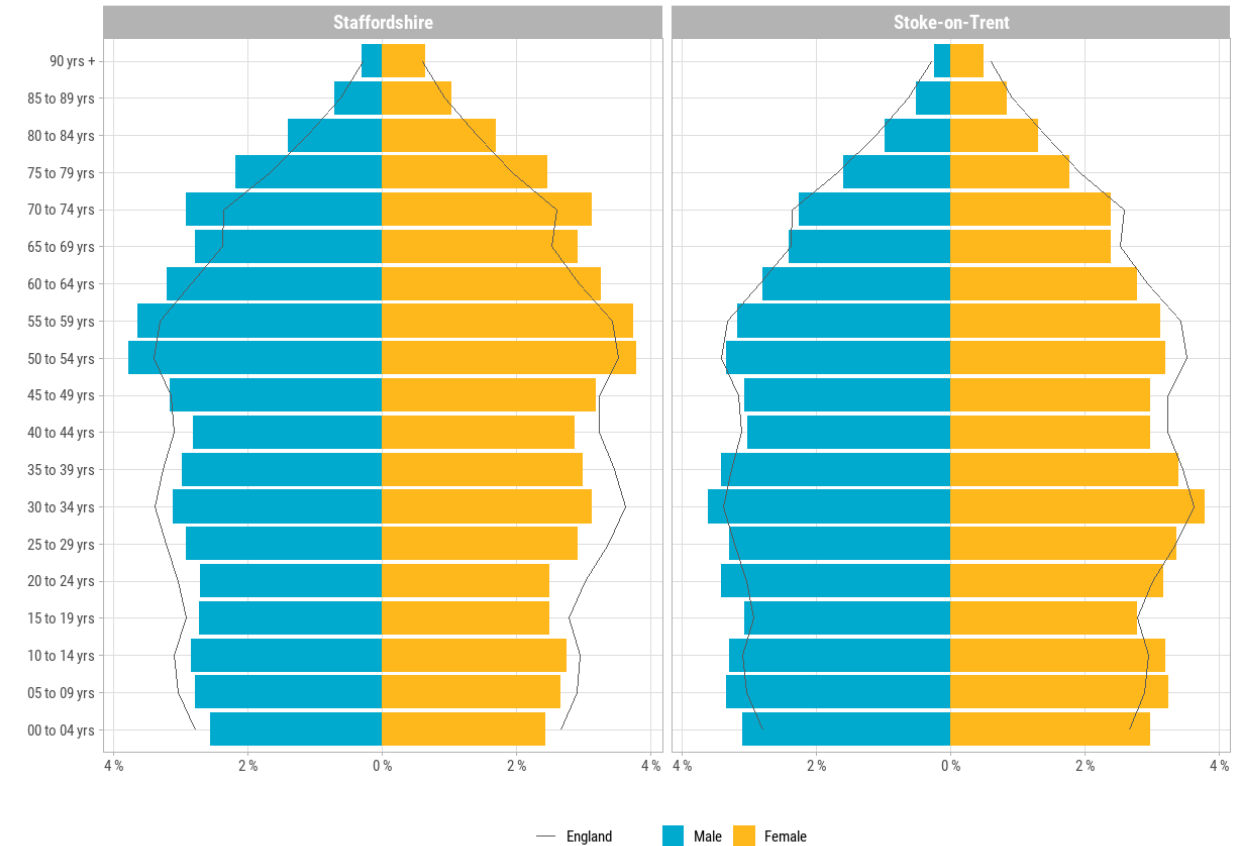


Demographics

Current age profile in Staffordshire and Stoke-on-Trent

- The overall all population within SSoT, according to the latest 2021 Census, is 1.13 million
- About 258,000 people live in Stoke-on-Trent and 876,00 people live in Staffordshire
- Staffordshire has a slightly older population compared to England, whilst Stoke-on-Trent has younger population compared to England
- Both local authorities have a similar proportion of its population who are of working-age (57% in Staffordshire and 58% in Stoke-on-Trent)
- Staffordshire has a higher proportion of its population who are of retirement age (22% in Staffordshire are aged 65 and over compared to 17% in Stoke-on-Trent)
- Stoke-on-Trent has a higher proportion of its population who are children and children and young people (25% are aged under 15 in Stoke-on-Trent compared to 21% in Staffordshire)
- Differences in age-structures between the two local authorities will impact the levels of health and social care need, with older people typically experiencing poorer health due to increasing age

Population by 5-year age band, 2021
Staffordshire and Stoke-on-Trent upper tier local authorities



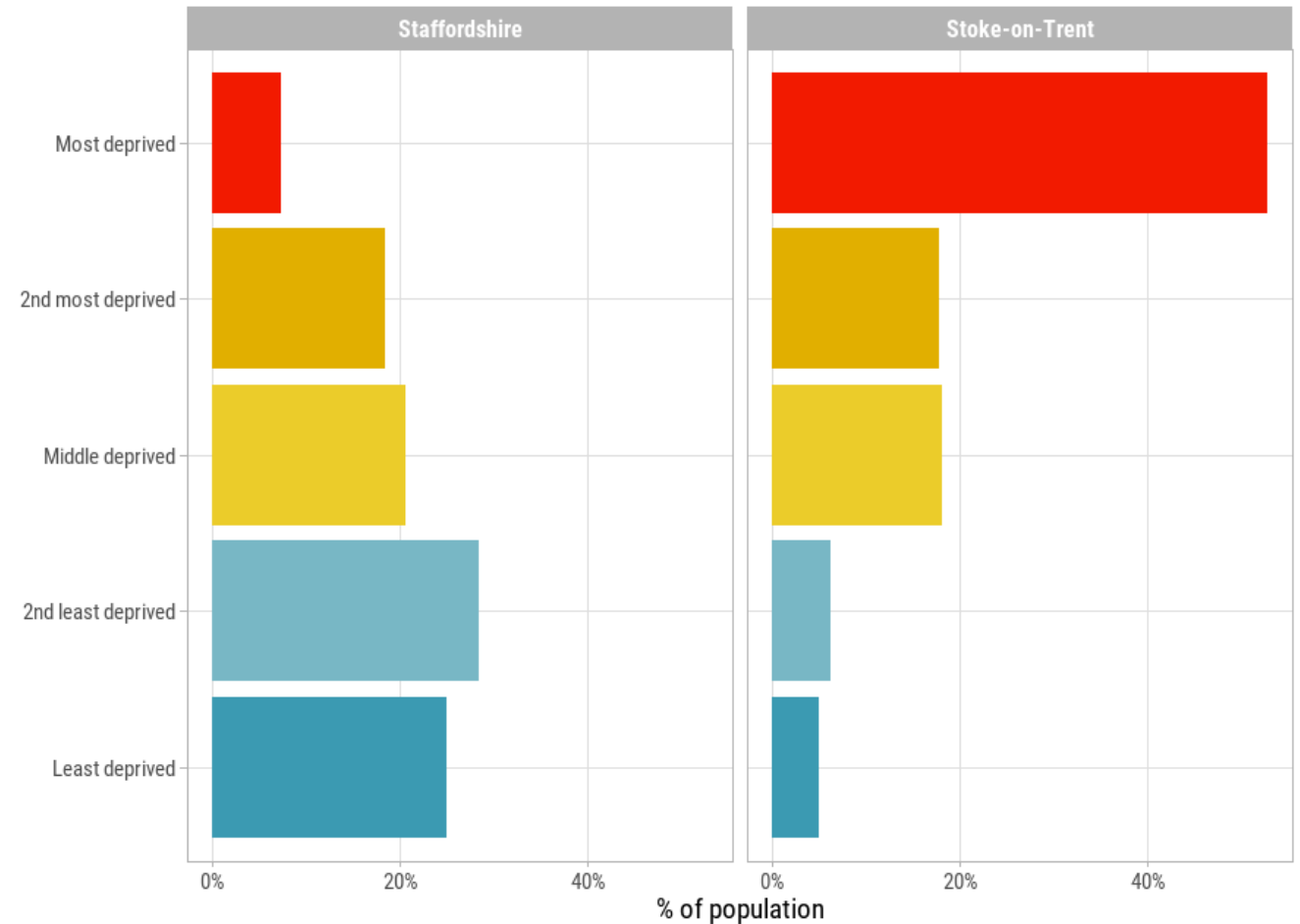
Source: Census 2021, ONS. Licensed under the Open Government Licence.

Deprivation in Staffordshire and Stoke-on-Trent

- The Index of Multiple Deprivation (IMD) is the national measure of relative deprivation for England. The IMD is typically classed into five quintiles, with 1 being the most deprived and 5 being the most deprived
- People who are in quintile 1 are also described as being in the most deprived 20% in England
- More than half (53%) of the population in Stoke-on-Trent live in the most deprived 20% areas in England
- Less than one tenth (7.4%) of the population in Staffordshire live in the most deprived live in the most deprived 20% areas in England
- People who are more deprived tend to have poorer health outcomes and increased deprivation is associated with premature mortality

Population by deprivation quintile

Staffordshire and Stoke-on-Trent upper tier local authorities



Sources: The Indices of Deprivation 2019, Ministry of Housing, Communities and Local Government.

Ethnicity profile in Staffordshire and Stoke-on-Trent

- There were a total 1.13 million people living in the ICB footprint according to the latest census
- 91% of the ICB population are White. This is higher than England (81.7%)
- The next most common high-level ethnic group was "Asian, Asian British or Asian Welsh" representing 4.8% of the ICB-population. This is lower than England (9.1%)
- This means that Staffordshire and Stoke-on-Trent ICB is less ethnically diverse than England

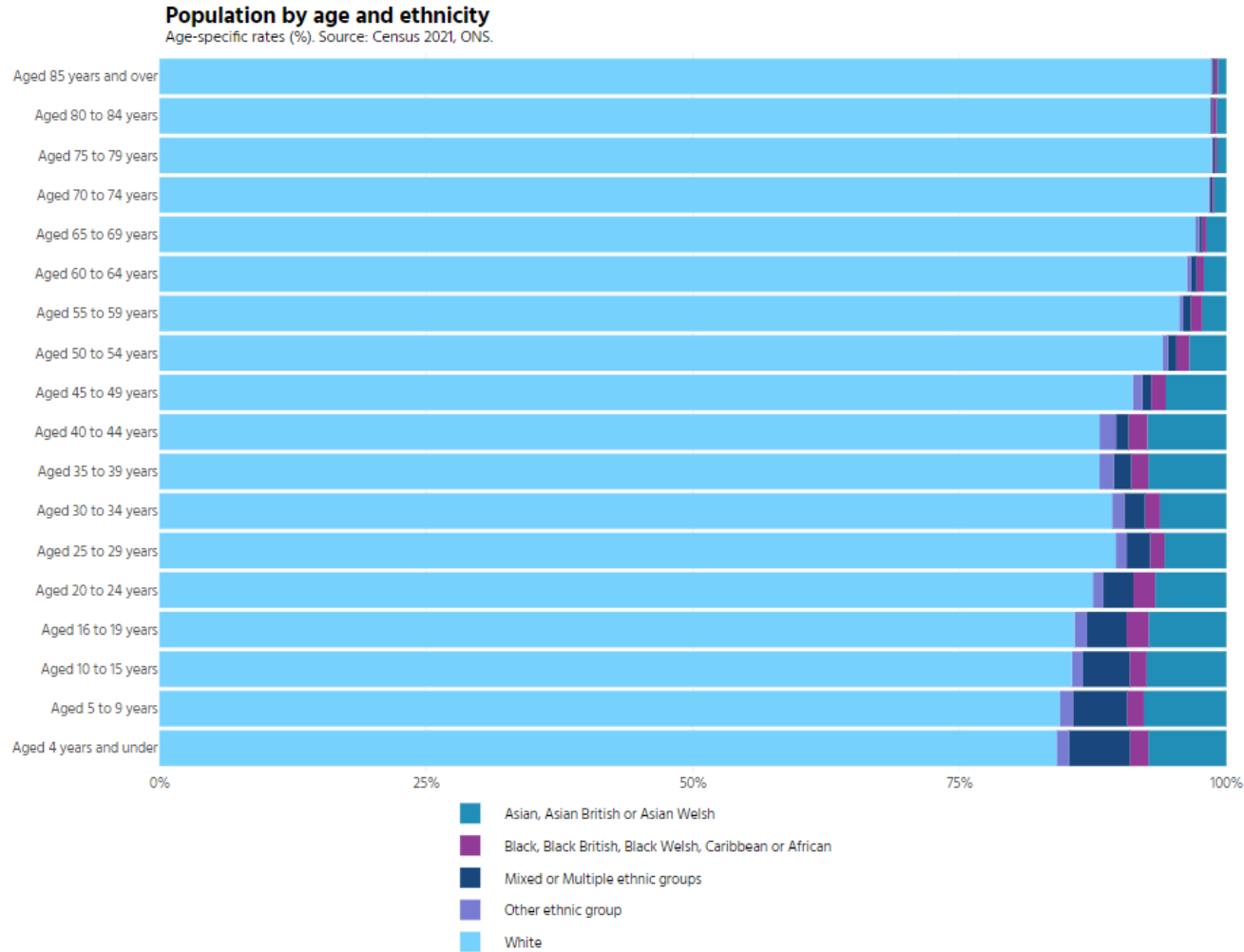
Broad ethnic category

Staffordshire and Stoke-on-Trent ICB



Sources: Census 2021. Office for National Statistics

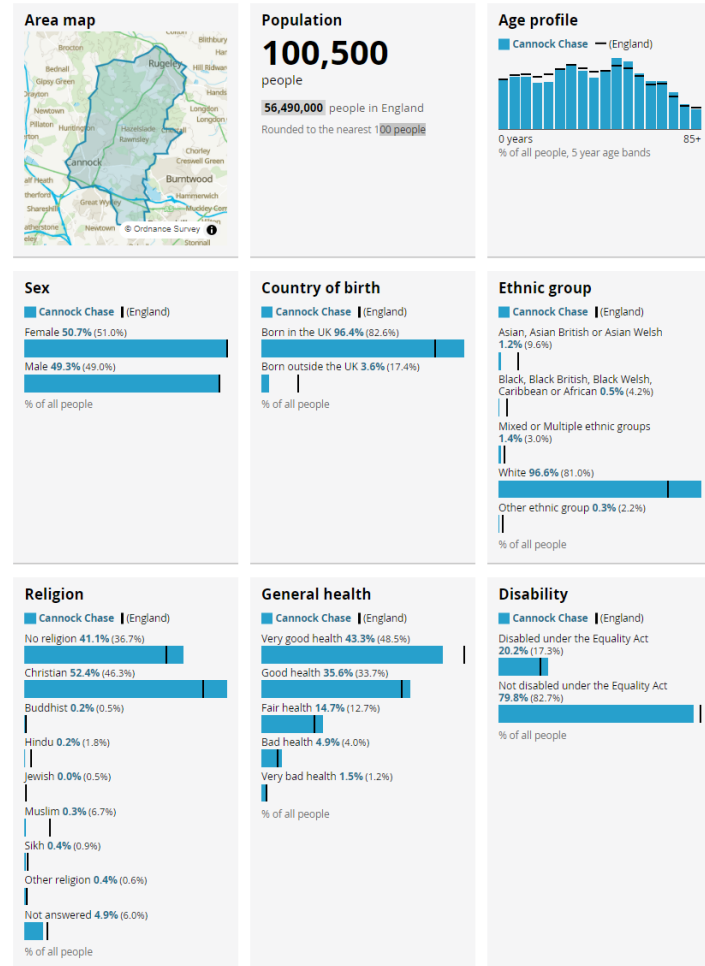
Ethnicity profile in Staffordshire and Stoke-on-Trent



- Older age groups within the ICB tend to be less ethnically diverse than younger age groups

