Ministry of Defence

Deaths in the UK regular armed forces: Annual summary and trends over time 1 January 2015 to 31 December 2024

Published 27 March 2025

This annual Accredited Official Statistical Notice provides summary information on deaths whilst in service in 2024 among the UK regular armed forces, and trends over the ten-year period, 2015-2024. This information updates previous notices and includes new data for 2024. The information presented has been compiled from data held by Defence Statistics on 21 February 2025.

The data is presented for Tri-Service and separately for each of the services; Royal Navy (Royal Navy and Royal Marines), Army (including Gurkhas) and Royal Air Force (RAF). This release provides information on the major categories of cause of death for the ten-year period 2015-2024, also presenting comparisons to the UK general population and the number of on-duty armed forces reservist deaths.

2024 Key points and trends

	Tri-Service	Royal Navy	Army	RAF
Number of deaths in 2024	**59**	**13**	**31**	**15**
2024 mortality rate **(per 100,000 personnel at risk)**	**42** per 100,000	**40** per 100,000	**40** per 100,000	**43** per 100,000

In 2024, the mortality rate for UK armed forces personnel was **42** per 100,000, a fall from 51 per 100,000 in the previous year. This represented a decrease in the number of deaths from 73 in 2023 to **59** in 2024.

In 2024, the three largest causes of death among the UK regular armed forces were :

Cancers
27% (n=16)

Other Accidents
22% (n=13)[p]

Land Transport Accidents
15% (n=9)[p]

As of 21 February 2025, there were **9** deaths **(15%)** which occurred in 2024 awaiting a Coroner's Inquest currently reported as Other Accidents or Land Transport Accidents; therefore, Other Accident, Land Transport Accident and Suicide numbers remain provisional and subject to change until these inquests are held.

Overall, in 2024, the UK regular armed forces were at a **statistically significant lower risk** of dying compared to the UK general population. The lower risk of dying among UK regular armed forces personnel compared to the UK general population may be explained by the 'healthy worker effect', as discussed in the report. More specifically, the UK regular armed forces had:

- a **79% significantly lower risk** of dying as a result of **a disease related condition**, and
- a **54% significantly lower risk** of dying as a result of **external causes of injury and poisoning** (accidental, violent or suicide) compared to the UK general population.

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Link to the : **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-Publications@mod.gov.uk

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Supplementary tables containing all data presented in this publication, including numbers, rates and 95% confidence intervals, can be found at the gov.uk UK armed forces deaths in service statistics index.

Note that previously published rates and SMRs may have changed in this release and in the accompanying tables. This is because they have been re-calculated using the 2024 armed forces population as a standard population, to allow comparisons over time. Full details of methods used are provided in the section **'Methodology'**.

Accredited Official Statistics publication

Accredited Official Statistics are called National Statistics in the Statistics and Registration Service Act 2007.

These Accredited Official Statistics were independently reviewed by the Office for Statistics Regulation (OSR) in 2012, and the continued designation of these statistics as National Statistics (as they were then known) was confirmed in January 2021 following a compliance check by the OSR. Since the latest review, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements:

- aided user understanding by adding further explanations on the use of provisional markers when presenting the number of other accidents and suicides in the report; and
- aided user understanding by improving explanations on rates, confidence intervals and Standardised Mortality Ratios.

They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and should be labelled 'Accredited Official Statistics'.

Accreditation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Further information on the accreditation process can be found here: Accreditation explanation web page

Once statistics have been designated as Accredited Official Statistics it is a statutory requirement that the Code of Practice shall continue to be observed. Further details about how this report has been developed since its confirmation as an Accredited Official Statistic can be found in the Background Quality Report.

Our statistical practice is regulated by the OSR. OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to.

You are welcome to contact us directly with any comments about how we meet these standards.

Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

Introduction

This Notice provides information on the major categories of cause of death in the UK regular armed forces for the ten-year period 2015-2024. This Notice also presents information on comparisons to the UK general population. Data is presented for the Royal Navy (Royal Navy and Royal Marines), the Army (including Gurkhas), the Royal Air Force, and for the UK regular armed forces as a whole (Tri-Service). UK armed forces reservists who died whilst deployed on operations are included in the data presented since they are classed as 'regulars' whilst on deployment.

For data on suicide, this Notice includes suicides in line with the definition used by the Office for National Statistics (ONS) in the publication of Accredited Official Statistics. More detail on this data can be found in the Accredited Official Statistic, "Suicides in the UK Regular Armed Forces 1984-2024", also published on 27 March 2025.

The bi-annual Official Statistic 'Training and Exercise Deaths in the UK Armed Forces', also published on 27 March 2025, provides a detailed breakdown on the number of UK regular armed forces and on-duty reservist personnel who have died whilst taking part in training or on exercise. This report presents the number of deaths since January 2000 and the training activity being conducted at the time of death.

The 'UK armed forces operational deaths post World War 2' Official Statistic provides summary information on the number of in-service deaths among UK armed forces personnel that occurred as a result of a British, United Nations or North Atlantic Treaty Organisation medal earning operation since World War 2. This report is updated annually at the end of March and six weeks after the end of each medal earning operation.

Details of the data sources and the 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 Accredited Official Statistics protocols, amendments have been annotated by the letter 'r' and explanations provided in the section **'Changes to previously published data'**.

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 compromise the operational security of UK armed forces personnel by revealing detail on individual incidents such as mechanism of injury or type of military vehicle involved; nor that 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).

Please note cause of death information presented in this publication is subject to change. Some causes of death (including possible 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. Since 2021 there has been an increased delay in the time taken to process an inquest, likely due to a backlog of cases caused by the COVID-19 pandemic. This has resulted in a higher than usual number of suspected suicides awaiting verdict. In addition, there is often a delay accessing death certificate information from NHS Digital and The General Registrars Office Scotland where cause of death information is not available from military medical sources. These deaths are reported as 'other accidents' (for possible suicides) or 'cause not available' whilst waiting for final cause of death to be determined and can lead to revisions in the cause of death categories when Coroner's verdicts and death certificates are returned (see 'Changes to previously published data' section for more information about the extent of these revisions).

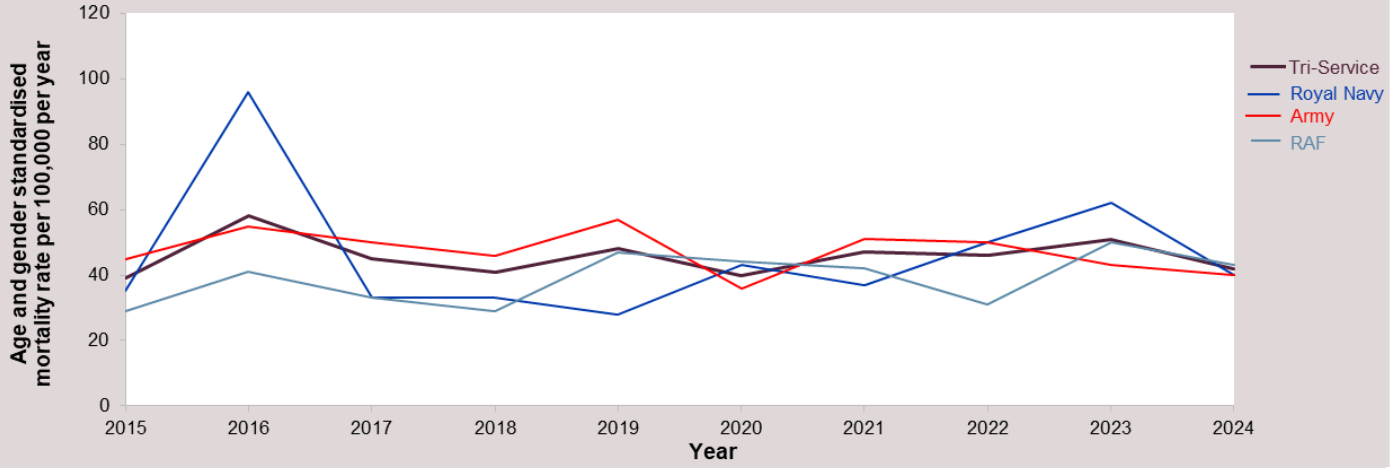
UK regular armed forces overall and service comparison

In 2024, there were **59** deaths among serving personnel in the UK regular armed forces. Of these, **13** deaths were in the Royal Navy, **31** in the Army and **15** in the RAF.

Figure 1 provides details of the age and gender standardised mortality rates (per 100,000 personnel at risk) by service for the ten-year period, 2015-2024. The rates have been age and gender standardised to take into account the different age and gender structures of each of the services.

Rates enable comparisons between groups over time, taking into account 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 and gender structures of their respective single service strengths, rates have been age and gender standardised.

Figure 1: UK regular armed forces mortality rates[1] by service[2]
2015-2024



Source: Defence Statistics Health
[1] Rates have been age and gender standardised to the 2024 UK regular armed forces population, expressed per 100,000 personnel at risk.
[2] Royal Navy includes Royal Navy and Royal Marines.

2024 mortality rates

Tri-Service	Royal Navy	Army	RAF
42 per 100,000	**40 per 100,000**	**40 per 100,000**	**43 per 100,000**

In 2024, the age and gender standardised mortality rate for the UK regular armed forces was **42 per 100,000** (n=59). This is lower than the rate in the previous year, which was 51 per 100,000 (n=73). However, the rate has remained broadly stable over the latest ten-year period. In 2024, the RAF (**43 per 100,000**) had a higher mortality rate than the Royal Navy (**40 per 100,000**) and the Army (**40 per 100,000**). However, as in previous years, there was **no statistically significant difference** in the mortality rates between each of the services (see **Table 1, page 9**).

Due to small numbers, year-on-year variation in the mortality rates of each service is to be expected. For example, in 2016 an increase of six deaths in the Royal Navy resulted in a rise in the mortality rate from 35 to 96 per 100,000. The following page presents more detail on the year-on-year changes.

UK regular armed forces overall and service comparison (cont.)

