royal Navy includes Royal Navy and Royal Marines.

<sup>3</sup> Waiting verdicts since 2017.

'p' data is provisional and subject to change in accordance with the outcome of waiting verdicts.