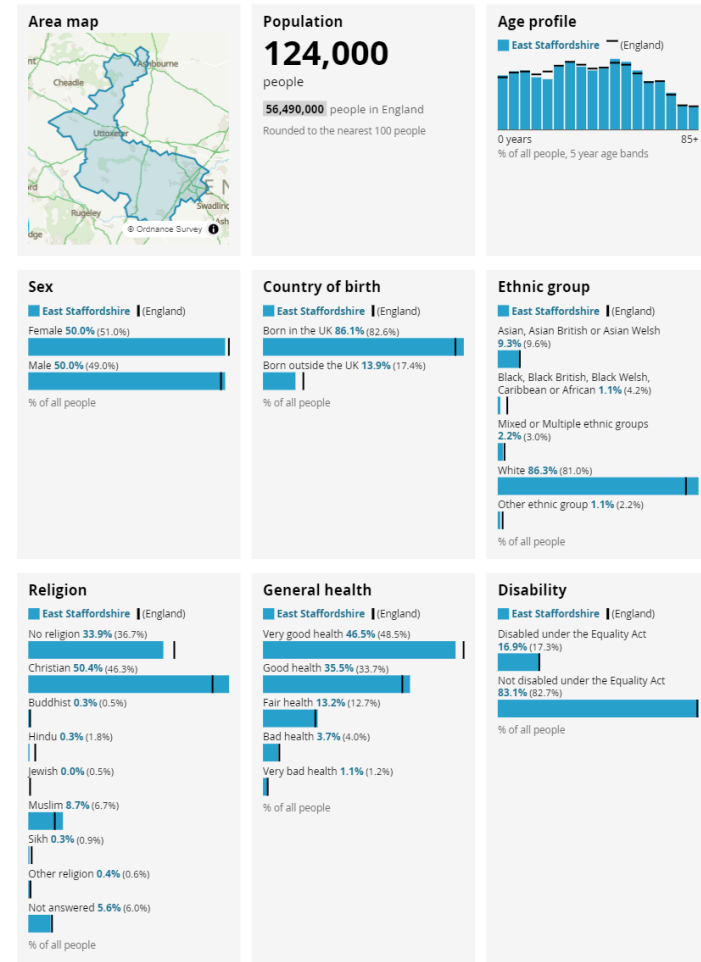
Key demographics by LTLA in Staffordshire and Stoke-on-Trent

Cannock Chase



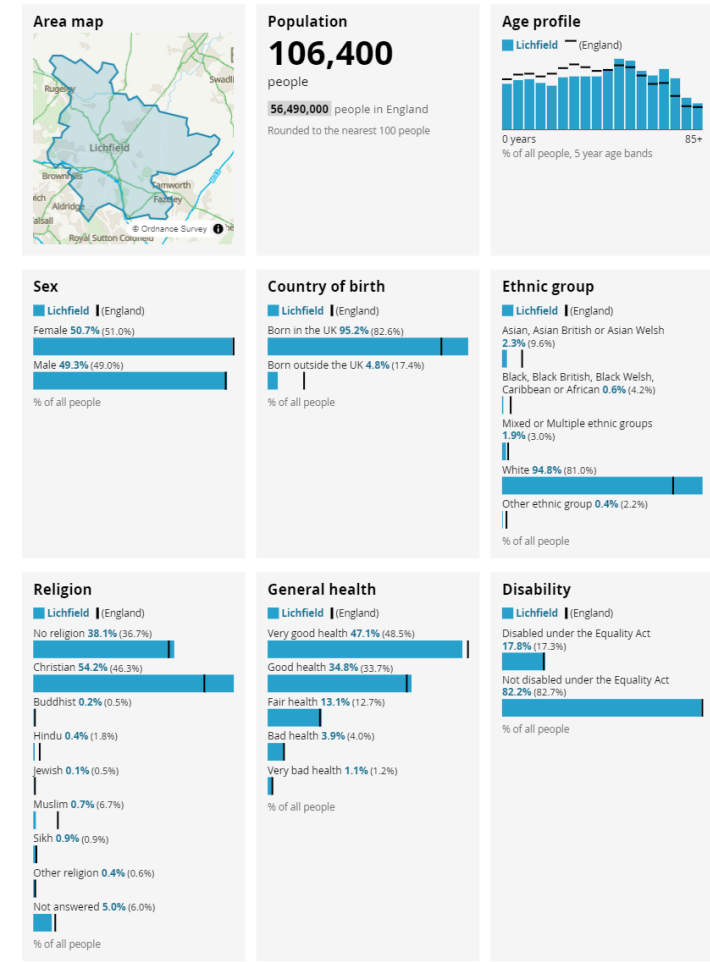
Source: Office for National Statistics - Census 2021

East Staffordshire



Source: Office for National Statistics - Census 2021

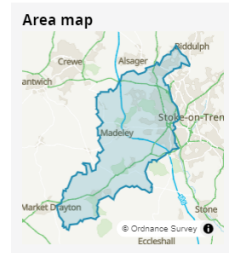
Lichfield



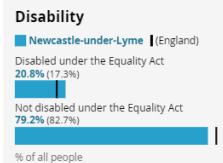
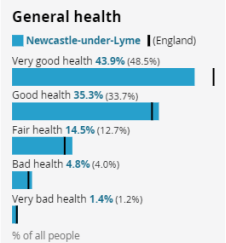
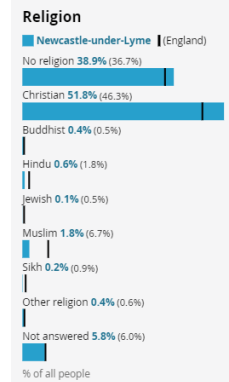
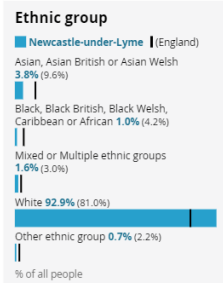
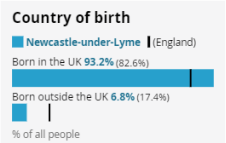
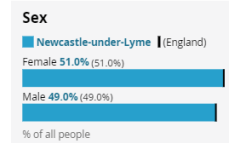
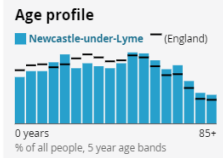
Source: Office for National Statistics - Census 2021

Key demographics by LTLA in Staffordshire and Stoke-on-Trent

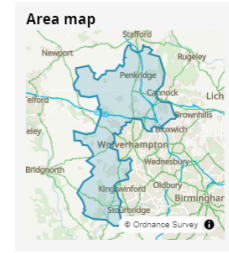
Newcastle-under-Lyme



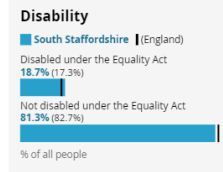
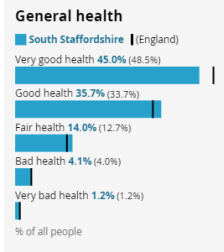
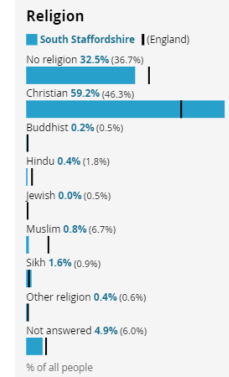
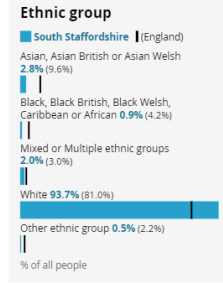
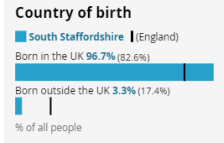
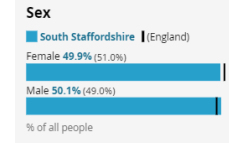
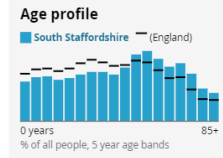
Population
123,300
 people
 56,490,000 people in England
 Rounded to the nearest 100 people



South Staffordshire



Population
110,500
 people
 56,490,000 people in England
 Rounded to the nearest 100 people

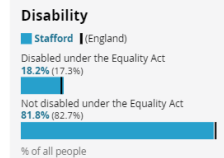
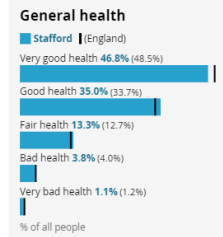
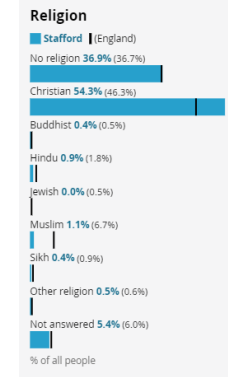
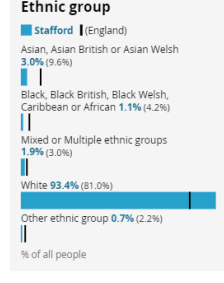
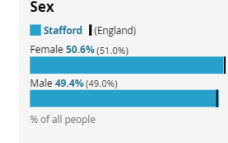
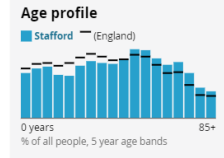


Source: Office for National Statistics - Census 2021

Stafford



Population
136,900
 people
 56,490,000 people in England
 Rounded to the nearest 100 people

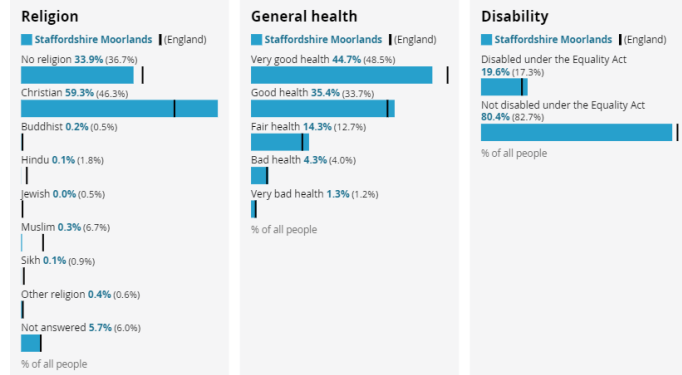
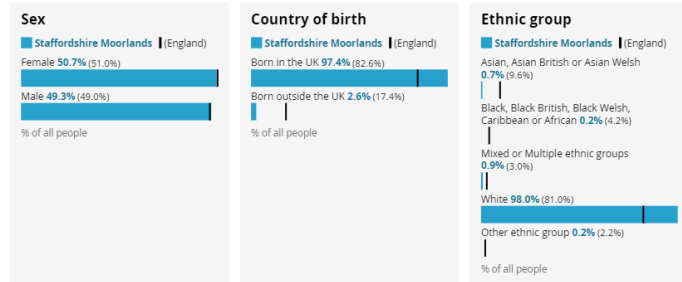


Source: Office for National Statistics - Census 2021

Source: Office for National Statistics - Census 2021

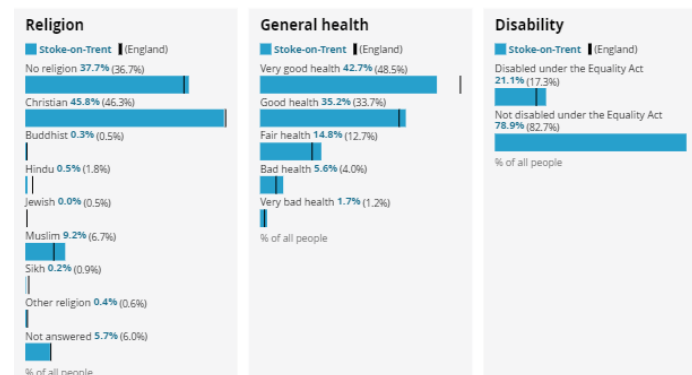
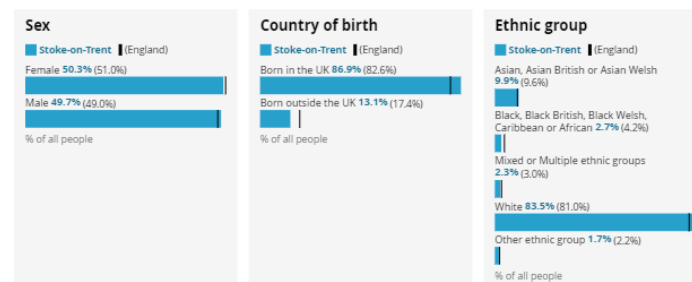
Key demographics by LTLA in Staffordshire and Stoke-on-Trent

Staffordshire Moorlands



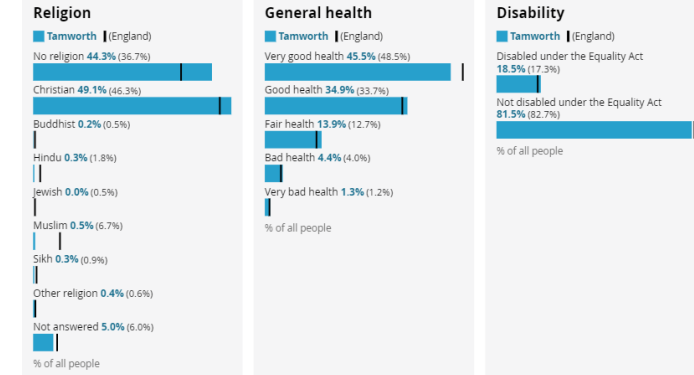
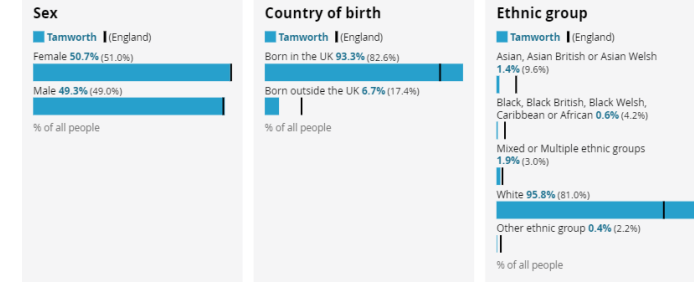
Source: Office for National Statistics - Census 2021

Stoke-on-Trent



Source: Office for National Statistics - Census 2021

Tamworth



Source: Office for National Statistics - Census 2021

Mortality

Note on mortality data

Mortality data in this report is based on the [Civil Registration of Deaths Dataset](#).