Latest year

In 2024:

Royal Navy The Royal Navy mortality rate fell by 35% from 62 per 100,000 in 2023 to **40 per 100,000** in 2024. This was a decrease of eight deaths compared to 2023.

Army The Army mortality rate fell by 7% from 43 per 100,000 in 2023 to **40 per 100,000** in 2024. This was a decrease of four deaths compared to 2023.

RAF The RAF mortality rate fell by 14% from 50 per 100,000 in 2023 to **43 per 100,000** in 2024. This was a decrease of two deaths compared to 2023.

Ten-Year Trends

The rate of deaths among UK regular armed forces personnel over the latest ten-year period has remained stable. Following the conclusion of Operation HERRICK and the associated withdrawal of troops from Afghanistan, combat deaths have remained consistently low, with three lives being lost as a result of hostile action since 2015 (one death in 2015, 2018 and 2020).

When looking at the changes in the rate of death for specific years:

- In 2016, the Royal Navy experienced a high mortality rate. This was because of a rise in the rate of deaths due to cancer in that year, which has since returned to a rate similar to that seen in previous years.
- In 2019, the Army and RAF experienced higher mortality rates. These were because of a rise in the rate of deaths due to cancer for both the Army and RAF and an increase in land transport accident deaths in the RAF.
- In 2020, the Royal Navy experienced a higher mortality rate due to an increase in deaths due to circulatory disease. The Army however experienced a lower mortality rate which was the result of a fall in the number of deaths due to cancer and land transport accidents. Army rates have since returned to a rate similar to that seen in previous years.
- In 2022, the Royal Navy experienced a higher mortality rate, primarily the result of an increase in cancers and land transport accident deaths.
- In 2023, the Royal Navy and RAF experienced higher mortality rates. This was due to an increase in circulatory disease and other accident deaths in the Royal Navy. The increase in the RAF was not due to a rise in one particular cause of death. The Army mortality rate fell as a result of a fall in the number of both disease related deaths and suicides.
- In 2024, the mortality rate fell in each service. The fall in the Royal Navy was due a decrease in circulatory disease deaths. The fall in the Army was due to a decrease in disease-related and land transport accident deaths. The decrease in the RAF was not attributable to any one particular cause of death.

Due to small numbers, these year-on-year fluctuations in rates should be viewed with caution.

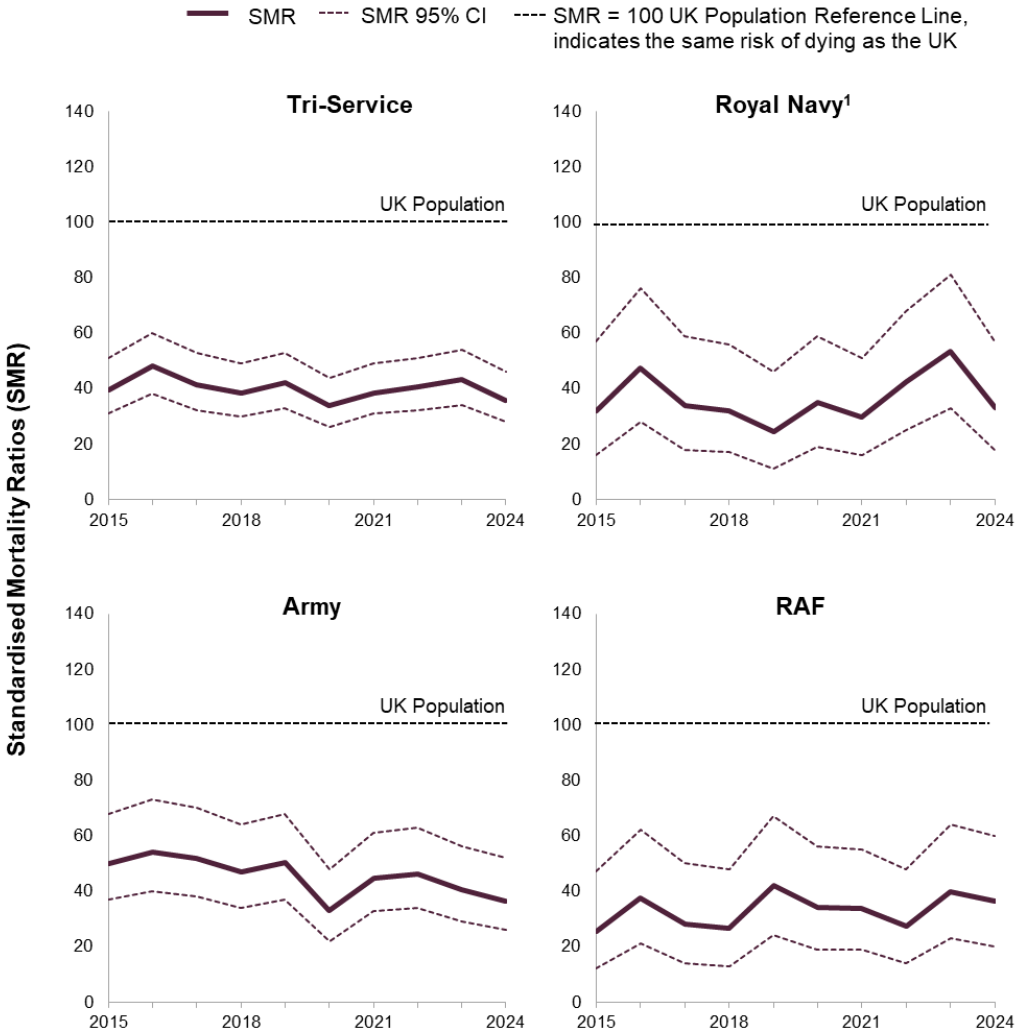
Since the early 2000s, land transport accidents (LTA) have been one of the largest cause of deaths among the UK regular armed forces. The advancement of vehicle safety systems and road safety campaigns run by MOD has contributed to a declining trend in the rate of deaths. In the latest ten-year period, the number of UK regular armed forces personnel dying as a result of an LTA averaged 11 deaths each year. Restrictions on travel due to COVID-19 may have contributed to the fall in 2020 to six deaths but annual numbers have since returned to pre COVID-19 levels. Further analysis on LTA deaths can be found in **Annex A**.

Operational activity and accidents resulted in multiple deaths from the same incident on various occasions during the latest ten-year period. However, following the drawdown of operations from Afghanistan, the number of deaths per incident has fallen. For further details see **Table D1** of the supplementary tables that accompany this report.

UK regular armed forces overall and service comparison to the UK general population

Standardised Mortality Ratios (SMR)
To make comparisons between death rates in the UK armed forces and the UK general population, an SMR is calculated which takes account of the different age and gender 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 and gender 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.

Figure 2: UK regular armed forces deaths by service[1], standardised mortality ratios[2,3] (SMR) (95% confidence intervals (CI))
2015-2024



The graphs in Figure 2 show the UK regular armed forces were at a **statistically significant lower risk** of dying compared to the UK general population, both as a whole and for each individual service, in each year for the ten-year period 2015-2024.

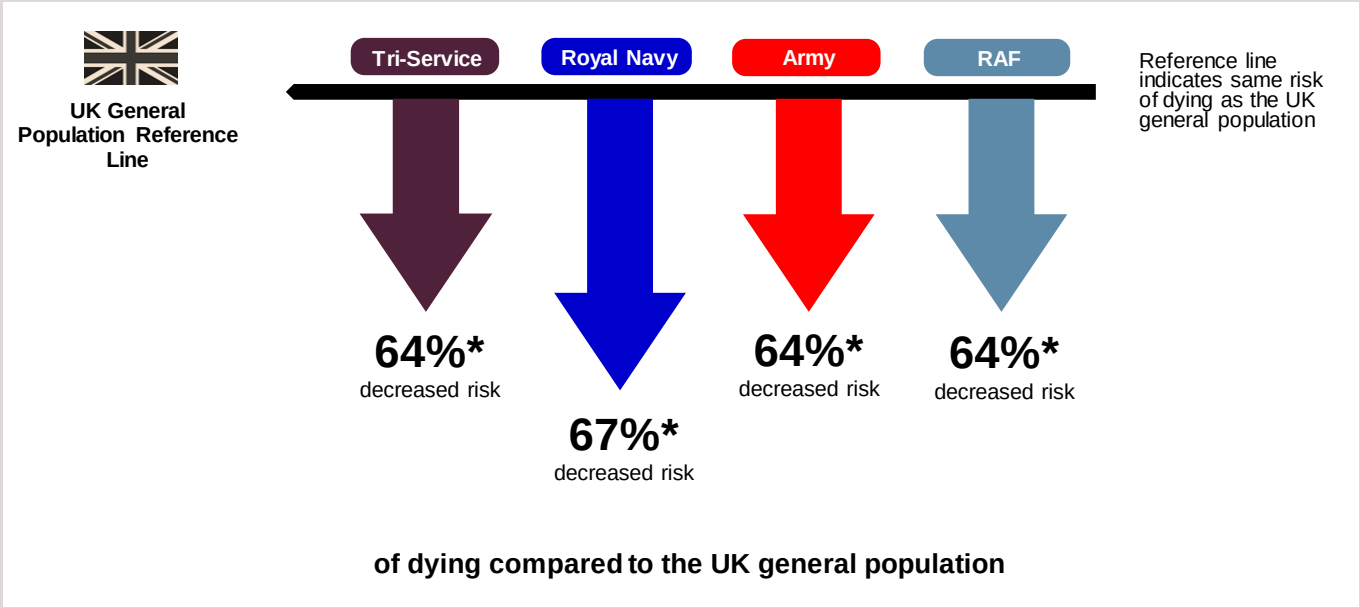
Source: Defence Statistics Health
[1] Royal Navy includes Royal Navy and Royal Marines.
[2] Standardised mortality ratios have been age and gender standardised.
[3] An SMR below, equal to, or above 100 indicates that the rate for the UK regular armed forces or the service is respectively below, equal to, or higher than the rate in the general UK population (see 'Methodology' section for further clarification).

UK regular armed forces overall and service comparison to the UK general population (cont.)