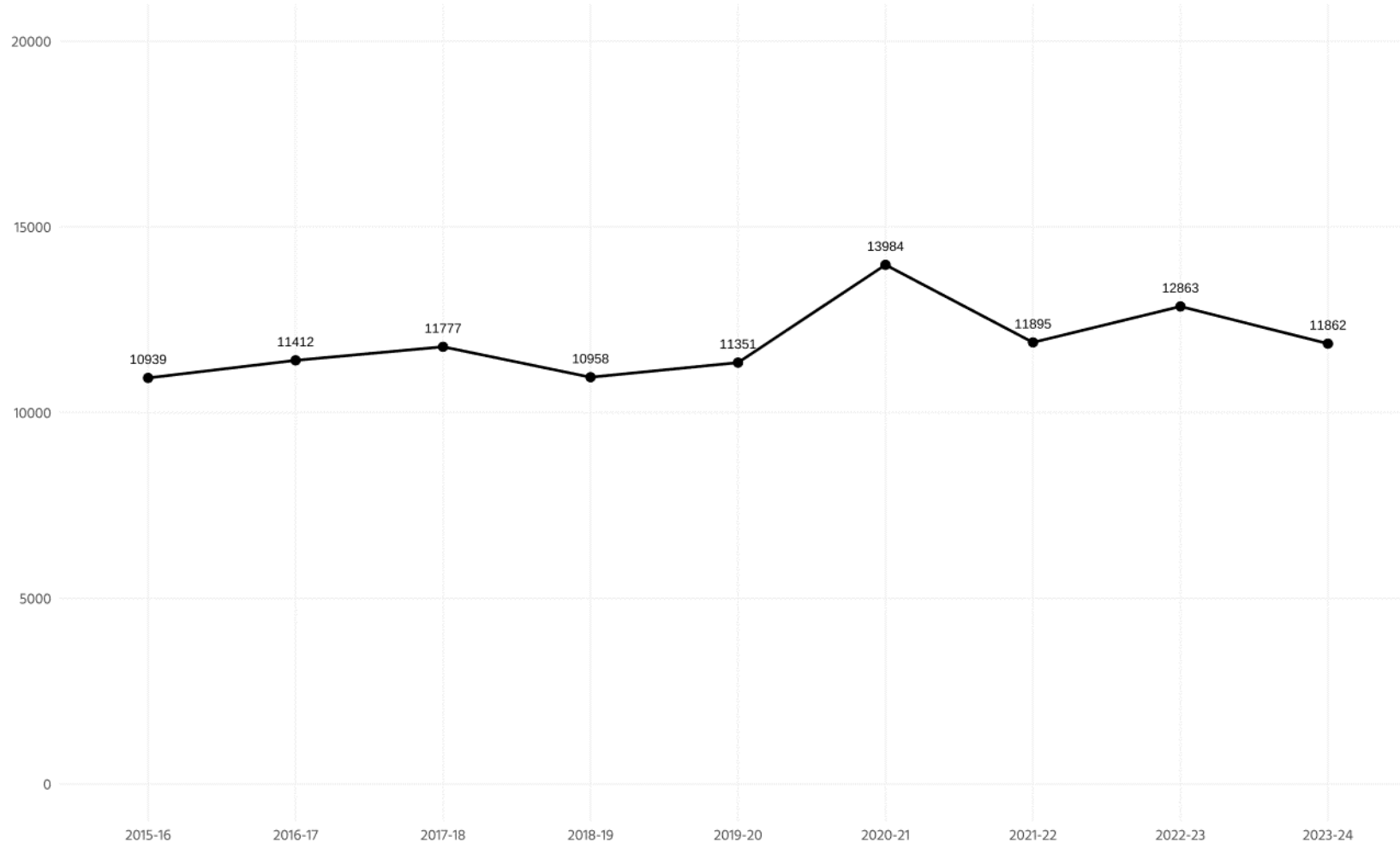
This dataset is available to the ICB as part of our Data Access Request Service (DARS) agreement with NHS Digital via Midlands and Lancashire Commissioning Support Unit (MLCSU).

This provides us with more detailed and more up to date information on deaths than what is typically published by Office for National Statistics. Note that this means some numbers may vary slightly to published information.

How many deaths are there in Staffordshire and Stoke-on-Trent?

Total number of deaths by financial year in Staffordshire and Stoke-on-Trent ICB

Number of deaths from all causes and all ages.



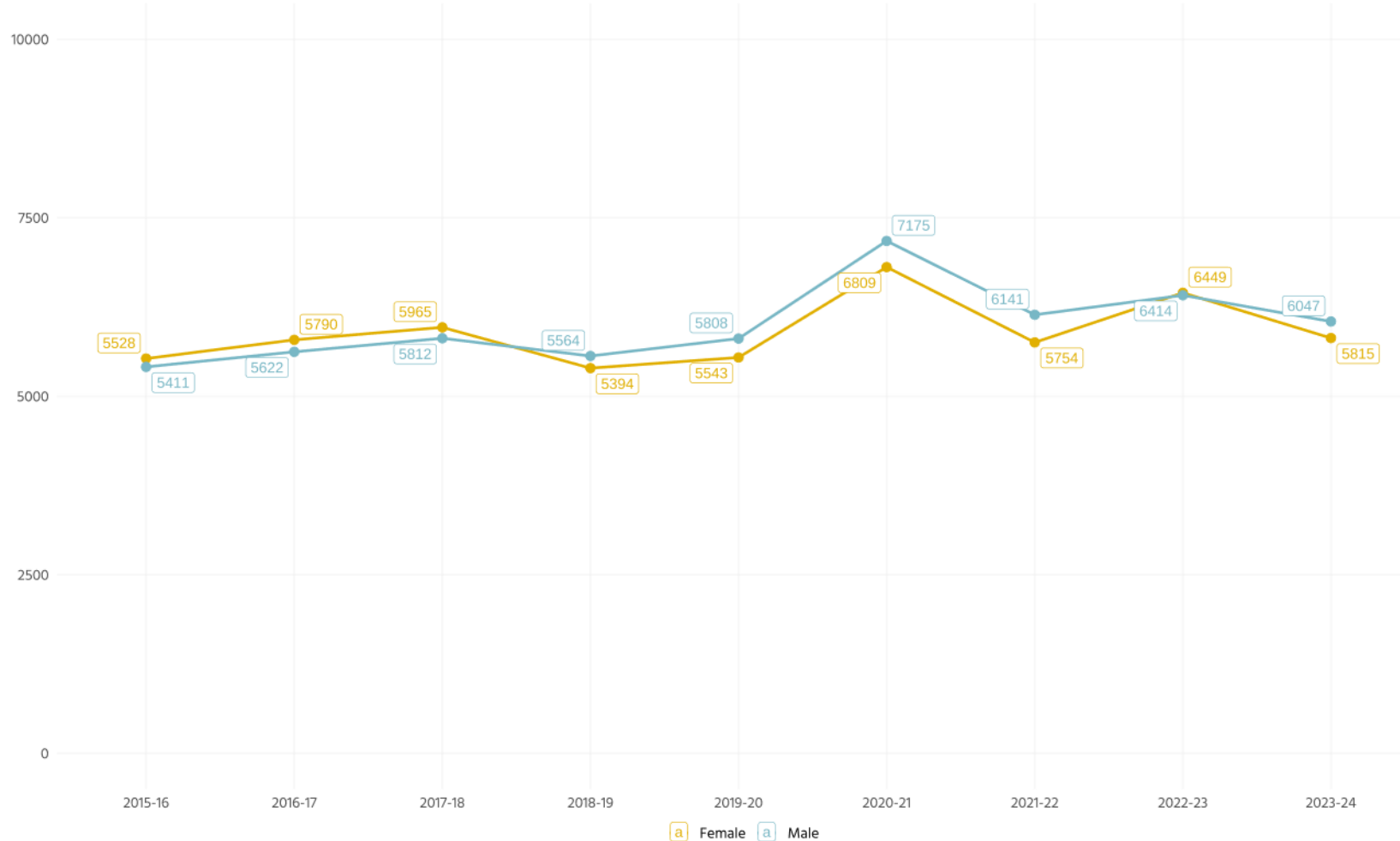
Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

- There were nearly 12,000 deaths within the ICB for during the 2023/24 financial year
- Deaths increased to about 14,000 during 2020/21 and the COVID pandemic
- The number of deaths now appear to be returning to a pre-COVID level

How many deaths are there in Staffordshire and Stoke-on-Trent?

Total number of deaths by financial year and sex in Staffordshire and Stoke-on-Trent ICB

Number of deaths from all causes and all ages.



Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

- There were nearly 12,000 deaths within the ICB for during the 2023/24 financial year
- Deaths increased to about 14,000 during 2020/21 and the COVID pandemic
- The number of deaths now appear to be returning to a pre-COVID level

How many deaths are there in Staffordshire and Stoke-on-Trent?

Number of deaths by financial year:

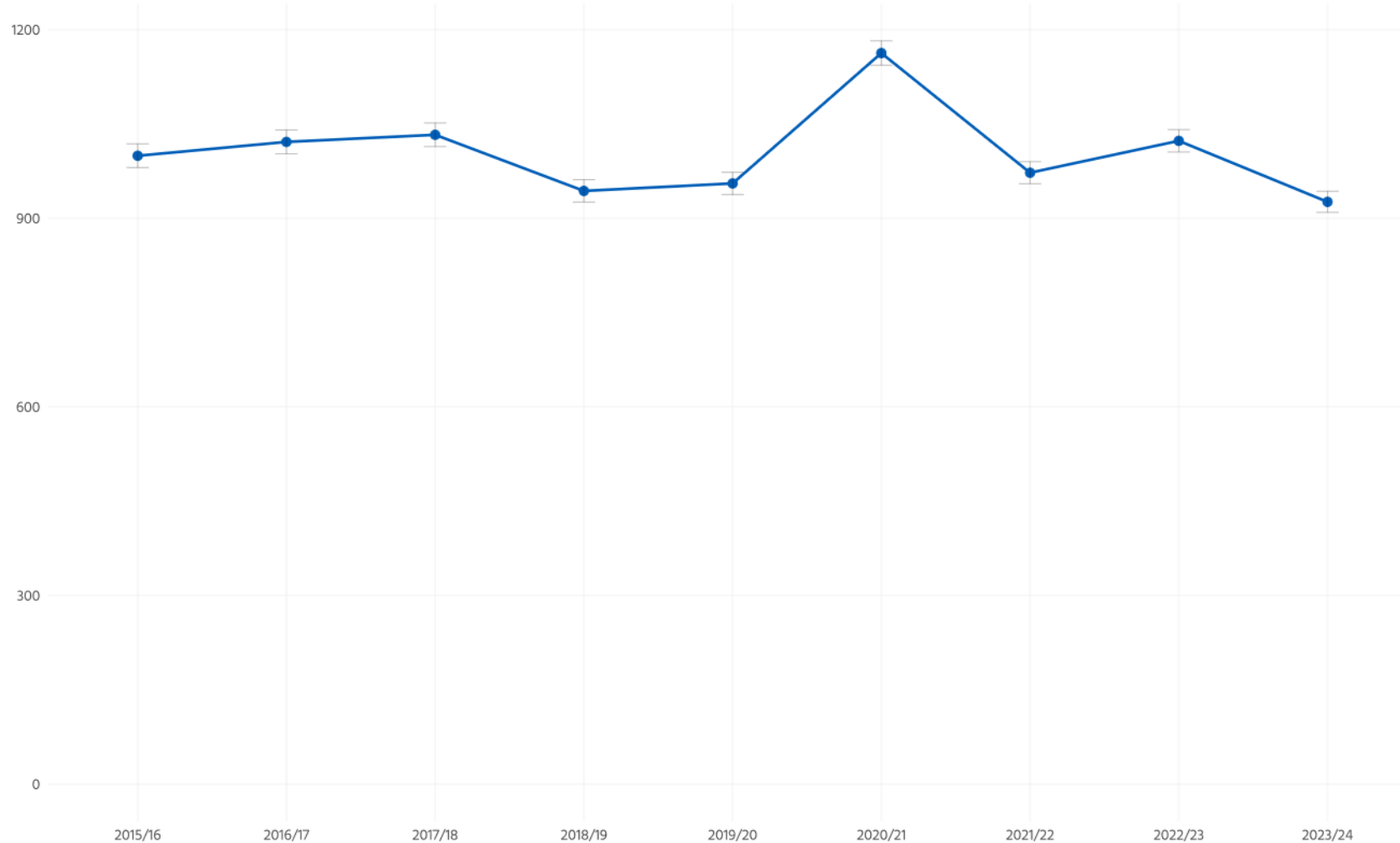
	Overall, N = 107,041 ¹	Female, N = 53,047 ¹	Male, N = 53,994 ¹
Period (financial year):			
2015-16	10,939	5,528	5,411
2016-17	11,412	5,790	5,622
2017-18	11,777	5,965	5,812
2018-19	10,958	5,394	5,564
2019-20	11,351	5,543	5,808
2020-21	13,984	6,809	7,175
2021-22	11,895	5,754	6,141
2022-23	12,863	6,449	6,414
2023-24	11,862	5,815	6,047

- There were nearly 12,000 deaths within the ICB for during the 2023/24 financial year
- Deaths increased to about 14,000 during 2020/21 and the COVID pandemic
- The number of deaths are now starting to fall back to pre-pandemic levels

How many deaths are there in Staffordshire and Stoke-on-Trent?

Mortality rate trends in Staffordshire and Stoke-on-Trent

Directly age-standardised rates per 100,000 by financial year.



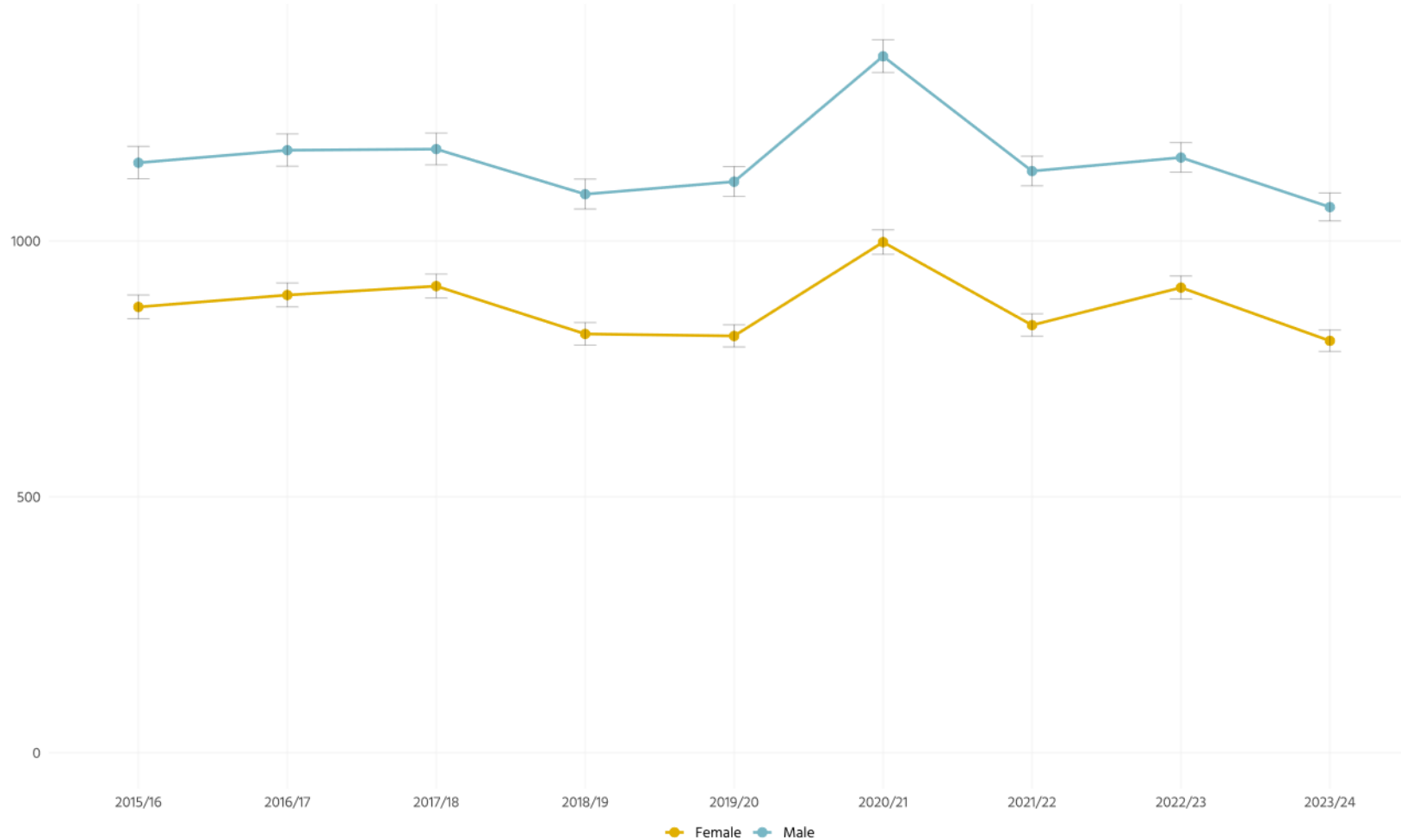
Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age increase
- There was a significant increase in the mortality rate during the 2020/21 period due to COVID
- The mortality rates is now similar to pre-pandemic levels (2019/20)
- The mortality rate is also now significantly lower than it was in 2015/16

How many deaths are there in Staffordshire and Stoke-on-Trent?