In the latest year (2024), all three services were at a **statistically significant lower risk** of dying compared to the UK general population (see **Figure 3**).

The lower risk of death among the UK regular armed forces may partially be explained by the 'healthy worker effect' often observed in occupational studies[1]. This is deemed to occur when 'workers' are found to have lower mortality or other adverse health outcome rates than the general population due to the fact that certain groups of people are excluded from military employment, particularly those who are ill or who have disabilities. This is to be expected in studies of armed forces mortality, as this population are generally a selected group of individuals who are likely to have higher than usual levels of fitness and are at lower risk of developing disease-related illness as a result.

Figure 3: UK regular armed forces deaths by service[1], standardised mortality rate[2]
2024



Source: Defence Statistics Health
[1] Royal Navy includes Royal Navy and Royal Marines.
[2] Standardised mortality ratios have been age and gender standardised.
* Statistically significant risk of dying compared to the UK general population. No asterisk (*) indicates there was no statistical significant difference between the military and the UK general population.

In 2024, the UK regular armed forces had a 64% statistically significantly lower risk of dying compared to the UK general population.

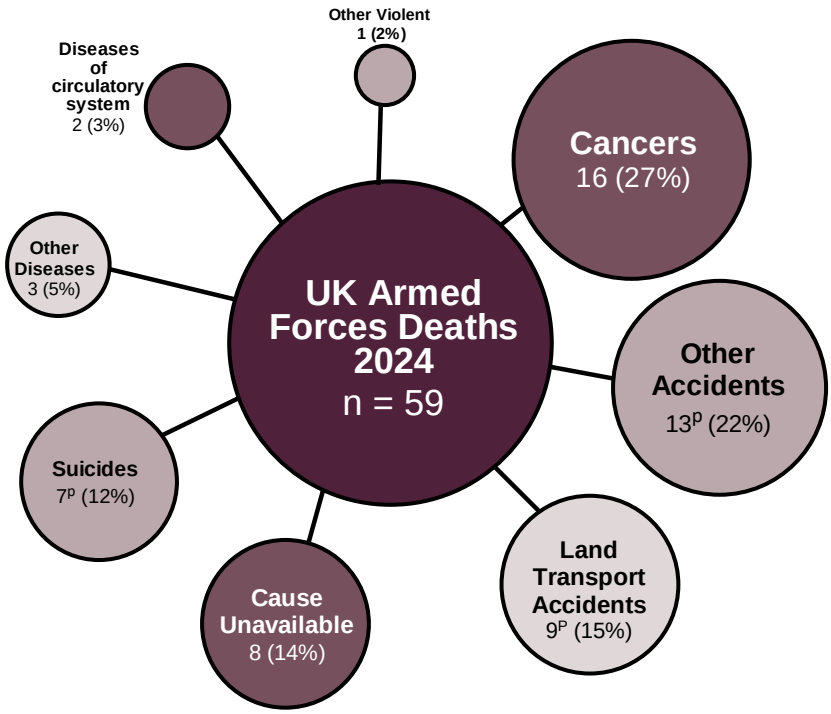
[1] McLaughlin et al., (2015) An Evaluation of the Effect of Military service on Mortality: Quantifying the Healthy Soldier Effect

Cause of death

Figure 4 provides a summary of the cause of death for the UK regular armed forces as a whole in 2024. This information is presented by service, along with rates and SMRs, in **Table 1**. Cause of death for the ten-year period 2015-2024 as a whole can be found in **Figure 4a** of the supplementary tables that accompany this report.

The information provided in Figure 4 and Table 1 include all deaths that occurred whilst in-service both on and off duty. Deaths that were deemed by the Defence Safety Authority to be safety related or potentially safety related in 2020-2024 can be found in **Annex B**. Further information on health and safety related injuries, illness and deaths are available in 'Defence Personnel Health and Safety Statistics'.

Figure 4: UK regular armed forces: Cause of death, proportion
2024



In 2024, there were 9 deaths (15%) currently shown as Other Accidents or Land Transport Accidents, where the mechanism of injury suggests possible suicide and are awaiting a Coroner's Inquest.

It is likely that the number of deaths for **Other Accidents** and **Land Transport Accidents may fall** and the number of **suicides may increase** once the outcome of these inquests are known.

Source: Defence Statistics Health
* Percentages may not add up to 100% due to rounding.
[p] Provisional, subject to change following coroner's inquests into 9 deaths

In 2024, the three leading causes of death among the UK regular armed forces were:

- **Cancers** (n=16, 27% of all deaths).
- **Other Accidents** (n=13[p], 22% of all deaths), of which there were seven deaths where the mechanism of injury suggests possible suicide and are awaiting a coroner inquest, and therefore the cause of death may be recategorised. It is likely that the number of deaths due to Other Accidents will fall once the outcome of the inquests are known.
- **Land Transport Accidents** (n=9[p], 15% of all deaths), of which there were two deaths where the mechanism of injury deaths suggests possible suicide and are awaiting a coroner inquest, and therefore the cause of death may be recategorised. It is likely that the number of deaths due to Land Transport Accidents will fall once the outcome of the inquests are known.

Figure 4a, in the supplementary tables, presents the proportion for each cause of death for the ten-year period 2015-2024 as a whole. Over the last ten years, cancers were the leading cause of death in the UK armed forces (25%), followed by suicide (23%) and land transport accidents (16%).

In the UK general population, the three leading causes of death were all diseased related (cancers, diseases of the circulatory system and other diseases).

Cause of death (cont.)

Table 1: UK regular armed forces deaths by cause of death and service[1], numbers, rates[2] and SMR[3]

1 January 2024 to 31 December 2024

Cause	All					Royal Navy[1]					Army					RAF				
	n	rate	(95% CI)	SMR	(95% CI)	n	rate	(95% CI)	SMR	(95% CI)	n	rate	(95% CI)	SMR	(95% CI)	n	rate	(95% CI)	SMR	(95% CI)
All	**59**	**42**	**(32-54)**	**36**	**(28-46)**	**13**	**40**	**(21-69)**	**33**	**(18-57)**	**31**	**40**	**(28-57)**	**36**	**(26-52)**	**15**	**43**	**(24-71)**	**36**	**(20-60)**
Disease-related conditions	**21**	**15**	**(9-23)**	**21**	**(13-33)**	**6**	**19**	**(7-41)**	**25**	**(9-55)**	**6**	**8**	**(3-18)**	**13**	**(5-27)**	**9**	**22**	**(10-42)**	**34**	**(16-65)**
Cancers	16	11	(6-18)	59	(34-96)	4	12	(3-31)	60	(16-154)	6	8	(3-18)	47	(17-103)	6	16	(6-34)	78	(29-171)
Diseases of the circulatory system	2	1	(0-5)	7	(1-26)	0		-		-	0		-		-	2	5	(1-18)	26	(3-95)
Other	3	2	(0-6)	7	(1-20)	2	7	(1-25)	19	(2-70)	0		-		-	1	2	(0-9)	9	(0-50)
External causes of injury and poisoning	**30**	**21**	**(15-30)**	**46**	**(32-66)**	**4**	**13**	**(3-32)**	**27**	**(7-70)**	**20**	**25**	**(16-39)**	**56**	**(34-86)**	**6**	**21**	**(8-46)**	**42**	**(15-91)**
Deaths due to accidents	**22** [p]	**16**	**(10-24)**	**58**	**(36-88)**	**3** [p]	**9**	**(2-27)**	**35**	**(7-103)**	**13** [p]	**16**	**(9-28)**	**62**	**(33-106)**	**6** [p]	**21**	**(8-46)**	**71**	**(26-154)**
Land Transport Accidents	9 [p]	6	(3-12)	160	(73-303)	1	3	(0-16)	79	(2-438)	5 [p]	6	(2-14)	156	(51-363)	3 [p]	10	(2-31)	263	(54-767)
Other	13 [p]	9	(5-16)	40	(21-69)	2 [p]	6	(1-23)	27	(3-99)	8 [p]	10	(4-20)	45	(20-89)	3 [p]	10	(2-31)	41	(8-120)
Deaths due to violence[4]	**1**	**1**	**(0-4)**			**0**		**-**			**1**	**1**	**(0-7)**			**0**		**-**		
Hostile Action	0		-			0		-			0		-			0		-		
Other	1	1	(0-4)	113	(3-630)	0		-		-	1	1	(0-7)	200	(5-1115)	0		-		-
Suicide	**7** [p]	**5**	**(2-10)**	**27**	**(11-55)**	**1** [p]	**3**	**(0-19)**	**17**	**(0-95)**	**6** [p]	**8**	**(3-17)**	**41**	**(15-90)**	**0** [p]		**-**		**-**
Cause not currently available	**8**	**6**	**(2-11)**	**309**	**(133-608)**	**3**	**9**	**(2-26)**	**500**	**(103-1462)**	**5**	**6**	**(2-15)**	**364**	**(118-850)**	**0**		**-**		**-**

Source: Defence Statistics Health

[1] Royal Navy includes Royal Navy and Royal Marines

[2] Rates have been age and gender standardised to the 2024 UK regular armed forces population, expressed per 100,000 personnel at risk. Individual rates may not add up to totals due to rounding.

[3] Standardised mortality ratios have been age and gender standardised.

[4] An overall SMR for deaths due to violence has not been calculated due to lack of comparable UK population data for deaths as a result of Hostile Action.

[p] Provisional, subject to change following coroner's inquests into 9 deaths in 2024 currently awaiting verdicts.

Cause of death (cont.)

Results presented in **Figures 4, 5 and 6** and **Table 1** present numbers, rates per 100,000 personnel at risk and comparisons with the UK general population (SMRs) by cause of death for 2024 and time trends over the latest ten-year period. Following the conclusion of operations in Afghanistan and the associated reduction in deaths as a result of Hostile Action, trends in the cause of death among UK regular armed forces personnel over the last ten years have remained stable.

Deaths due to disease-related conditions

Throughout the last ten years, the UK regular armed forces had a statistically significant lower risk of dying as a result of disease related conditions compared to the UK general population.