Mortality rate trends by sex in Staffordshire and Stoke-on-Trent

Directly age-standardised rates per 100,000 by financial year.



Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age increase
- There was a significant increase in the mortality rate during the 2020/21 period due to COVID
- The mortality rates is now similar to pre-pandemic levels (2019/20)
- The mortality rate is also now significantly lower than it was in 2015/16
- Whilst the male mortality rate is higher than for female, trends have been near identical for both sexes

How many deaths are there in Staffordshire and Stoke-on-Trent?

Number of deaths by financial year for each local authority:

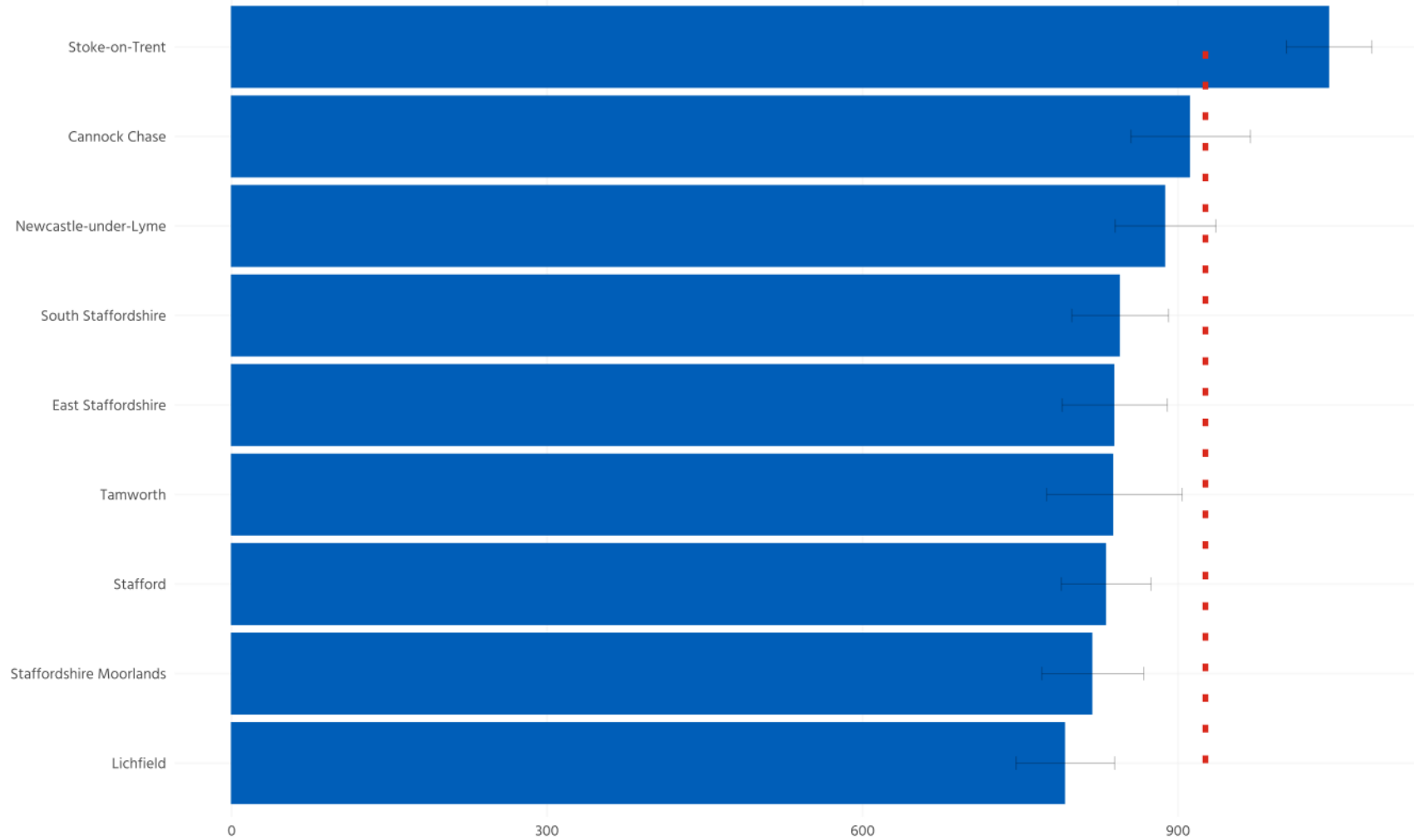
	2015-16, N =	2016-17, N =	2017-18, N =	2018-19, N =	2019-20, N =	2020-21, N =	2021-22, N =	2022-23, N =	2023-24, N =
	10,939 ¹	11,412 ¹	11,777 ¹	10,958 ¹	11,351 ¹	13,984 ¹	11,895 ¹	12,863 ¹	11,862 ¹
Local authority:									
<i>Cannock Chase</i>	966	900	969	968	894	1,170	1,038	1,094	1,015
<i>East Staffordshire</i>	1,134	1,117	1,163	1,068	1,143	1,495	1,159	1,237	1,112
<i>Lichfield</i>	1,022	1,086	1,156	1,009	1,108	1,326	1,112	1,221	1,135
<i>Newcastle-under-Lyme</i>	1,293	1,344	1,281	1,240	1,317	1,582	1,402	1,496	1,349
<i>South Staffordshire</i>	1,126	1,229	1,298	1,142	1,262	1,457	1,288	1,351	1,348
<i>Stafford</i>	1,238	1,325	1,382	1,213	1,339	1,631	1,407	1,564	1,500
<i>Staffordshire Moorlands</i>	1,068	1,156	1,175	1,048	1,071	1,323	1,106	1,298	1,138
<i>Stoke-on-Trent</i>	2,496	2,624	2,705	2,601	2,530	3,185	2,679	2,817	2,590
<i>Tamworth</i>	596	631	648	669	687	815	704	785	675

- Stoke-on-Trent, being the most populous local authority within the ICB, has the highest number of deaths per year
- Tamworth, being the least populous local authority within the ICB, has the highest number of deaths per year

How many deaths are there in Staffordshire and Stoke-on-Trent?

Mortality rate for each LTLA in Staffordshire and Stoke-on-Trent, 2023/24

Directly age-standardised rates per 100,000.



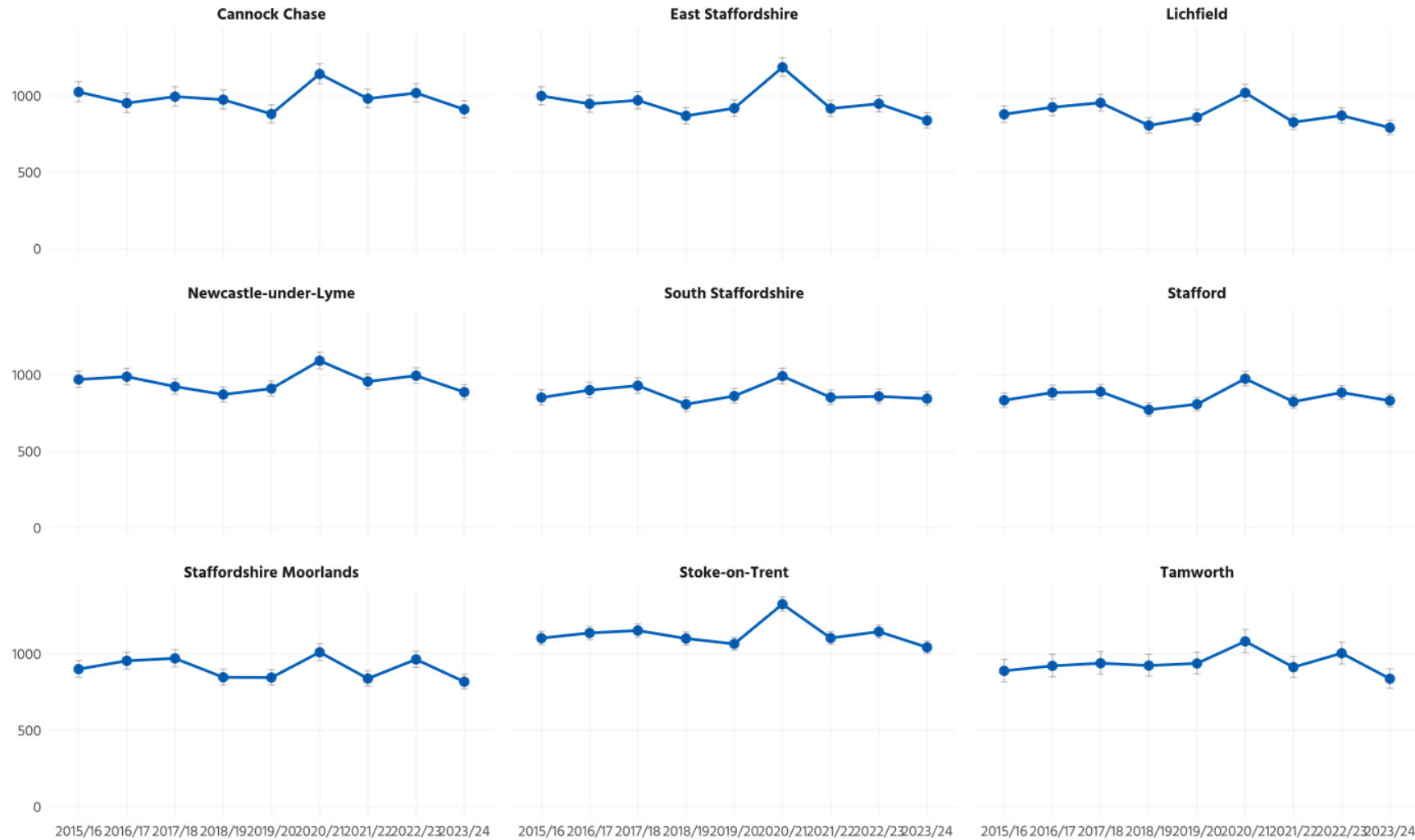
- Age-standardised rates allow for more meaningful comparisons between areas by accounting for population size and age-structures
- Mortality rates are highest in Stoke-on-Trent
- Stoke-on-Trent has a significantly higher mortality rate than the overall rate for SSoT (represented by the dashed red line)
- Cannock Chase and Newcastle-under-Lyme has similar rate to SSoT
- All other local authorities within the ICB have a significantly lower mortality rate than the overall rate for SSoT

Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

How many deaths are there in Staffordshire and Stoke-on-Trent?

Mortality rate trends for each LTLA in Staffordshire and Stoke-on-Trent

Directly age-standardised rates per 100,000 by financial year.



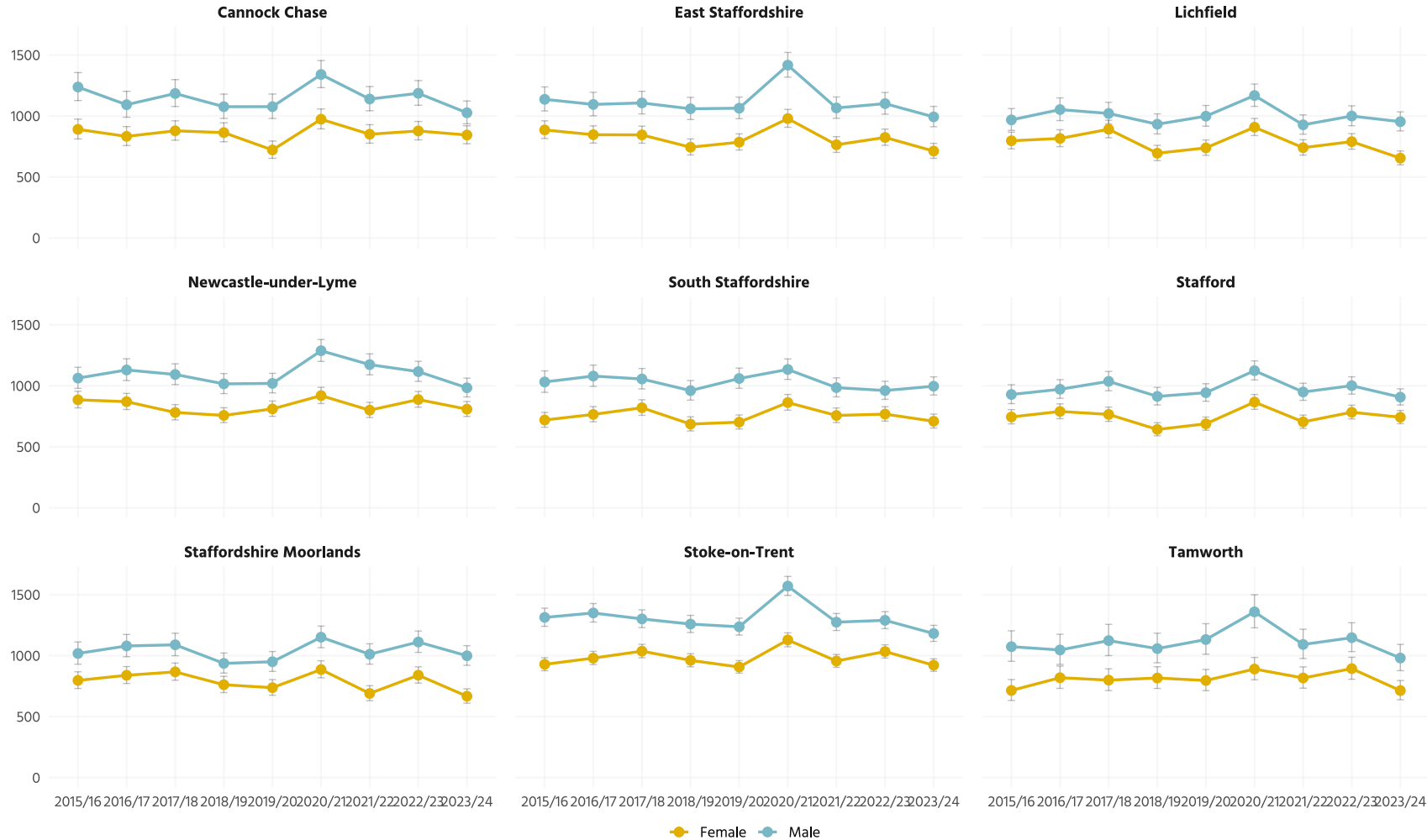
- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- Most local authorities have seen similar trends to the ICB
- South Staffordshire and Stafford, however, have not quite seen the same fall in mortality rates in 2023/24 as elsewhere

Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

How many deaths are there in Staffordshire and Stoke-on-Trent

Mortality rate trends by sex for each LTLA in Staffordshire and Stoke-on-Trent

Directly age-standardised rates per 100,000 by financial year.



Periods are based on financial years.
Source: Local Deaths Register, MLSCU and NHS Digital.

- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- Most local authorities have seen similar trends to the ICB
- South Staffordshire and Stafford, however, have not quite seen the same fall in mortality rates in 2023/24 as elsewhere

How many deaths are there in Staffordshire and Stoke-on-Trent?

Number (and proportion) of deaths by key demographics during the 2023/24 financial year:

2023-24, N = 11,862 [†]	
Age group:	
<i>Aged 0 to 19</i>	80 (0.7)%
<i>Aged 20 to 49</i>	380 (3.2)%
<i>Aged 50 to 64</i>	1,250 (11)%
<i>Aged 65 to 79</i>	3,624 (31)%
<i>Aged 80 and over</i>	6,528 (55)%
Sex:	
<i>Female</i>	5,815 (49)%
<i>Male</i>	6,047 (51)%
Deprivation quintile:	
1	2,164 (18)%
2	2,188 (18)%
3	2,535 (21)%
4	2,790 (24)%
5	2,185 (18)%
Ethnicity	
<i>Asian or Asian British</i>	75 (0.6)%
<i>Black or Black British</i>	37 (0.3)%
<i>Mixed</i>	42 (0.4)%
<i>Other ethnic groups</i>	31 (0.3)%
<i>Unknown</i>	2,357 (20)%
<i>White</i>	9,320 (79)%

	Aged 0 to 19, N = 80 [†]	Aged 20 to 49, N = 380 [†]	Aged 50 to 64, N = 1,250 [†]	Aged 65 to 79, N = 3,624 [†]	Aged 80 and over, N = 6,528 [†]
Sex:					
<i>Female</i>	30 (38)%	140 (37)%	507 (41)%	1,591 (44)%	3,547 (54)%
<i>Male</i>	50 (63)%	240 (63)%	743 (59)%	2,033 (56)%	2,981 (46)%
Deprivation quintile:					
1	25 (31)%	123 (32)%	338 (27)%	706 (19)%	972 (15)%
2	17 (21)%	79 (21)%	275 (22)%	710 (20)%	1,107 (17)%
3	13 (16)%	70 (18)%	237 (19)%	740 (20)%	1,475 (23)%
4	17 (21)%	58 (15)%	251 (20)%	835 (23)%	1,629 (25)%
5	8 (10)%	50 (13)%	149 (12)%	633 (17)%	1,345 (21)%
Ethnicity					
<i>Asian or Asian British</i>	7 (8.8)%	9 (2.4)%	13 (1.0)%	18 (0.5)%	28 (0.4)%
<i>Black or Black British</i>	Suppr.	Suppr.	7 (0.6)%	6 (0.2)%	16 (0.2)%
<i>Mixed</i>	Suppr.	Suppr.	8 (0.6)%	18 (0.5)%	7 (0.1)%
<i>Other ethnic groups</i>	Suppr.	Suppr.	8 (0.6)%	6 (0.2)%	9 (0.1)%
<i>Unknown</i>	25 (31)%	128 (34)%	301 (24)%	723 (20)%	1,180 (18)%
<i>White</i>	38 (48)%	228 (60)%	913 (73)%	2,853 (79)%	5,288 (81)%

- The majority (around 86%) of all deaths in SSoT are in those aged 65 and over – with 31% of all death amongst those aged 65-79 and 55% amongst those aged 80+
- Crude proportions of deaths should be interpreted with some caution, but the data shows that:
 - The proportion of deaths by sex is roughly even although this varies by age; the majority of deaths in younger age groups tend to be male whilst in the oldest age group (80+) over half (54%) of deaths are female
 - The proportion of deaths that are in the most deprived or least deprived is similar but this varies by age; the proportion of deaths in younger age group (65 and under) is higher in the most deprived quintiles whilst amongst those aged 80+ this is not the case
 - Whilst there are caveats around ethnicity - a fifth of deaths have no known ethnicity – the proportion of deaths in ethnic minority groups is higher (relatively) in the youngest age groups

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death

Note on methodology for assigning broad cause of death

Broad cause of death is based on underlying/primary cause of death being assigned to one of the seven cause groups below:

- Cancer
- Frailty
- Organ failure
- Sudden death
- Other terminal illness
- COVID
- Uncoded for records that had no recorded primary cause of death

It should be noted that that as frailty is rarely assigned as cause of death, it has been assigned patients by age groups on the following basis:

- aged 65-74 then 10% of deaths are frailty related;
- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

This is based on a similar method to what was used in **The Strategy Unit report on [Health service use in the last two years of life](#)** which was based on clinical reviews and work by the National End of Life Care Intelligence Network

The emergence of COVID has meant we have added this as a new category (this is based on 'codes for special purposes' and therefore will include a very small number deaths prior to 2020) , as well as an 'uncoded' category to reflect unknown causes of death.

Full SQL query code and list of clinical codes used in this classification is available in the appendix.

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death (numbers by year)

Numbers of deaths by financial year and broad cause of death, 2015/16 to 2023/24:

	Overall, N = 107,041 ¹	2015-16, N = 10,939	2016-17, N = 11,412	2017-18, N = 11,777	2018-19, N = 10,958	2019-20, N = 11,351	2020-21, N = 13,984	2021-22, N = 11,895	2022-23, N = 12,863	2023-24, N = 11,862
Broad cause:										
<i>Cancer</i>	20,288 (19%)	2,285 (21%)	2,317 (20%)	2,255 (19%)	2,264 (21%)	2,205 (19%)	2,254 (16%)	2,197 (18%)	2,299 (18%)	2,212 (19%)
<i>COVID-19</i>	2,455 (2.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	43 (0.4%)	1,660 (12%)	381 (3.2%)	237 (1.8%)	134 (1.1%)
<i>Frailty</i>	49,266 (46%)	4,922 (45%)	5,260 (46%)	5,492 (47%)	4,955 (45%)	5,366 (47%)	6,361 (45%)	5,314 (45%)	5,999 (47%)	5,597 (47%)
<i>Organ Failure</i>	18,140 (17%)	1,949 (18%)	1,953 (17%)	2,182 (19%)	1,895 (17%)	1,910 (17%)	1,804 (13%)	2,077 (17%)	2,301 (18%)	2,069 (17%)
<i>Other Terminal Illness</i>	4,976 (4.6%)	459 (4.2%)	501 (4.4%)	527 (4.5%)	515 (4.7%)	537 (4.7%)	604 (4.3%)	597 (5.0%)	652 (5.1%)	584 (4.9%)
<i>Sudden Death</i>	11,670 (11%)	1,265 (12%)	1,341 (12%)	1,313 (11%)	1,306 (12%)	1,282 (11%)	1,291 (9.2%)	1,309 (11%)	1,333 (10%)	1,230 (10%)
<i>Unknown (primary cause not coded)</i>	246 (0.2%)	59 (0.5%)	40 (0.4%)	8 (<0.1%)	23 (0.2%)	8 (<0.1%)	10 (<0.1%)	20 (0.2%)	42 (0.3%)	36 (0.3%)

- Deaths attributed to frailty account for nearly half of all deaths within the ICB
- Cancer (19%) and organ failure (17%) both account for nearly a fifth of all deaths each

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

- *aged 65-74 then 10% of deaths are frailty related;*
- *aged 75-84 then 30% of deaths are frailty related; and,*
- *aged 85+ then 80% of deaths are frailty related.*

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death (numbers by key demographics)

Numbers of deaths by sex/gender and broad cause of death, 2023/24:
(percentages are proportion of deaths by broad cause)

	Overall, N = 11,862 [†]	COVID- 19, N = 134	Cancer, N = 2,212	Frailty, N = 5,597	Organ Failure, N = 2,069	Other Terminal Illness, N = 584	Sudden Death, N = 1,230	Unknown (primary cause not coded), N = 36
Sex/gender:								
Female	5,815 (49%)	59 (44%)	1,025 (46%)	3,045 (54%)	879 (42%)	274 (47%)	516 (42%)	17 (47%)
Male	6,047 (51%)	75 (56%)	1,187 (54%)	2,552 (46%)	1,190 (58%)	310 (53%)	714 (58%)	19 (53%)

Numbers of deaths by deprivation and broad cause of death, 2023/24:
(percentages are proportion of deaths by broad cause)

	Overall, N = 11,862 [†]	COVID- 19, N = 134	Cancer, N = 2,212	Frailty, N = 5,597	Organ Failure, N = 2,069	Other Terminal Illness, N = 584	Sudden Death, N = 1,230	Unknown (primary cause not coded), N = 36
IMD quintile								
1	2,164 (18%)	32 (24%)	436 (20%)	845 (15%)	467 (23%)	122 (21%)	254 (21%)	8 (22%)
2	2,188 (18%)	16 (12%)	422 (19%)	953 (17%)	440 (21%)	125 (21%)	222 (18%)	10 (28%)
3	2,535 (21%)	24 (18%)	417 (19%)	1,305 (23%)	400 (19%)	116 (20%)	267 (22%)	6 (17%)
4	2,790 (24%)	38 (28%)	496 (22%)	1,392 (25%)	445 (22%)	136 (23%)	277 (23%)	6 (17%)
5	2,185 (18%)	24 (18%)	441 (20%)	1,102 (20%)	317 (15%)	85 (15%)	210 (17%)	6 (17%)

Some numbers have been suppressed as part of statistical disclosure processes so that small numbers cannot be identified.

Numbers of deaths by age group and broad cause of death, 2023/24:
(percentages are proportion of deaths by broad cause)

	Overall, N = 11,862 [†]	COVID- 19, N = 134	Cancer, N = 2,212	Frailty, N = 5,597	Organ Failure, N = 2,069	Other Terminal Illness, N = 584	Sudden Death, N = 1,230	Unknown (primary cause not coded), N = 36
Age group:								
Aged 0 to 19	80 (0.7%)	Suppr.	Suppr.	0 (0%)	21 (1.0%)	8 (1.4%)	45 (3.7%)	Suppr.
Aged 20 to 49	380 (3.2%)	Suppr.	Suppr.	0 (0%)	101 (4.9%)	42 (7.2%)	119 (9.7%)	12 (33%)
Aged 50 to 64	1,250 (11%)	15 (11%)	472 (21%)	11 (0.2%)	432 (21%)	111 (19%)	202 (16%)	Suppr.
Aged 65 to 79	3,624 (31%)	47 (35%)	1,099 (50%)	929 (17%)	864 (42%)	234 (40%)	444 (36%)	Suppr.
Aged 80 and over	6,528 (55%)	71 (53%)	533 (24%)	4,657 (83%)	651 (31%)	189 (32%)	420 (34%)	Suppr.

Numbers of deaths by ethnicity and broad cause of death, 2023/24:
(percentages are proportion of deaths by broad cause)

	Overall, N = 11,862 [†]	COVID- 19, N = 134	Cancer, N = 2,212	Frailty, N = 5,597	Organ Failure, N = 2,069	Other Terminal Illness, N = 584	Sudden Death, N = 1,230	Unknown (primary cause not coded), N = 36
Ethnicity:								
Asian or Asian British	75 (0.6%)	0 (0%)	17 (0.8%)	24 (0.4%)	16 (0.8%)	10 (1.7%)	8 (0.7%)	0 (0%)
Black or Black British	37 (0.3%)	0 (0%)	10 (0.5%)	13 (0.2%)	6 (0.3%)	Suppr.	Suppr.	0 (0%)
Mixed	42 (0.4%)	Suppr.	10 (0.5%)	8 (0.1%)	14 (0.7%)	Suppr.	8 (0.7%)	0 (0%)
Other ethnic groups	31 (0.3%)	0 (0%)	11 (0.5%)	7 (0.1%)	7 (0.3%)	Suppr.	Suppr.	0 (0%)
Unknown	2,357 (20%)	Suppr.	396 (18%)	1,020 (18%)	470 (23%)	108 (18%)	324 (26%)	23 (64%)
White	9,320 (79%)	117 (87%)	1,768 (80%)	4,525 (81%)	1,556 (75%)	459 (79%)	882 (72%)	13 (36%)

- More than half (54%) of frailty deaths are in women
- A higher proportion of COVID deaths and deaths from organ failure occur in the most deprived group

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

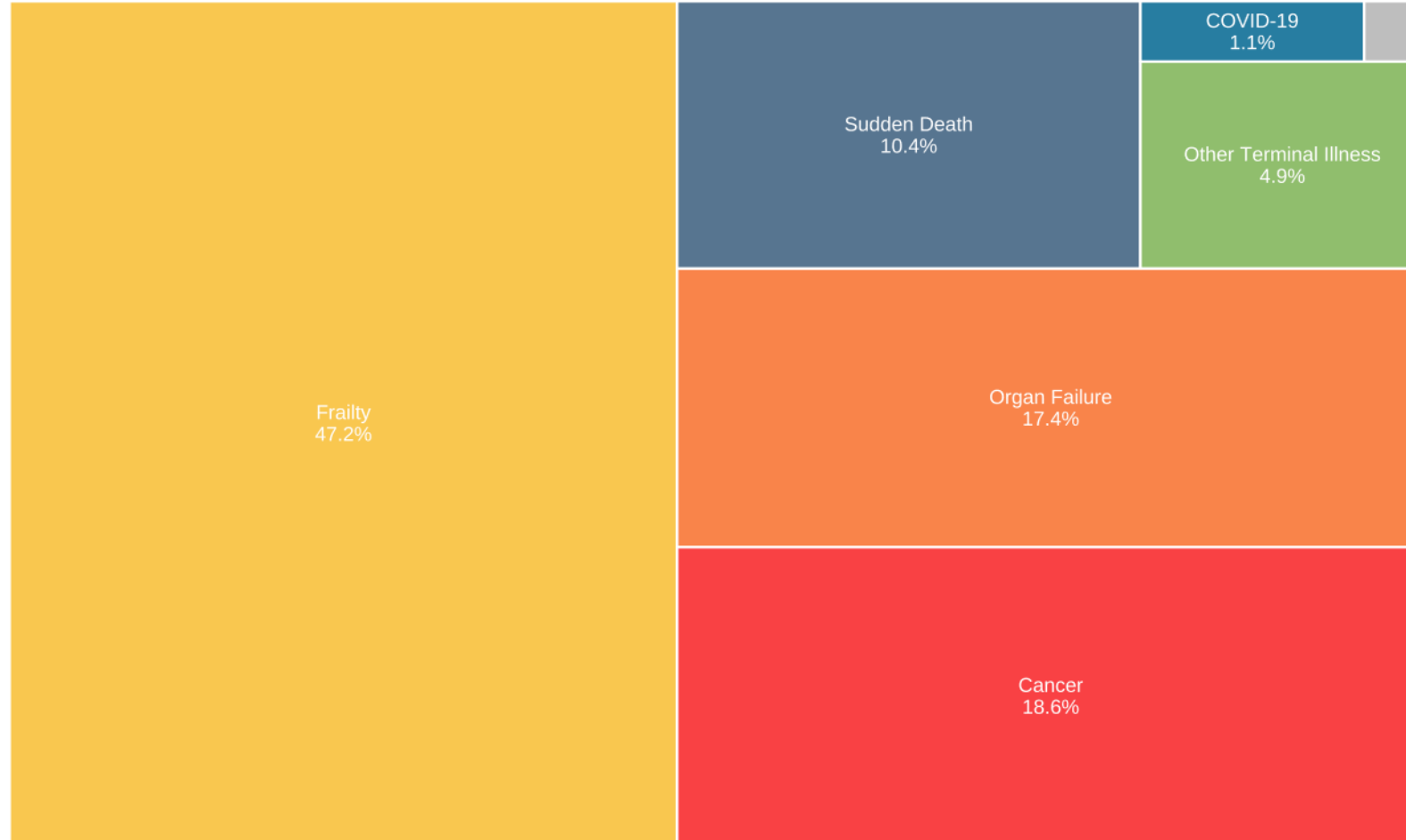
- aged 65-74 then 10% of deaths are frailty related;
- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death

Broad cause of deaths in Staffordshire and Stoke-on-Trent, 2023-24

Based on proportion of all deaths.