In 2024, the UK regular armed forces were at a **79% statistically significant decreased risk** of dying as a result of disease compared to the UK general population. The lower risk of death among the armed forces may partially be explained by the 'healthy worker effect' often observed in occupational studies, as discussed on page 8 of this notice.

In 2024, **21** UK regular armed forces deaths (**36% of all deaths**) were caused by disease-related conditions, similar to that seen in 2023 (38%, n=28). Of the disease-related conditions in 2024, 16 were due to cancers, two were due to circulatory system disorders and three were due to other diseases.

In 2024, the overall UK armed forces rate of deaths due to disease related conditions was **15 per 100,000**, a fall from 20 per 100,000 in 2023.

Deaths due to external causes of injury and poisoning (accidental, violent or suicide)

The UK regular armed forces have had a statistically significant lower risk of dying due to external cause of injury and poisoning (accidental, violent or suicide) since 2015.

In 2024, the UK regular armed forces were at a **54% statistically significant decreased risk** of dying due to external causes of injury and poisoning compared to the UK general population.

In 2024, **30** deaths (**51% of all deaths**) were due to external causes of injury and poisoning, a rate of **21 per 100,000**. This is a fall from 25 per 100,000 in 2023.

Of deaths due to external causes of injury and poisoning in 2024, **22[p]** were due to accidents and **7[p]** were coroner confirmed suicides. These numbers are provisional and subject to change when the outcome of coroner's inquests are known.

In 2024, there was one death due to injuries sustained in an assault.

Deaths due to hostile action

Following the start of the drawdown of operations in Afghanistan in 2012, the number of deaths as a result of hostile action has fallen. Since 2015, there have been three deaths as a result of hostile action; in 2015 one service person died from wounds sustained in Afghanistan in 2012, in 2018 one service person was killed in action in Syria, in 2020 one service person was killed in action in Iraq.

Deaths due to accidents

In 2024, UK regular armed forces personnel **had a 42% statistically significant lower risk of dying as a result of accidents** compared with the UK general population.

In 2024, **22[p]** deaths (**37% of all deaths**) were caused by accidents in the UK regular armed forces, with **9[p]** (**15% of all deaths**) due to Land Transport Accidents (LTA) and **13[p]** (**22% of all deaths**) categorised as Other Accidents. Please note, two LTA and seven Other Accident deaths are awaiting coroner inquests and therefore the number of deaths in these categories is likely to fall once the outcome of these inquests are known.

In two of the last ten years (2023 and 2019), the UK regular armed forces have been at a **significantly increased risk** of dying as a result of land transport accidents compared to the UK general population. In the rest of the ten-year period 2015-2024, the risk of death has been the same as the UK general population.

Annex A provides a more detailed analysis of recent trends and populations at risk of Land Transport Accident deaths.

Suicides

Suicide remains a rare event in the UK armed forces. However, the rate of suicide among UK regular armed forces increased from 5 per 100,000 in 2015 to a rate of 16 per 100,000 in 2021.

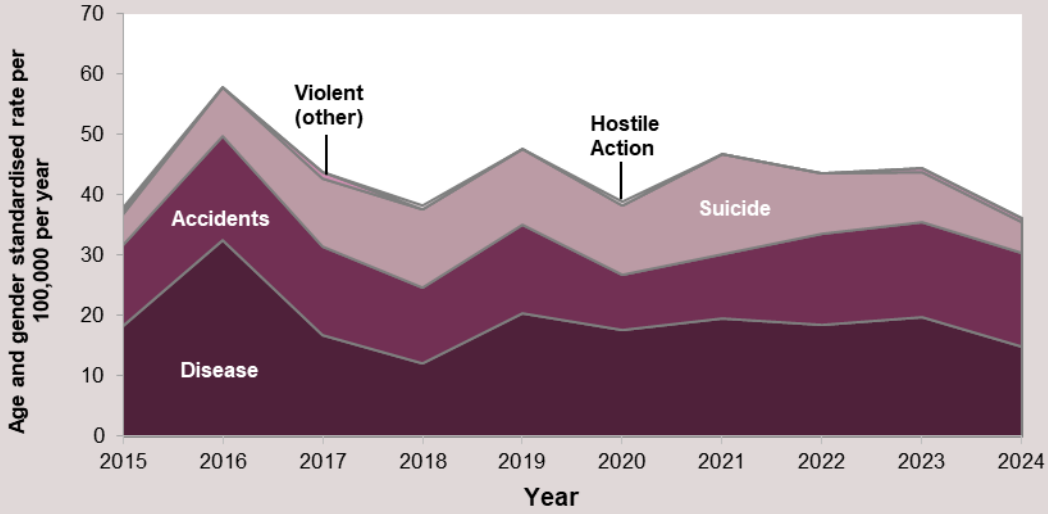
In 2024, there were **seven** coroner-confirmed suicides, a rate of **five per 100,000**. However, due to the time taken for coroner inquests to be held, the number of suicides reported may rise. As of 21 February 2025, there were **nine** deaths (15% of all deaths) from 2024, **seven** deaths (10%) from 2023 and **four** deaths (6%) from 2022 where the mechanism of injury suggests possible suicide that were awaiting a coroner's inquest. It is therefore likely that the suicide data presented here may be revised when the results of any outstanding inquests are known (see 'Methodology' and 'Changes to previously published data' sections).

Due to the small number of suicides in each year and the number of deaths awaiting coroner inquest since 2020, annual comparisons with the UK general population (SMRs) may not be reliable. The Statistical Notice 'UK armed forces suicides: 2024' provides comparisons to the UK general population over the latest 20-year time period to address this issue. Please note that the analysis in that notice is primarily on males only due to the small number of suicides among UK armed forces females.

Additional Tables 1-4 provide a breakdown of the main causes of death for the UK armed forces for the years 2015-2024 by service, and can be found in the supplementary web tables.

Figure 5: UK regular armed forces deaths by cause, area chart, rate[1,2]

2015-2024



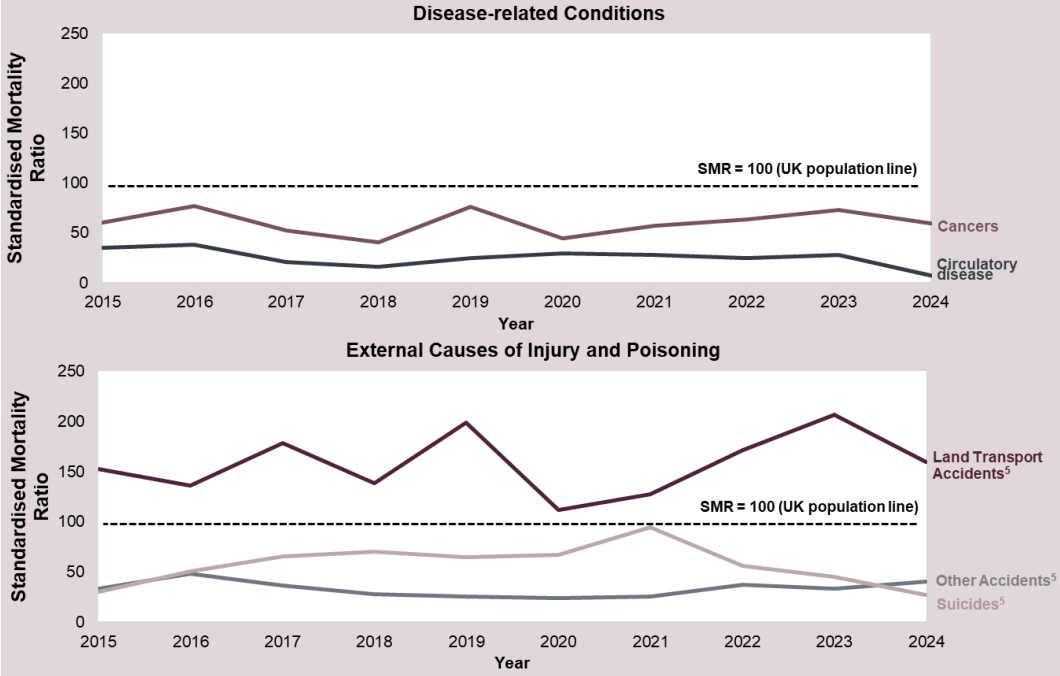
Source: Defence Statistics Health

[1] Rates have been age and gender standardised to the 2024 UK regular armed forces population, expressed per 100,000 personnel at risk.

[2] Please note, 24 deaths between 2020 and 2024 are awaiting a coroner's inquest; therefore, deaths as a result of accidents and suicide are provisional and are subject to change when the results of these inquests have been returned.

Figure 6: Deaths in the UK regular armed forces: Causes, standardised mortality ratios[1,2,3,4,5]

2015-2024



Compared to the UK general population, UK Armed Forces had a :

- **Statistically significant lower risk** of dying as a result of disease related conditions throughout the latest ten-year period.
- **Statistically significant lower risk** of dying as a result of cancer in all years except 2016, 2019, 2022 and 2023.
- **Statistically significant increased risk** of dying as a result of land transport accidents in 2019 and 2023.
- **Statistically significant lower risk** of dying as a result of other accidents throughout the latest ten-year period.
- **Statistically significant lower risk** of dying as a result of suicide in 2015 and 2016. SMR's for suicide from 2020 onwards may change due to the number of deaths awaiting coroner's inquest.

Source: Defence Statistics Health

[1] Standardised mortality ratios have been age and gender standardised.

[2] No comparisons between members of the UK regular armed forces and members of the UK general population for deaths due to hostile action were made as there is no equivalent cause of death in the UK population.

[3] An overall SMR for deaths due to violence has not been calculated due to lack of comparable UK population data.

[4] An SMR below, equal to, or above 100 indicates that the rate for the armed forces or the service is respectively below, equal to, or higher than the rate in the general UK population. If the 95% CI of an SMR does not include 100, the difference is statistically significant (see 'Methodology' section for further clarification). 95% CI's can be found in the supplementary web tables.