- Nearly half (47%) of all deaths in 2023/24 are attributed to frailty
- Nearly a fifth are due to cancer or organ failure (19% and 17% respectively)
- Sudden death (10%) and terminal illnesses (5%) form a lower proportion of deaths

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

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- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

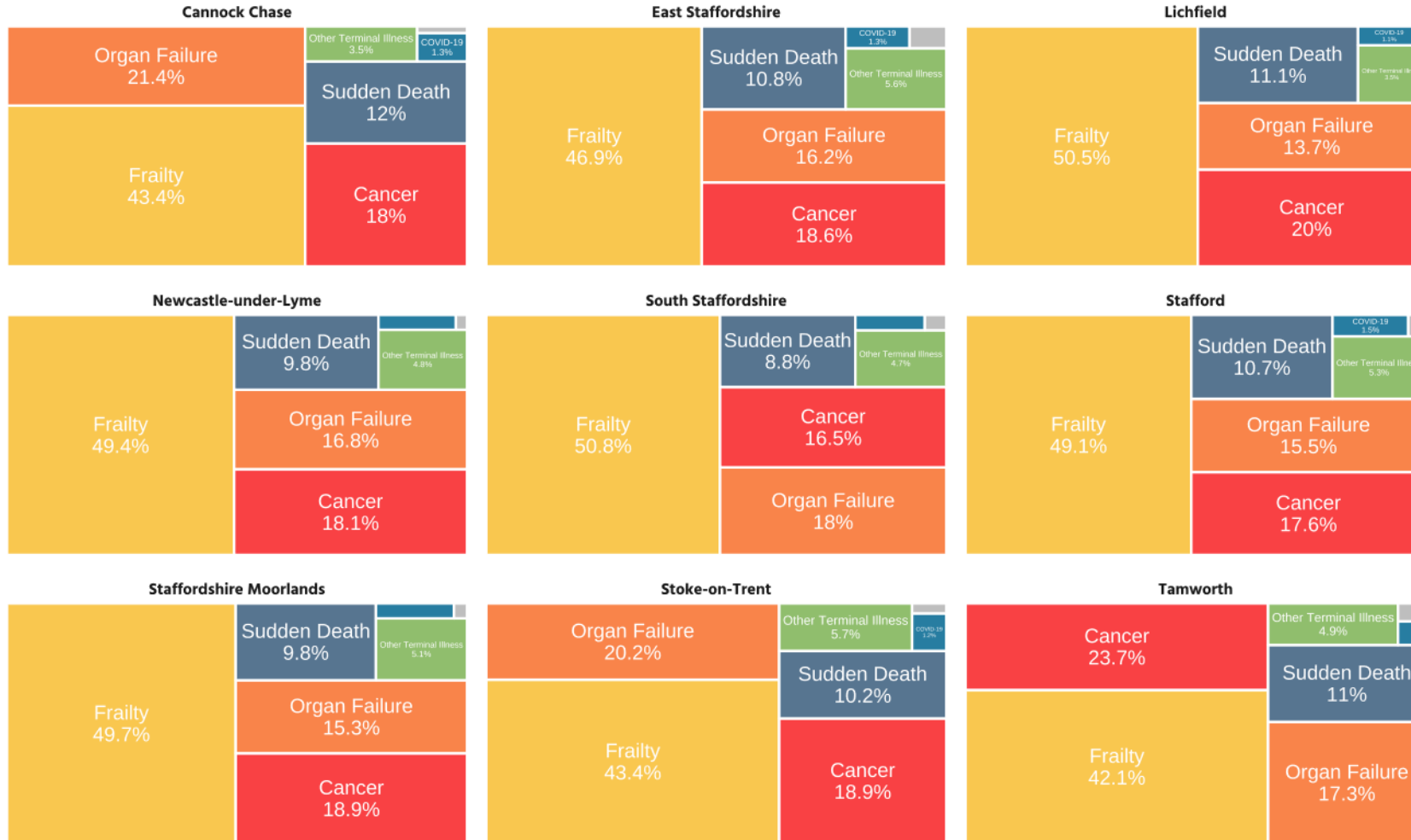
Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death

Broad cause of deaths by LTLA in Staffordshire and Stoke-on-Trent, 2023-24

Based on proportion of all deaths.



- Although broadly similar across each local authority there is some variation in the proportion of deaths by broad cause:

- Tamworth has the highest proportion of deaths due to cancer and lowers due to proportion due to frailty
- Cannock Chase highest proportion of deaths due to sudden death due to proportion organ failure

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

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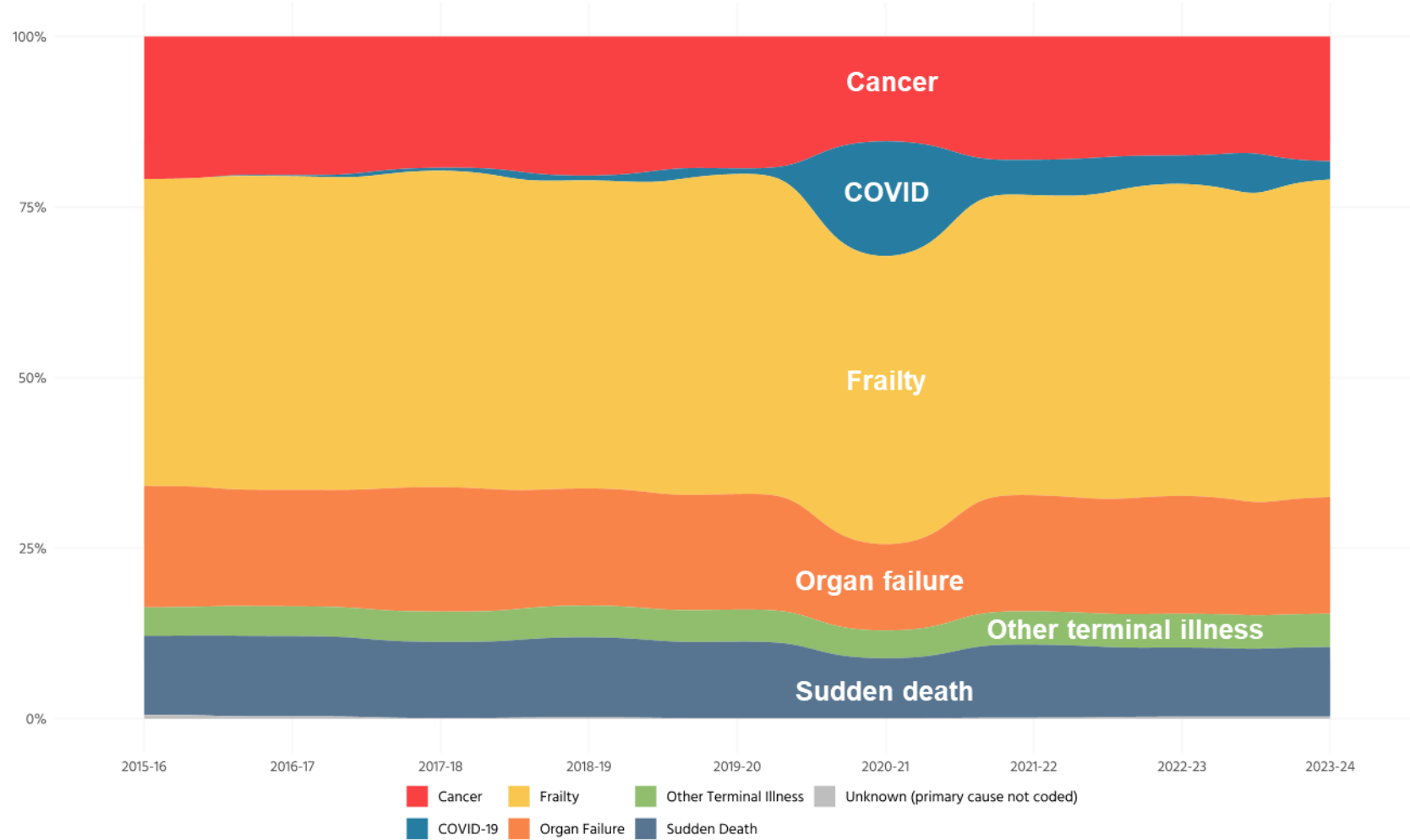
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death (trends)

Mortality trends by broad cause of death in Staffordshire and Stoke-on-Trent

Percentage of all deaths by year.



- Trend data between 2015/16 and 2023/24 for broad cause of death shows a spike in COVID deaths during the 2020-21 period
- Although COVID deaths have peaked, there remains a notable proportion of deaths that are due to COVID

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

- aged 65-74 then 10% of deaths are frailty related;
- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

**Prior to 2020 the 'COVID' category would have been for 'codes for special purposes'*

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death (trends)

Mortality trends by broad cause of death for each LTLA in Staffordshire and Stoke-on-Trent

Percentage of all deaths by year.



Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

- Trend data between 2015/16 and 2023/24 for broad cause of death shows a spike in COVID deaths during the 2020-21 period
- Although COVID deaths have peaked, there remains a notable proportion of deaths that are due to COVID
- Trends for each local authority within the ICB is broadly similar

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

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- aged 75-84 then 30% of deaths are frailty related; and,
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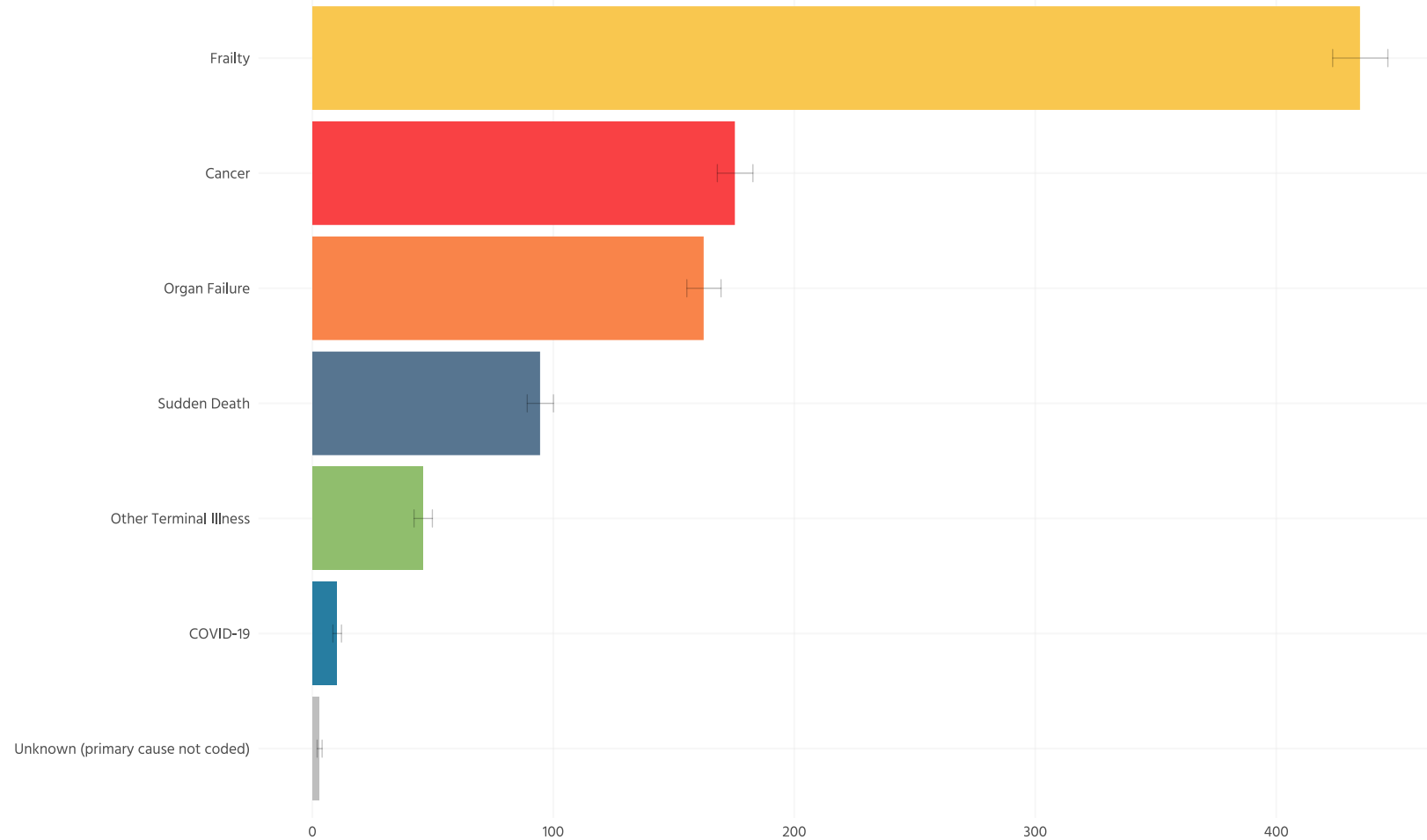
**Prior to 2020 the 'COVID' category would have been for 'codes for special purposes'*

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death

Mortality rate by broad cause of death in Staffordshire and Stoke-on-Trent, 2023/24

Directly age-standardised rates per 100,000.



Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- When based on broad causes of death, frailty is significantly higher than other causes
- Cancer and organ failure have a similar mortality rate are the second and third highest causes of death

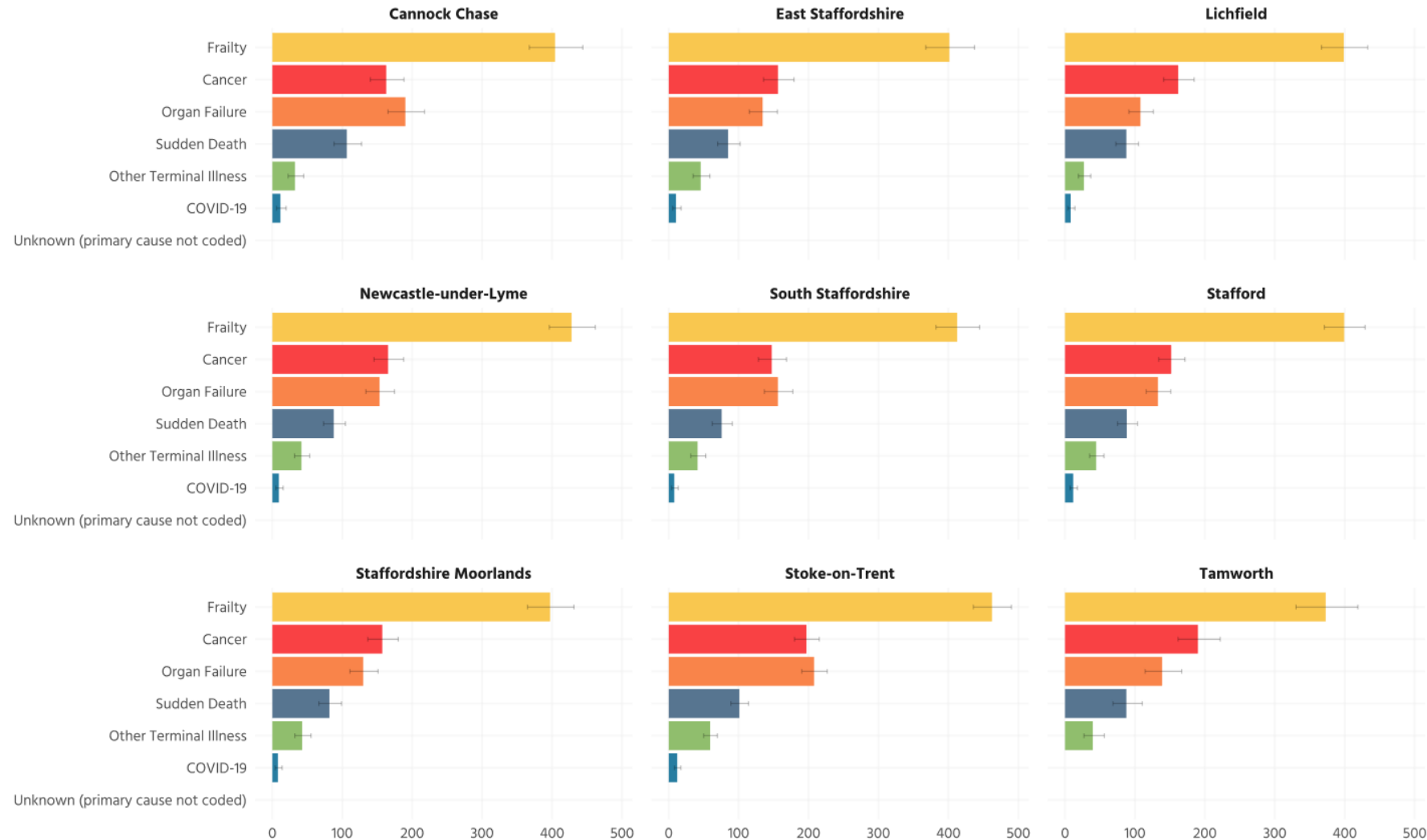
Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

- aged 65-74 then 10% of deaths are frailty related;
- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

What are people dying of Staffordshire and Stoke-on-Trent?