[5]Please note, 24 deaths between 2020 and 2024 were awaiting a coroner's inquest; therefore, deaths as a result of accidents and suicide are provisional, subject to change when the results of these inquests have been returned.

Glossary

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). This enables us to estimate the precision of results.

Coroner - A government official whose standard 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 an unknown person who has been found dead within the coroner's jurisdiction.

Died of Wounds (DOW) - A battle casualty who dies of wounds or other injuries received in action, after having reached a medical treatment facility. This only includes those who have died of wounds whilst under the care of Defence Medical Services.

Hostile Action (HA) includes deaths categorised as Killed in Action or Died of Wounds.

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

Killed in Action (KIA) - A battle casualty who is killed outright or who dies as a result of wounds or other injuries before reaching a medical treatment facility.

Land Transport Accident - In line with the definitions in ICD-10 a land transport accident is defined as any accident involving a device that has been designed for, or is being used at the time for, the conveyance of either goods or people from one place to another on land. The scope of this definition covers incidents that occur on and off the public highways and incidents that involve non-motorised forms of transport and does NOT include any deaths occurring in a vehicle as a result of Hostile Action. The definition therefore includes all occupational specific vehicles (specific to the UK armed forces) irrespective of where the accident took place. Road traffic accidents refer only to accidents on a public road.

Royal Navy includes the Royal Navy and Royal Marines.

Operation HERRICK is the name for UK operations in Afghanistan which started in April 2006 and ended on 30 November 2014. UK Forces were deployed to Afghanistan in support of the UN authorised, NATO led International Security Assistance Force (IASF) mission and as part of the US-led Operation Enduring Freedom (OEF).

Operational Accident is any accident that occurred whist deployed on operations.

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.

Road Safety Campaigns - Over time, there have been safety improvements in vehicles and roads as well as an increase in campaigns on road safety[2] both within the UK general population and the armed forces. In 2000, the Government targeted a 40% reduction in people killed or seriously injured in road accidents to be achieved by 2010, with campaigns continuing to run[3]. In addition, the following MOD road safety campaigns were launched:

- 'Ride it Right' targeting motor cycle riders was launched in 2006 and again in 2007 following a rise in the number of off-duty motorcycle deaths
- 'Grim Reaper' video shown to personnel returning from operational deployment since 2007 who are shown to have an increased likelihood of being involved in an accident.
- 'You're tough but you're not invincible' series of British Forces Broadcasting Services (BFBS) television and radio commercials began in 2008 aimed at young soldiers returning from operational deployment with the message that whilst soldiers may have survived their tour of duty in Afghanistan, they are not invincible and are still at risk of being involved in a road traffic accident.
- A poster campaign aimed at militating against the risk of off-duty service personnel attempting to walk home after a night out by making taxi funds available was developed in 2012 following a number of service personnel pedestrian deaths which occurred whilst walking home after a night out.
- 'Hidden Dangers' posters for motorcyclists were launched in 2014 following a rise in the number of off-duty motorcycle deaths.
- 'Driver Distractions' awareness campaign ran for mobile phone use and driver distractions in 2015.
- 'The Honest Truth' campaign ran informing about safer driving using real stories in 2017.
- 'Survive the Drive' campaign focussed on risky driving behaviours in 2018 and is currently still ongoing.
- MOD pursues a number of road safety initiatives each year including 'Survive the Drive' led by the Directorate of Defence Safety and numerous unit level campaigns which are delivered throughout the year and recognised in the annual Defence Road Safety Awards.

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

Royal Marines (RM) Royal Marines are sea-going soldiers who are part of the Royal Navy.

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

Strength is defined as the number of serving UK armed forces personnel.

Suicide includes deaths given an underlying cause of intentional self-harm or an injury/poisoning of undetermined intent. In line with the definition used by the Office for National Statistics (ONS) in the publication of Accredited Official Statistics, all deaths are coded to the International Classification of Diseases 10th edition (ICD-10) which is produced by the World Health Organisation (WHO). Text held in death certificates and coroners reports is analysed and assigned the appropriate ICD code to ensure that deaths included in this notice are only those which meet the Accredited Official Statistics definition of Suicide. The codes used to define suicides are:

- X60-X84: intentional self harm;
- Y10-Y34: injury or poisoning of undetermined intent;
- Y87.0 and Y87.2: sequelae of intentional self harm, injury or poisoning of undetermined intent.

[2] ROSPA - A History of Road Safety Campaigns: http://www.rospa.com/road-safety/advice/road-users/campaign-history/

[3] http://think.direct.gov.uk/

Glossary (cont.)

UK regulars are full time service personnel, including Gurkhas and Nursing services. This excludes FTRS personnel, Naval activated reservists, mobilised reservists, Military Provost Guard service (MPGS) and Non regular Permanent Service (NRPS) except those who died on deployment as they are classified as 'regular' personnel for the duration of their overseas deployment. 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 an ex-regular or as a volunteer. An FTRS reservist on:

- **Full Commitment (FC)** fulfils 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).

- 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 5 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

Data sources

Defence Statistics receive weekly notifications of all regular armed forces deaths from the Joint Casualty and Compassionate Cell (formerly the single service casualty cells). Defence Statistics also receive cause of death information from military medical sources in the single services. At the end of each calendar year, Defence Statistics cross-reference the medical information it holds against publicly available death certificate information available from NHS Digital and The General Registrars Office Scotland. Regarding suicides, 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 held by the ONS and other authorities.

Defence Statistics regularly check all deaths for information on coroner's verdicts (England & Wales) and the results of investigations by the Procurator Fiscal for Scotland where possible. For Northern Ireland, Defence Statistics liaise with the Northern Ireland Statistics and Research Agency (NISRA) who handle the official information on behalf of the Northern Ireland Office. In this notice, all these sources of information 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 cause information. Where this is the case, deaths are included as 'Other Accidents' in the cause breakdowns.

To record information on cause of death, coding is carried out according to World Health Organisation's International Classification of Diseases 10th edition (ICD-10) and internationally agreed rules. This allows for international comparisons.

A definition of which Land Transport Accident deaths are excluded from analysis in Annex A can be found on page 21.

For calculations including breakdowns by deployed status in Annex A, Defence Statistics maintains a database of individual deployment records from November 2001. Data prior to April 2007 was derived from the single services' Operation Location tracking (OPLOC) systems and Souls on Board (Navy) and data since April 2007 is obtained from the Joint Personnel Administration (JPA) system. The data covers deployments on Operations VERITAS, HERRICK, TORAL (Afghanistan) (2001-2021), and Operation TELIC (Iraq) (2003-2011).

At the end of each calendar year Defence Statistics cross reference the medical information it holds against publicly available death certificate information available from NHS Digital.

Data coverage

The information on deaths presented in the main report are for the UK regular armed forces, including all trained and untrained personnel, Gurkhas and non-regulars who died on deployment are also included since they are classified as 'regular' personnel for the duration of their overseas deployment. The data in the main report exclude the Home Service of the Royal Irish Regiment, full time reservists, Army reserve and Naval Activated reservists since Defence Statistics do not receive routine notifications of all deaths among reservists and non-regulars, and because reliable denominator data to produce interpretable statistics are not available. However, Defence Statistics are informed of on-duty deaths among non-regular armed forces personnel; Annex C presents this information.

The Royal Navy includes both the Royal Navy and the Royal Marines.

Methodology (cont.)

Methods

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 and gender structures of their respective single service strengths, rates have been age and gender standardised. In order to facilitate comparisons with previously published reports data has been standardised to the 2024 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 and gender structure as the standard population (the 2024 armed forces population).

The small number of deaths in some of the sub-group analysis may result in wide confidence intervals in the corresponding rate or ratios. The impact of this is that the range in which we expect the true value of that statistics to lie is much larger, making it harder to interpret the true underlying trend.

Calculating Standardised Mortality Ratios (SMR)

The 95% confidence interval for a SMR provides the range of values within which we expect to find the real value of the indicator under study, with a probability of 95%. If the confidence interval for an SMR does not include 100, the result is deemed to be statistically significant. The width of the confidence interval gives us some idea about how uncertain we are about the reported statistic. The small numbers in some of the sub-group analysis may result in wide confidence intervals. The impact of this is that the range in which we expect the true value of that statistic to lie is large and there is a risk of misinterpreting a chance occurrence for a true finding.

The UK population estimates for 2024 and the UK deaths data for 2024 were not available for this report to calculate standard mortality ratios (SMR), therefore, Defence Statistics has used the 2023 UK population estimates and 2023 UK deaths data as an estimate for the 2024 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 latest UK 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 intervals 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.)

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 and users of this publication should be confident that the numbers of fatalities presented are accurate. However, some causes of death (including possible 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. In addition, there is often a delay accessing death certificate information from NHS Digital and The General Registrars Office Scotland where cause of death information is not available from military medical sources. These issues can result in final cause of death information not being timely and complete for recent years and are reported as 'other accidents' (for possible suicides) or 'cause not available' whilst waiting for final cause of death to be determined. This can lead to revisions in the cause of death categories when Coroner's verdicts and death certificates are returned (see 'Changes to previously published data' section for more information about the extent of these revisions).

In addition, deaths certificates for personnel who die overseas are issued by the MOD and if buried overseas, are not always subject to a coroner's inquest to certify cause of death. Users should be aware of this when using cause of death information.

The release of the information in this notice is controlled by the statistics code of practice as outlined in the Statistics and Registration Act, 2007. This stipulates that statistics in their final form cannot be released prior to a publication. Thus, because it can take many months or even years for a coroner's inquest, Defence Statistics do not update the numbers in between the publication of this notice, to ensure there is no breach of the code of practice. Therefore, any requests for information on deaths among the UK armed forces are provided using the underlying dataset used to compile this notice.

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 compromise the operational security of UK armed forces personnel by revealing detail on individual incidents such as mechanism or type of military vehicle involved; nor that 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). Defence Statistics are regularly asked to release information such as date of death, location of death, deaths within a unit or rank held by the deceased, however, these requests are assessed on a case by case basis to ensure the information presented is aggregated to a level to ensure individuals cannot be identified or that compromises operational security.

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 'awaiting verdict' have been followed up with the ONS and other authorities.

Amendments to the classifications given to the cause of death previously reported in the 2023 report are as follows:

For 2018:
-One 'Other Diseases' amended to 'Cause Unavailable'

For 2021:
-Three 'Other Accidents' amended to 'Suicides and Open Verdicts'
-One `Land Transport Accidents` amended to 'Suicides and Open Verdicts'

For 2022:
-One 'Other Accidents' amended to 'Suicides and Open Verdicts'
-One `Land Transport Accidents` amended to 'Suicides and Open Verdicts'
-One 'Other Diseases' amended to 'Cause Unavailable'

For 2023:
-Five 'Other Accidents' amended to 'Suicide and Open Verdicts'
-Two `Cause Unavailable` amended to `Cancers`
-One 'Other Diseases' amended to 'Cause Unavailable'
-One `Cause Unavailable` amended to `Disease of the Circulatory System`

Where trends over time have been presented, an update on previous data published has been annotated with an 'r' to indicate a revision has been made.

More detailed information on the data, definitions and methods used to create this report can be found in the Background Quality Report (BQR) published on gov.uk.

Further Information

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

Email: **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, see the gov.uk FOI page.

Other contact points within Defence Statistics are:

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Army Workforce	*DefStrat-Stat-Army-Enquiries@mod.gov.uk*
RAF Workforce	*Analysis-Air@mod.gov.uk*
Tri-Service Workforce	*Analysis-Tri-Service@mod.gov.uk*
Civilian Workforce	*Analysis-Civilian-Enquiries@mod.gov.uk*

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Annex A – Number of Land Transport Accidents (LTA) resulting in deaths among UK regular armed forces personnel

Introduction

Annex A provides summary information on Land Transport Accident (LTA) deaths whilst in service among UK regular armed forces personnel for the five-year period 2020-2024. LTA were the **fourth largest cause of death** in the UK regular armed forces during this period after deaths due to Cancer, Suicide and Other Accidents.

This information is being released to advise the MOD and the public of the loss of life by LTA and has been developed in response to requests from the MOD road safety and health promotion areas for detailed analysis and to contribute to the MOD's commitment to release information where possible.

Analysis by service and vehicle types associated with LTA deaths and comparisons to the UK general population are presented in this Annex. 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, this report presents time trend graphs since the start of data collection in 1984 and all tables and remaining graphs as numbers and rates aggregated for the latest five-year period**.**

The main purpose of Annex A is to provide evidence to internal stakeholders to monitor and measure the impact of road safety policy for UK armed forces personnel. Deaths relating to incidents on bicycles or horses, and rail-related incidents, have been excluded from the analysis presented in Annex A since they are beyond the scope of road safety policy or the numbers are too small to provide meaningful analysis.

Please note no suicides or hostile action deaths involving vehicles have been included in this annex. These will appear in the main section of this report under suicides or hostile action deaths.

Key Points

- The UK regular armed forces were at a **statistically significant increased risk of dying due to a LTA** than the UK general population in the latest five-year period as a whole, 2020-2024.
- The rate of UK regular armed forces deaths due to LTA has shown a **downward trend** since 2005.
- **Motor vehicle accidents** accounted for the largest proportion of deaths due to LTA (52% of LTA deaths in the latest five-year period, 2020-2024).
- Since the end of the 1980's, the Army had the highest rate of LTA deaths. However, in the latest five-year period (2020-2024), the **RAF had the highest rate of LTA deaths** at 9 per 100,000. This rate was not statistically significantly different to the rate in the other services.

Latest five-year period results (2020-2024)

Please note two deaths from the period 2020-2024 have been excluded from all analysis in this Annex for the reasons stated above. Therefore, the numbers presented in this Annex will differ from the number of LTA deaths in the main report and the two should not be compared.

Comparing LTA to other causes of death over the latest five-year period, 2020-2024:

- LTA were the **fourth largest cause of death** (13% of all deaths, n=44)
- There was an average of nine deaths a year as a result of an LTA.

Tri-Service For the latest five-year period the **Tri-Service** rate of deaths due to LTA was **6 per 100,000.**

Royal Navy For the latest five-year period the **Royal Navy** rate of deaths due to LTA was **6 per 100,000.**

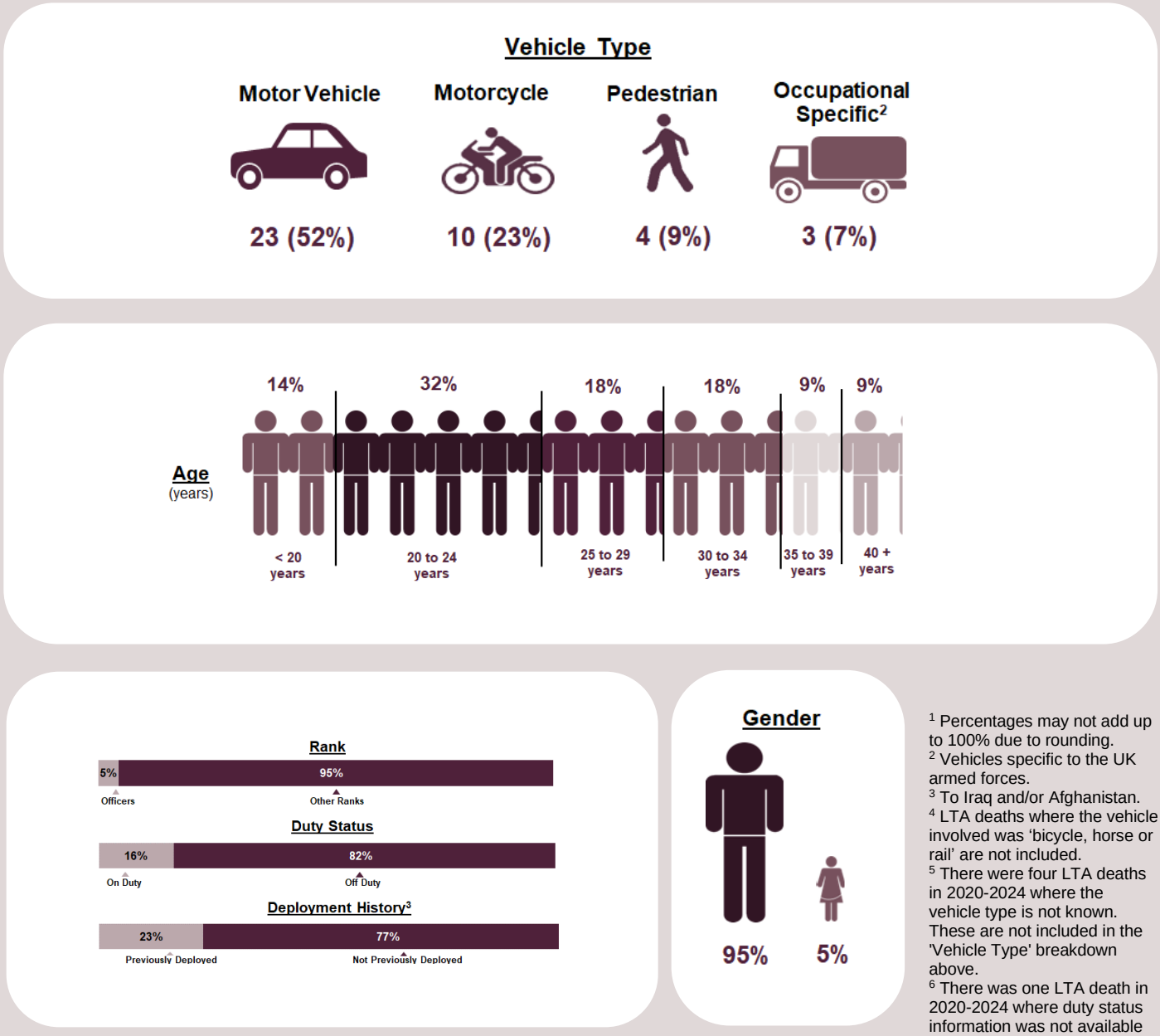
Army For the latest five-year period the **Army** rate of deaths due to LTA was **5 per 100,000.**

RAF For the latest five-year period the **RAF** rate of deaths due to LTA was **9 per 100,000.**

Annex A – Number of Land Transport Accidents (LTA) resulting in deaths among UK regular armed forces personnel (cont.)

Figure A1 provides a breakdown of LTA deaths by key characteristics for the LTA deaths occurring in 2020-2024 (n=44). In the latest five-year period, **motor vehicle accidents** accounted for **52%** (n=23) of LTA deaths. The majority of deaths (**82%,** n=36) occurred when personnel were **off duty**.