Mortality rate by broad cause of death for each LTLA Staffordshire and Stoke-on-Trent, 2023/24

Directly age-standardised rates per 100,000.



- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- When based on broad causes of death, frailty is significantly higher than other causes and this is the case for each local authority in the ICB
- Cancer is the next main cause of death for six out of nine local authorities; in Cannock Chase, South Staffordshire and Stoke-on-Trent organ failure is slightly more common cause of death although there is no significant variation

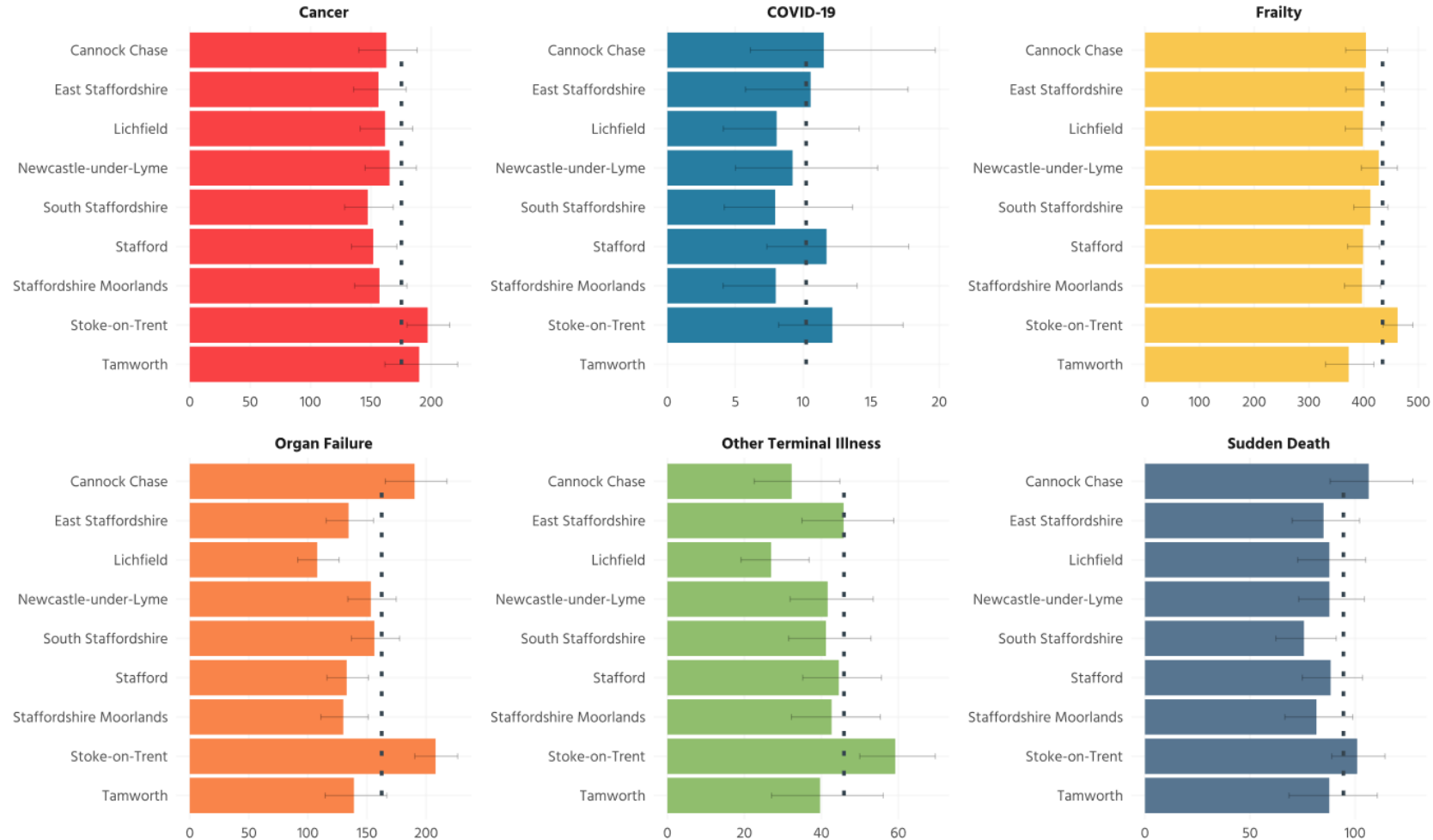
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

Broad cause of death

Mortality rate by broad cause of death for each LTLA Staffordshire and Stoke-on-Trent, 2023/24

Directly age-standardised rates per 100,000.



- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- When based on broad causes of death, frailty is significantly higher than other causes
- When comparing across each local authority to the overall rate in SSoT:
 - Stoke has a significantly high mortality rate due to cancer
 - Both Cannock Chase and Stoke have significantly high mortality rate due to cancer
 - Stoke has a significantly high mortality rate due to frailty
 - Stoke has a significantly high mortality rate due to terminal illness

Note that frailty is rarely assigned as cause of death. In order to assign frailty we have used a similar approach to the Strategy Unit (based on work from Whole Systems Partnership for the National End of Life Care Intelligence Network). This assigns patients by age groups on the following basis:

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- aged 75-84 then 30% of deaths are frailty related; and,
- aged 85+ then 80% of deaths are frailty related.

Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

ICD-10 chapter

Note on methodology for assigning ICD-10 chapter

Based on underlying/primary cause of death being assigned to one of the 22 chapters cause below:

- I Certain infectious and parasitic diseases
- II Neoplasms
- III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
- IV Endocrine, nutritional and metabolic diseases
- V Mental and behavioural disorders
- VI Diseases of the nervous system
- VII Diseases of the eye and adnexa
- VIII Diseases of the ear and mastoid process
- IX Diseases of the circulatory system
- X Diseases of the respiratory system
- XI Diseases of the digestive system
- XII Diseases of the skin and subcutaneous tissue
- XIII Diseases of the musculoskeletal system and connective tissue
- XIV Diseases of the genitourinary system
- XV Pregnancy, childbirth and the puerperium
- XVI Certain conditions originating in the perinatal period
- XVII Congenital malformations, deformations and chromosomal abnormalities
- XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
- XIX Injury, poisoning and certain other consequences of external causes
- XX External causes of morbidity and mortality
- XXI Factors influencing health status and contact with health services
- XXII Codes for special purposes

What are people dying of Staffordshire and Stoke-on-Trent?

ICD-10 chapter

Numbers of deaths by ICD-10 underlying cause of death, 2023/24:

	Overall, N = 11,865 ¹	Aged 0 to 19, N = 80	Aged 20 to 49, N = 381	Aged 50 to 64, N = 1,251	Aged 65 to 79, N = 3,624	Aged 80 and over, N = 6,529
ICD-10 Chapter						
<i>Certain conditions originating in the perinatal period</i>	0.3%	46%	0%	0%	0%	0%
<i>Certain infectious and parasitic diseases</i>	1.6%	Suppr.	Suppr.	1.5%	1.5%	1.8%
<i>Codes for special purposes</i>	2.2%	Suppr.	Suppr.	1.2%	1.8%	2.6%
<i>Congenital malformations, deformations and chromosomal abnormalities</i>	0.3%	18%	Suppr.	1.0%	<0.1%	<0.1%
<i>Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism</i>	0.2%	Suppr.	Suppr.	Suppr.	0.1%	0.1%
<i>Diseases of the circulatory system</i>	25%	Suppr.	17%	23%	26%	26%
<i>Diseases of the digestive system</i>	5.2%	0%	11%	11%	5.2%	3.8%
<i>Diseases of the ear and mastoid process</i>	<0.1%	0%	0%	0%	<0.1%	0%
<i>Diseases of the genitourinary system</i>	1.7%	Suppr.	Suppr.	Suppr.	1.1%	2.3%
<i>Diseases of the musculoskeletal system and connective tissue</i>	0.6%	0%	0%	Suppr.	0.8%	0.6%
<i>Diseases of the nervous system</i>	7.5%	7.5%	3.1%	3.5%	5.1%	9.8%
<i>Diseases of the respiratory system</i>	11%	0%	3.1%	9.1%	12%	12%
<i>Diseases of the skin and subcutaneous tissue</i>	0.4%	0%	0%	Suppr.	0.3%	0.5%
<i>Endocrine, nutritional and metabolic diseases</i>	1.9%	0%	3.7%	2.0%	1.7%	1.8%
<i>External causes of morbidity</i>	0.2%	Suppr.	3.1%	Suppr.	Suppr.	<0.1%
<i>Mental, Behavioral and Neurodevelopmental disorders</i>	8.2%	0%	2.1%	Suppr.	3.7%	13%
<i>Neoplasms</i>	28%	Suppr.	28%	38%	38%	20%
<i>Other</i>	3.2%	Suppr.	22%	4.7%	1.8%	2.7%
<i>Pregnancy, childbirth and the puerperium</i>	<0.1%	0%	Suppr.	0%	0%	0%
<i>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified</i>	1.9%	Suppr.	Suppr.	Suppr.	Suppr.	3.1%
<i>Uncoded</i>	0.3%	Suppr.	2.1%	Suppr.	0.2%	0.2%

- The latest data for the 2023/24 period shows that cancer (neoplasms) is the most common cause of death based on ICD-10 chapter, and accounts for more than a fifth one fifth (28%) of all deaths within the ICB
- Diseases of circulatory system is the biggest cause of death accounting for a quarter (25%) of all deaths

There are variations by age:

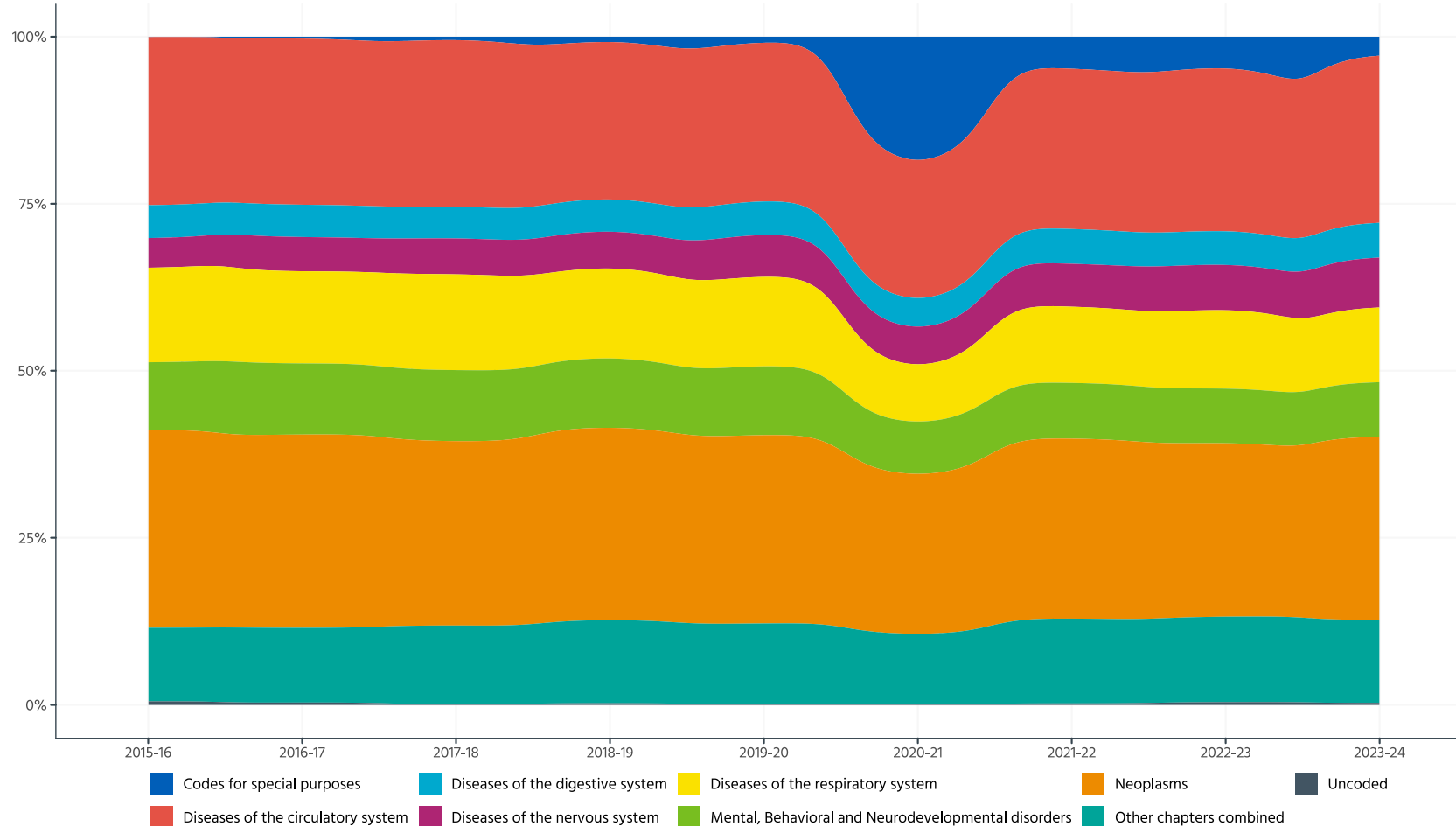
- In the 0-19 age group nearly half (46%) of all deaths are due to certain conditions originating in the perinatal period and therefore will be infant mortality and neonatal deaths
- In those aged 80 and above, diseases of circulatory system is the biggest cause of death accounting for just over one quarter (26%) of all deaths

What are people dying of Staffordshire and Stoke-on-Trent?

ICD-10 chapter

Mortality trends by ICD-10 chapter cause of death in Staffordshire and Stoke-on-Trent

Percentage of all deaths by financial year.



- The latest data for the 2023/24 period shows that cancer (neoplasms) is the most common cause of death based on ICD-10 chapter, and accounts for more than a fifth one fifth (28%) of all deaths within the ICB
- Diseases of circulatory system is the biggest cause of death accounting for a quarter (25%) of all deaths

Note: The above shows the seven most common chapters including 'other' which is based on codes which do not fit current chapter definitions. All other remaining chapters have been grouped together under 'other chapters combined'.