Figure A1: UK regular armed forces LTA deaths by key characteristics, percentages[1]
2020-2024



[1] Percentages may not add up to 100% due to rounding.
[2] Vehicles specific to the UK armed forces.
[3] To Iraq and/or Afghanistan.
[4] LTA deaths where the vehicle involved was 'bicycle, horse or rail' are not included.
[5] There were four LTA deaths in 2020-2024 where the vehicle type is not known. These are not included in the 'Vehicle Type' breakdown above.
[6] There was one LTA death in 2020-2024 where duty status information was not available

Source: Defence Statistics Health

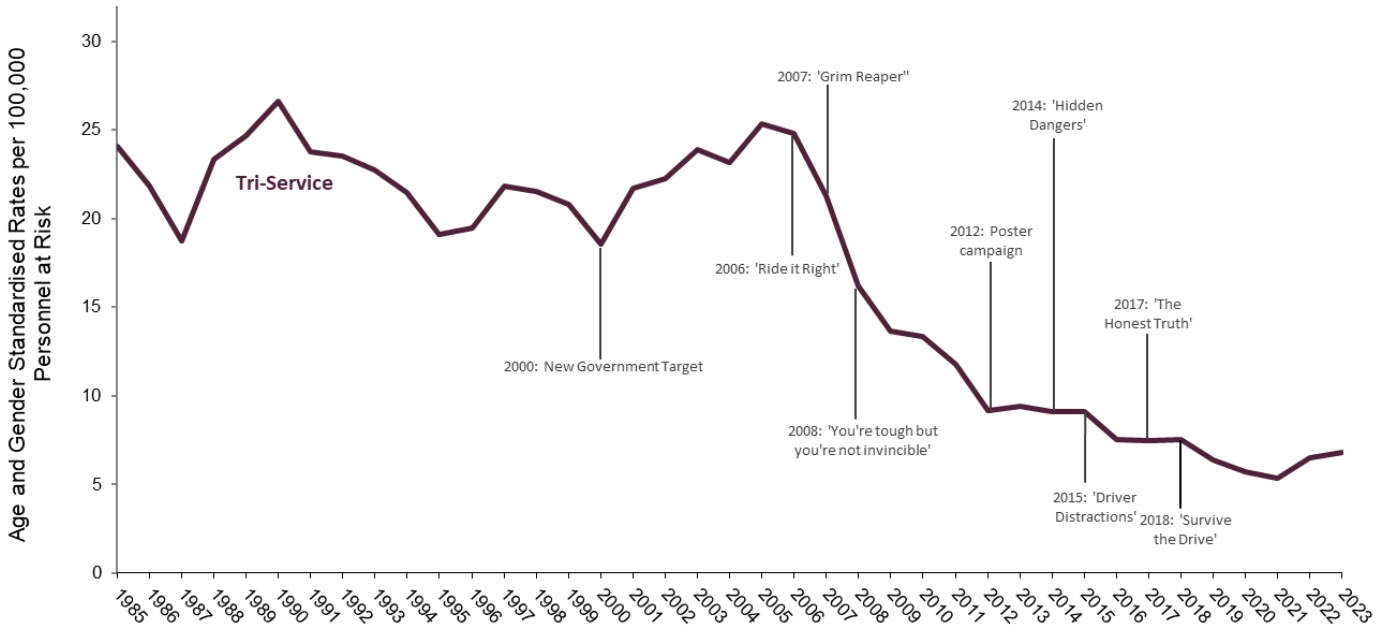
Note that high percentages of LTA deaths among certain groups may be explained by those groups experiencing higher risk factors, or they may be a reflection of the breakdown of these characteristics in the UK regular armed forces. For example 95% of LTA deaths among males may be due to the risky driving found to be associated with males[4], or may be explained by the fact males account for 88% of UK regular armed forces.

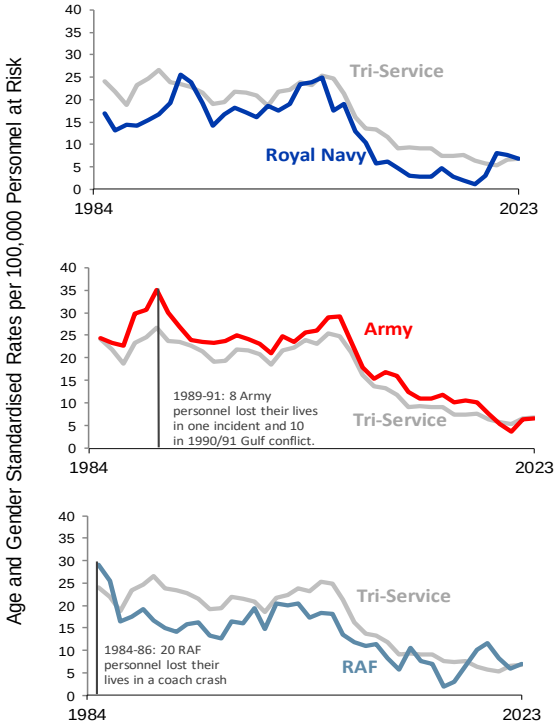
[4] Fear et al., (2008) Risky Driving Among UK regular armed forces Personnel from the United Kingdom, American Journal of Preventative Medicine, 35, 230-236.

Annex A – Number of Land Transport Accidents (LTA) resulting in deaths among UK regular armed forces personnel (cont.)

Trends over time

Figure A2: UK regular armed forces LTA deaths by service[1], three-year moving average, rate[2,3]
1984-2024





Source: Defence Statistics Health
[1] Royal Navy includes Royal Navy and Royal Marines
[2] Rates have been age and gender standardised to the 2024 UK armed forces population, expressed per 100,000.
[3] The year shown is the mid-point of a three-year average, e.g. 2023 refers to the period 2022 to 2024.

Rates are presented as a three-year moving average to smooth out annual fluctuations and to highlight long term trends.

There had been a downward trend in the Tri-Service rate of LTA deaths from 25 deaths per 100,000 in 2005-2007 to **7 per 100,000** in 2022-2024. Rates fell to a low of 5 per 100,000 in 2019-2021, likely as a result of restrictions on travel during the COVID-19 pandemic.

Since the end of the 1980's, Army personnel have had the highest rate of LTA deaths amongst each of the services. However, the latest three-year moving average rate (2022-2024) was the same for each service at **7 per 100,000**.

The advancement in vehicle safety systems and road safety campaigns run by MOD throughout this period contributed to the downward trend in deaths as a result of LTA. The dates of each MOD safety campaign are shown in the first graph of figure A2. See the **'Glossary'** for details of campaigns and the government target.

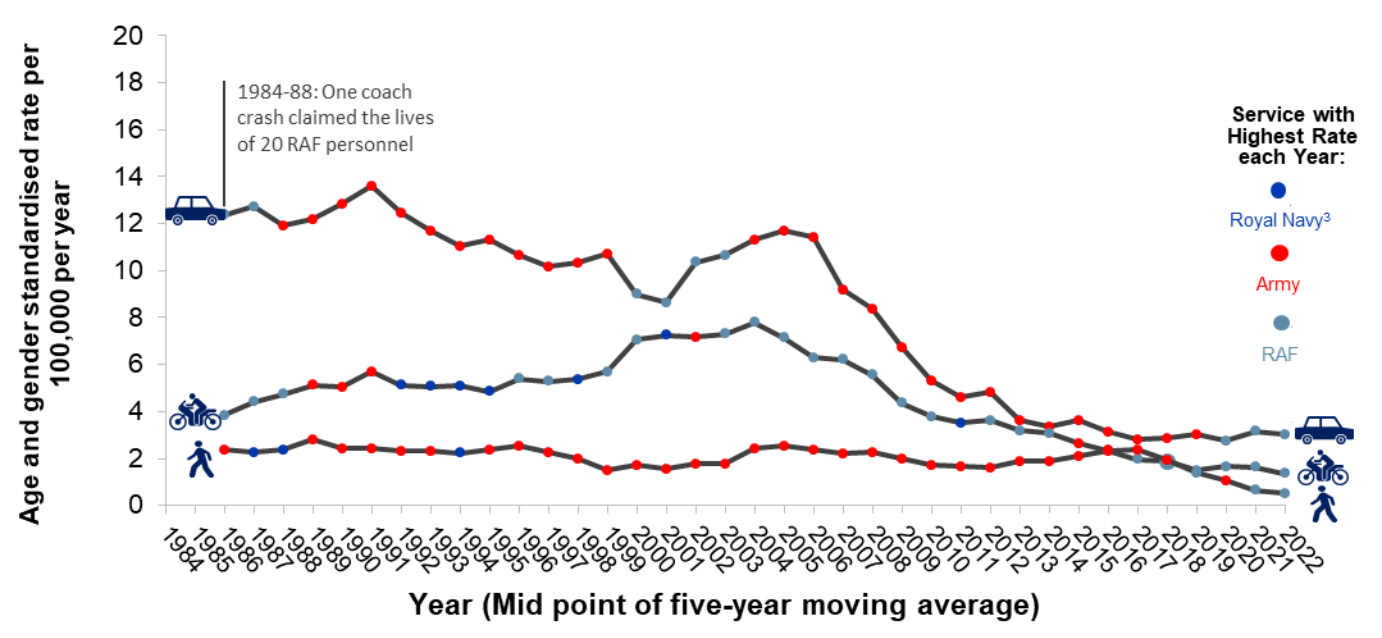
Annex A – Number of Land Transport Accidents (LTA) resulting in deaths among UK regular armed forces personnel (cont.)

Trends over time for LTA deaths by vehicle type

Due to the small numbers of deaths for individual vehicle types, five-year moving averages have been used for the following section to eliminate some of the random year-on-year variation.

Figure A3 provides a summary of LTA mortality rates by vehicle type for the time period 1984-2024. The data marker colours on the graph represent the service for which the LTA rate was highest in each year.

Figure A3: UK regular armed forces LTA deaths by vehicle type, five-year moving average, rates[1,2]
1984-2024



Source: Defence Statistics Health
[1] Rates have been age and gender standardised to the 2024 UK armed forces population, expressed per 100,000 personnel at risk.
[2] The year shown is the mid-point of a five-year average, e.g. 2022 refers to the period 2020 to 2024.
[3] Royal Navy includes Royal Navy and Royal Marines.

Throughout the period 1984-2024, LTA mortality rates due to motor vehicle accidents were highest. There was a downward trend in the rate of deaths due to motor vehicle accidents between 2005-2016, the rate has since remained stable at around 3 deaths per 100,000. There has been a downward trend in the rate of deaths due to motorcycle accidents since 2005. The rate of pedestrian accidents has remained stable throughout the period.

Comparisons based on a five-year moving average:

- Motor vehicle mortality five-year moving average rate decreased from **3.2** per 100,000 in 2019-2023 to **3.0** per 100,000 in 2020-2024.
- Motorcycle mortality five-year moving average rate decreased from **1.6** per 100,000 in 2019-2023 to **1.4** per 100,000 in 2020-2024.
- Pedestrian mortality five-year moving average rate decreased from **0.6** per 100,000 in 2019-2023 to **0.5** per 100,000 in 2020-2024.

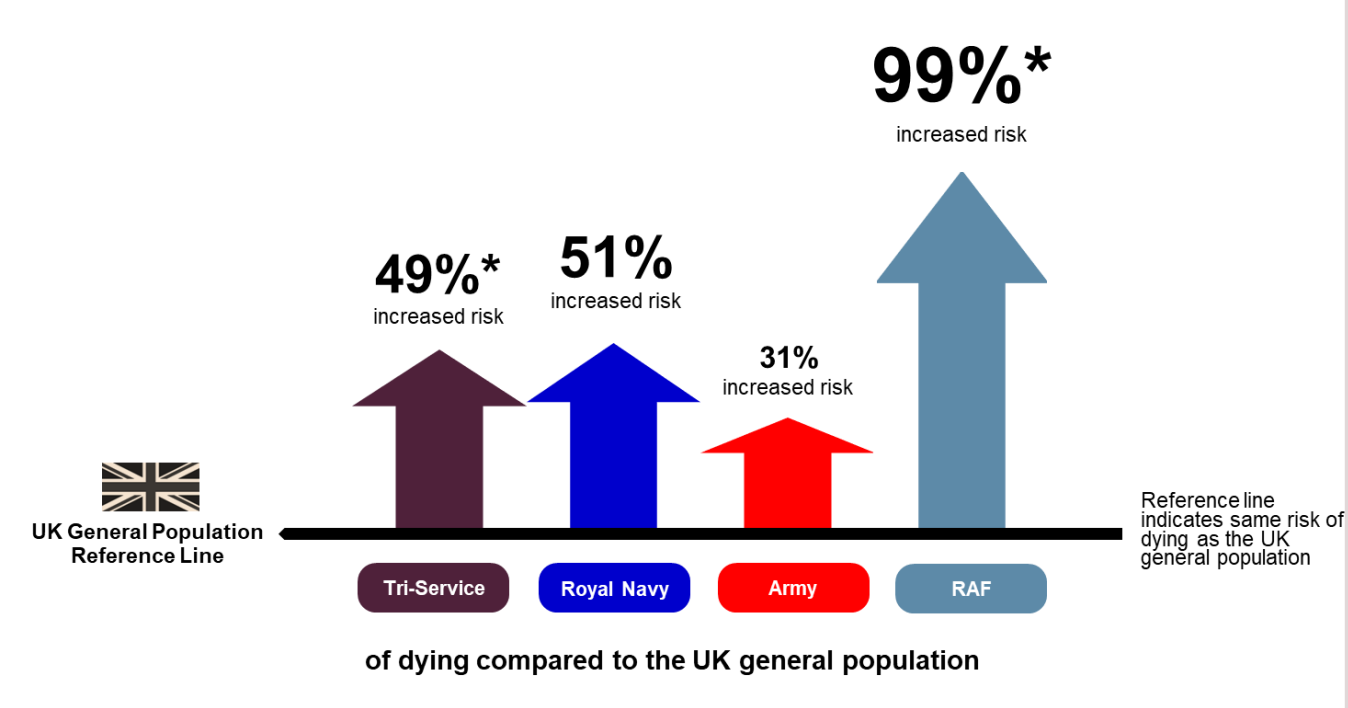
Comparisons with UK general population

To enable comparisons with LTA deaths in the UK general population, **Standardised Mortality Ratios (SMR)**, adjusted for age, gender and year, were calculated. **Figure A4**, on the following page, compares five-year (2020-2024) Standardised Mortality Ratios by service.

Annex A – Number of Land Transport Accidents (LTA) resulting in deaths among UK regular armed forces personnel (cont.)

For the five-year period 2020-2024, UK regular armed forces personnel as a whole were at a **49% statistically significant increased risk** of dying due to an LTA compared to the UK general population. The **RAF were at a 99% statistically significant increased risk** of dying due to an LTA compared to the UK general population. There was no statistically significant difference in risk for the Royal Navy or Army when compared to the UK population. See **Figure 6** in the main report for SMR time trends for the armed forces as a whole and **Additional Figure 1** in the Excel supplementary tables for three-year SMR moving average comparisons by service over time.

Figure A4: UK regular armed forces LTA deaths by service[1], standardised mortality ratio[2,3]
2020-2024



Source: Defence Statistics Health
[1] Royal Navy includes Royal Navy and Royal Marines.
[2] Standardised for age, gender and calendar year.
[3] An SMR below, equal to, or above 100 indicates that the rate for the armed forces or the service is respectively below, equal to, or higher than the rate in the general UK population (see 'Methodology' section for further clarification).
* Statistically significant risk of dying compared to the UK general population. No asterisk(*) indicates there was no statistically significant difference between the military and the UK general population

Comparisons by vehicle type, service and age groups at risk, 2020 to 2024

In previous releases of this report, UK regular armed forces personnel were found to be at a statistically significant increased risk of dying as a result of a motorcycle accident compared to the UK general population. However, there was **no statistically different risk** in the latest period 2020-2024. There were also **no statistically different risks** of UK regular armed forces personnel dying as a result of a **motor vehicle accident** or a **pedestrian accident** compared to the UK general population in the period 2020-2024.

In previous releases of this report, UK regular armed forces personnel aged over 30 were found to be at a **statistically significant increased risk** of dying as a result of a **motorcycle accident** compared to the UK general population. However, there was **no statistically different risk** by age compared to the UK general population for a motorcycle accident in the latest period 2020-2024. There were also no statistically significant differences in risk by age compared to the UK general population for either a motor vehicle accident or a pedestrian accident.

Additional Tables 5-7 and Additional Figure 2, available in the supplementary tables accompanying this report, provide further details of SMRs by vehicle type, service and age.

Annex B – Number of health and safety deaths

The Defence Safety Authority identify potential safety related deaths and subsequently confirm the outcome following an internal service inquiry, investigation or coroner's inquest. Therefore, the numbers presented in Table B1 are provisional and may change once the outcome of the investigation or inquest are known.

Table B1: Safety related and potentially safety related deaths[1,2,3], UK regular personnel and on duty reserves, by cause, numbers

2020-2024

Cause	Year				
	2020	2021	2022	2023	2024
All deaths	**57**	**71**	**69**	**73**	**59**
Health & Safety deaths	**2**	**3**	**7**	**5**	**4**
Disease-related Conditions	1	0	1	2	0
Land Transport Accidents	0	1	3	2	0
Other Accidents	1	2	2	0	3
Other Violent	0	0	0	0	0
Cause unknown or unascertained	0	0	1	1	1

Source: Defence Statistics Health

[1] As identified by the Defence Safety Authority.

[2] Please note, these figures are provisional and may potentially be deemed not safety related following an internal service inquiry, investigation or coroner's inquest.

[3] Includes one off-duty reservist death that was deemed safety related.

Table B1 shows **7%** (n=4) of all UK armed forces deaths in 2024 were confirmed as safety related or potentially safety related, pending the outcome of investigations or coroner inquest.

The deaths reported in Table B1 are presented by calendar year in line with reporting in this notice. Numbers of health and safety related deaths by financial year can be found at Defence Personnel Health and Safety Statistics.

Annex C – On duty deaths in the UK armed forces reservist forces, 2015-2024

Table C1: UK armed forces reservist[1,2] deaths whilst on duty, by type of reservist, numbers
2015-2024

Reserve type	Year									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
All	**1**	**0**	**1**	**1**	**3**	**2**	**2**	**2**	**2**	**2**
Territorial Army	0	0	0	0	0	0	0	0	0	0
Other Volunteer Reserves	1	0	1	1	1	1	1	1	0	0
Full-Time Reserve Service	0	0	0	0	2	1	1	0	2	0
Military Provost Guard Service	0	0	0	0	0	0	0	1	0	2
Non Regular Permanent Staff	0	0	0	0	0	0	0	0	0	0

Source: Defence Statistics Health
[1] UK armed forces reservists who died whilst deployed on operations are included in the data presented in the main report and are therefore not included in this Annex.
[2] Includes UK armed forces non-regular personnel, Military Provost Guard Service (MGPS) and Non regular Permanent Staff (NRPS).

Table C2: UK armed forces reservist[1,2] deaths whilst on duty, by cause of death, numbers
2015-2024

Cause	Year									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
All	**1**	**0**	**1**	**1**	**3**	**2**	**2**	**2**	**2**	**2**
Disease-related conditions	**0**	**0**	**1**	**1**	**2**	**2**	**2**	**1**	**2** [r]	**1**
Cancers	0	0	0	0	1	0	1	0	0	1
Diseases of the circulatory system	0	0	1	1	1	2	1	1	2 [r]	0
Other	0	0	0	0	0	0	0	0	0	0
External causes of injury and poisoning	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Deaths due to accidents	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
Land Transport Accidents	0	0	0	0	1	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0
Deaths due to violence	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hostile Action[1]	-	-	-	-	-	-	-	-	-	-
Other	0	0	0	0	0	0	0	0	0	0
Suicide	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Cause not currently available	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0** [r]	**0**

Source: Defence Statistics Health
[1] Non-regular members of the UK armed forces who died whilst deployed on operations are included in the data presented in the main report and are therefore not included in this Annex.
[2] Includes UK armed forces non-regular personnel, Military Provost Guard Service (MGPS) and Non regular Permanent Staff.
[r] denotes changes to previously published data

The number of on-duty UK reservist deaths over the last ten years remains small. There were **two** on-duty UK reservist deaths in 2024, one was due to cancer and one was a suicide.

The information presented in this Annex does not include deaths to all UK armed forces reservist personnel as MOD are not routinely informed of deaths among this population which occur off-duty.

References and useful links

References

1. McLaughlin et al., (2015) An Evaluation of the Effect of Military service on Mortality: Quantifying the Healthy Soldier Effect
2. ROSPA - A History of Road Safety Campaigns:
3. http://think.direct.gov.uk/
4. Fear et al., (2008) Risky Driving Among UK regular armed forces Personnel from the United Kingdom, American Journal of Preventative Medicine, 35, 230-236.

Useful links

Reported Road Casualties in Great Britain: Main Results 2014:

Statistics and Registration Act, 2007:

Suicides in the UK Regular Armed Forces

Training and Exercise Deaths in the UK Armed Forces

UK armed forces operational deaths post World War 2

Defence Personnel Health and Safety Statistics

UK armed forces biannual diversity statistics