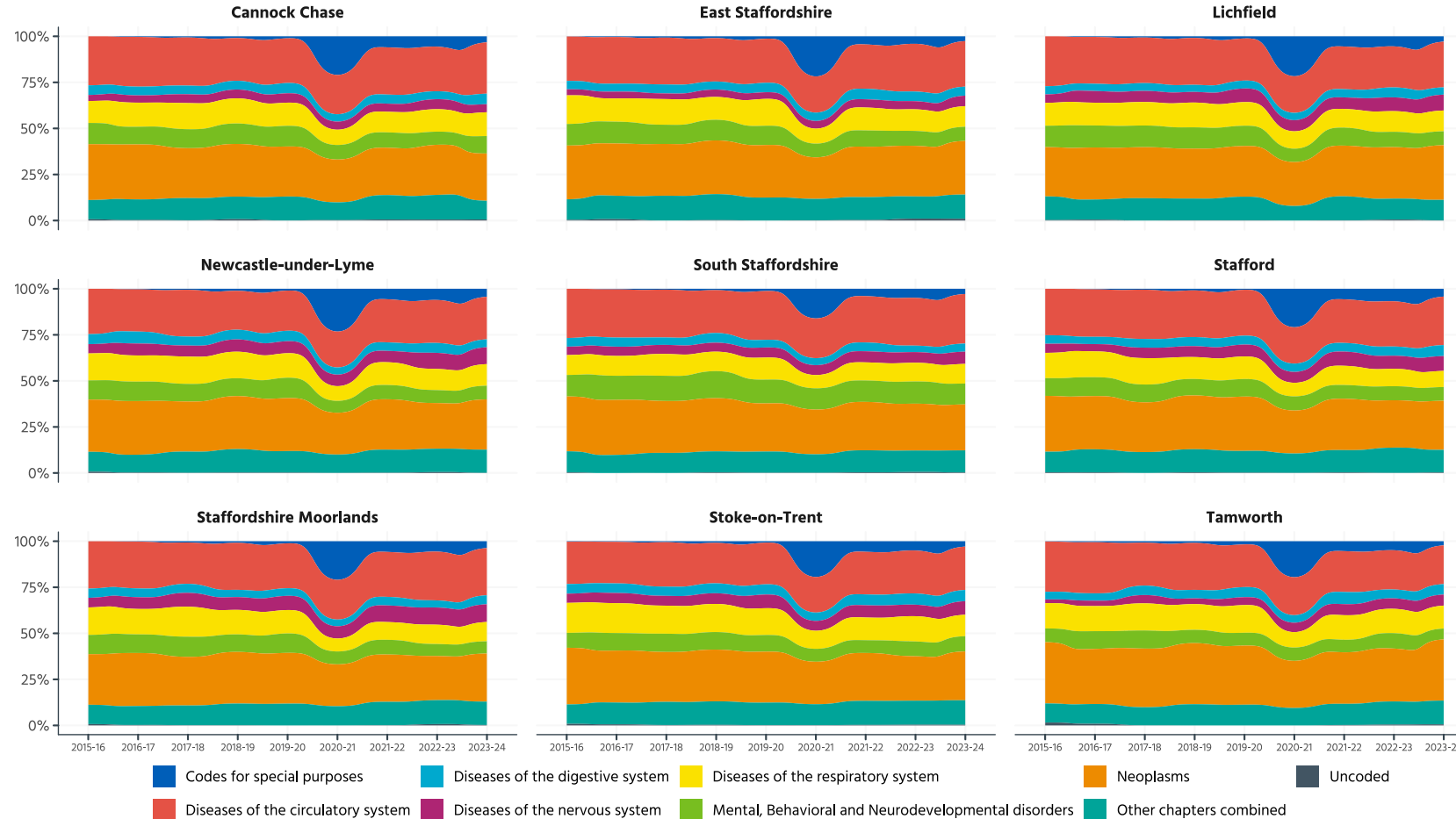
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

ICD-10 chapter

Mortality trends by ICD-10 chapter cause of death for each LTLA in Staffordshire and Stoke-on-Trent

Percentage of all deaths by financial year.



- Trends and variation by local authority are broadly similar

Note: The above shows the seven most common chapters including 'other' which is based on codes which do not fit current chapter definitions. All other remaining chapters have been grouped together under 'other chapters combined'.

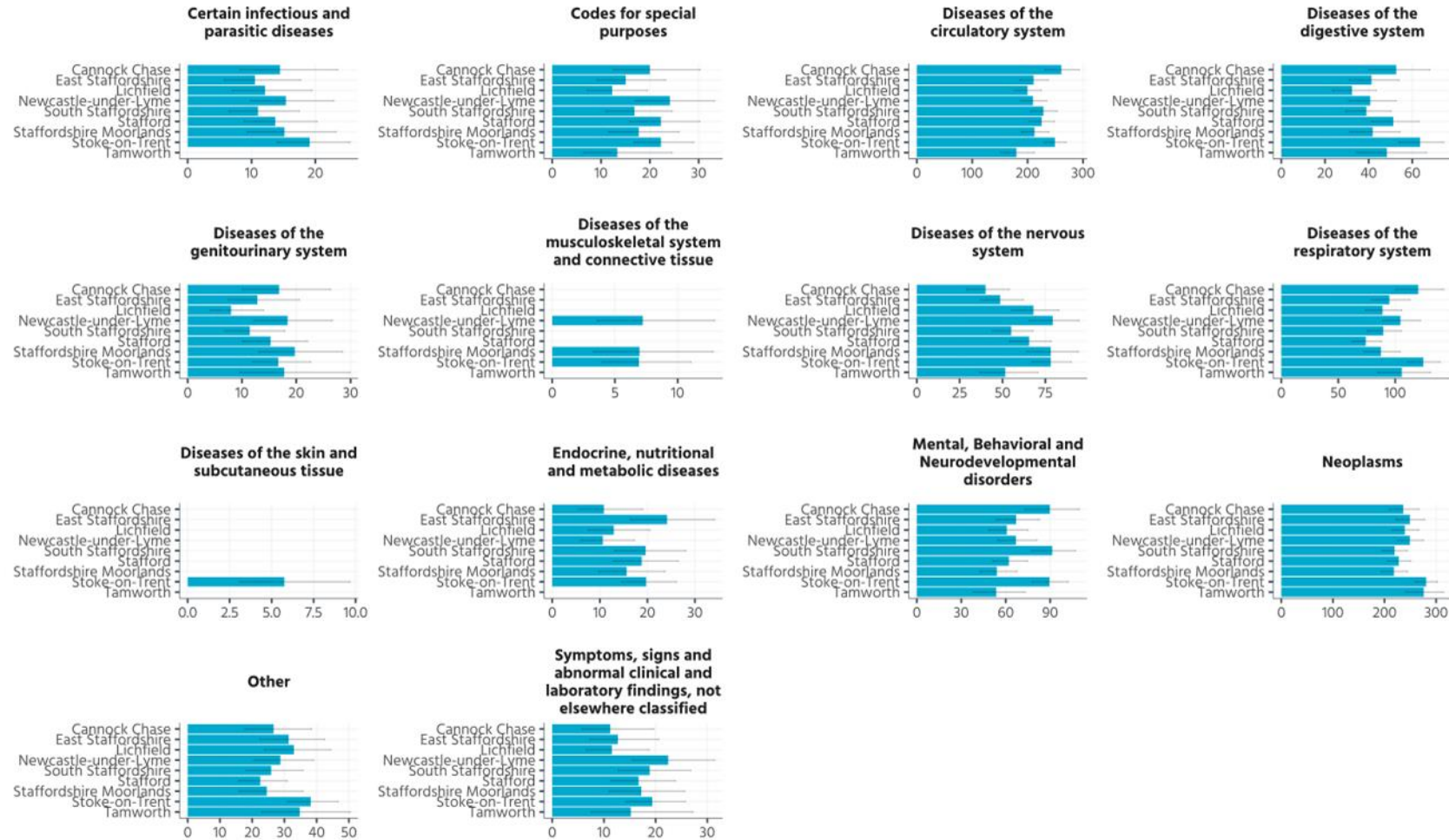
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

ICD-10 chapter

Mortality rate by underlying cause of death for each LTLA in Staffordshire and Stoke-on-Trent, 2023/24

Cause of death based on ICD-10 chapter. Directly age-standardised rates per 100,000.



- Trends and variation by local authority are broadly similar

Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

WHO Leading Causes

Note on methodology for assigning leading cause of death

This is based on a list developed by the World Health Organisation (WHO), where each classification is based on specific ICD-10 codes.

The list is specially designed for determining the leading causes of death and is also used by Office for National Statistics.

The leading causes classification does not include all causes, so we have added an 'other cause of death' category. The emergence of COVID has meant we have also added this as a new category (this is based on 'codes for special purposes' and therefore will include a very small number of deaths prior to 2020), as well as an 'uncoded' category to reflect unknown causes of death.

ICD-10 codes	Cause of death groups
A00-A09	Intestinal infectious diseases
A15-A19, B90	Tuberculosis
A20, A44, A75-A79, A82-A84, A85.2, A90-A98, B50-B57	Vector-borne diseases and rabies
A33-A37, A49.2, A80, B01, B02, B05, B06, B15, B16, B17.0, B18.0, B18.1, B26, B91, G14	Vaccine-preventable diseases ¹
A39, A87, G00-G03	Meningitis and meningococcal infection
A40-A41	Septicaemia
B20-B24	Human immunodeficiency virus [HIV] disease
C00-C97	Malignant neoplasms
C15	Malignant neoplasm of oesophagus
C16	Malignant neoplasm of stomach
C18-C21	Malignant neoplasm of colon, sigmoid, rectum and anus
C22	Malignant neoplasm of liver and intrahepatic bile ducts
C23-C24	Malignant neoplasm of gallbladder and other parts of biliary tract
C25	Malignant neoplasm of pancreas
C32	Malignant neoplasm of larynx
C33-C34	Malignant neoplasm of trachea, bronchus and lung
C40-C41	Malignant neoplasms of bone and articular cartilage
C43-C44	Melanoma and other malignant neoplasms of skin
C50	Malignant neoplasm of breast
C53-C55	Malignant neoplasm of uterus
C58	Malignant neoplasm of ovary
C61	Malignant neoplasm of prostate
C64	Malignant neoplasm of kidney, except renal pelvis
C67	Malignant neoplasm of bladder
C71	Malignant neoplasm of brain
C81-C96	Malignant neoplasms, stated or presumed to be primary of lymphoid, haematopoietic and related tissue
D00-D48	In situ and benign neoplasms, and neoplasms of uncertain or unknown behaviour
E10-E14	Diabetes
D50-D53, E40-E64	Malnutrition, nutritional anaemias and other nutritional deficiencies
E86-E87	Disorders of fluid, electrolyte and acid-base balance (incl. dehydration)
F01, F03, G30	Dementia and Alzheimer disease
F10-F19	Mental and behavioural disorders due to psychoactive substance use
G10-G12	Systemic atrophies primarily affecting the central nervous system
G20	Parkinson disease
G40-G41	Epilepsy and status epilepticus
G80-G83	Cerebral palsy and other paralytic syndromes

ICD-10 codes	Cause of death groups
I05-I09	Chronic rheumatic heart diseases
I10-I15	Hypertensive diseases
I20-I25	Ischaemic heart diseases
I26-I28	Pulmonary heart disease and diseases of pulmonary circulation
I34-I38	Nonrheumatic valve disorders and endocarditis
I42	Cardiomyopathy
I46	Cardiac arrest
I47-I49	Cardiac arrhythmias
I50-I51	Heart failure and complications and ill-defined heart disease
I60-I69	Cerebrovascular diseases
I70	Atherosclerosis
I71	Aortic aneurysm and dissection
J00-J06, J20-J22	Acute respiratory infections other than influenza and pneumonia
J09-J18	Influenza and pneumonia
J40-J47	Chronic lower respiratory diseases
J80-J84	Pulmonary oedema and other interstitial pulmonary diseases
J96	Respiratory failure
K35-K46, K56	Appendicitis, hernia and intestinal obstruction
K70-K76	Cirrhosis and other diseases of liver
M00-M99	Diseases of the musculoskeletal system and connective tissue
N00-N39	Diseases of the urinary system
O00-O99	Pregnancy, childbirth and the puerperium
P00-P96	Certain conditions originating in the perinatal period
Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities
V01-X59	Accidents
V01-V89	Land transport accidents
W00-W19	Accidental falls
W32-W34	Non-intentional firearm discharge
W65-W74	Accidental drowning and submersion
W75-W84	Accidental threats to breathing
X40-X49	Accidental poisoning
X60-X84, Y10-Y34	Suicide and injury/poisoning of undetermined intent ²
U50.9, X85-Y09, Y87.1	Homicide and probable homicide
R00-R99	Symptoms, signs and ill-defined conditions

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/userguidetomortalitystatistics/leadingcausesofdeathinenglandandwalesrevised2016>

What are people dying of Staffordshire and Stoke-on-Trent?

Most common leading causes

Most common leading causes of death by upper tier local authority, 2022

Age-standardised rates.

Stoke:

LC02 Cancer (malignant neoplasms)	282.17
LC30 Ischaemic heart diseases	139.14
LC18 Dementia and Alzheimer disease	133.91
LC14 Chronic lower respiratory diseases	71.46
LC47 COVID-19	51.4
LC12 Cerebrovascular diseases	50.17
LC28 Influenza and pneumonia	40.88
LC01 Accidents	32.56
LC16 Cirrhosis and other diseases of liver	25.49
LC09 Cardiac arrhythmias	21.21

Staffordshire:

LC02 Cancer (malignant neoplasms)	250.46
LC18 Dementia and Alzheimer disease	111.97
LC30 Ischaemic heart diseases	103.23
LC14 Chronic lower respiratory diseases	44.86
LC12 Cerebrovascular diseases	43.23
LC47 COVID-19	41.96
LC28 Influenza and pneumonia	32.88
LC01 Accidents	25.21
LC09 Cardiac arrhythmias	22.3
LC27 Hypertensive diseases	17.39

Source: NOMIS

- Published data shows the top ten most common causes of death, as based on WHO leading causes
- A common 'top 8 causes' has thus been identified for the ICB:
 - Cancer
 - Dementia and Alzheimer disease
 - Ischaemic heart diseases
 - Chronic lower respiratory diseases
 - Cerebrovascular diseases
 - Influenza and pneumonia
 - Accidents
 - COVID

What are people dying of Staffordshire and Stoke-on-Trent?

WHO leading causes

Numbers of deaths by financial year and WHO leading cause of death (summary), 2015/16 to 2023/24:

	Overall, N = 107,046 ¹	2015-16, N = 10,939 ¹	2016-17, N = 11,412 ¹	2017-18, N = 11,777 ¹	2018-19, N = 10,958 ¹	2019-20, N = 11,352 ¹	2020-21, N = 13,984 ¹	2021-22, N = 11,895 ¹	2022-23, N = 12,864 ¹	2023-24, N = 11,865 ¹
WHO Leading Causes:										
<i>Accidents</i>	3,338 (3.1%)	343 (3.1%)	327 (2.9%)	406 (3.4%)	395 (3.6%)	379 (3.3%)	391 (2.8%)	387 (3.3%)	405 (3.1%)	305 (2.6%)
<i>Cerebrovascular diseases</i>	5,202 (4.9%)	629 (5.8%)	626 (5.5%)	681 (5.8%)	519 (4.7%)	536 (4.7%)	562 (4.0%)	509 (4.3%)	567 (4.4%)	573 (4.8%)
<i>Chronic lower respiratory diseases</i>	6,118 (5.7%)	693 (6.3%)	674 (5.9%)	823 (7.0%)	685 (6.3%)	687 (6.1%)	540 (3.9%)	660 (5.5%)	699 (5.4%)	657 (5.5%)
<i>COVID-19</i>	4,421 (4.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	71 (0.6%)	3,007 (22%)	597 (5.0%)	494 (3.8%)	252 (2.1%)
<i>Dementia and Alzheimer disease</i>	13,016 (12%)	1,285 (12%)	1,471 (13%)	1,555 (13%)	1,417 (13%)	1,550 (14%)	1,441 (10%)	1,340 (11%)	1,490 (12%)	1,467 (12%)
<i>Influenza and pneumonia</i>	4,329 (4.0%)	593 (5.4%)	596 (5.2%)	555 (4.7%)	503 (4.6%)	505 (4.4%)	274 (2.0%)	379 (3.2%)	514 (4.0%)	410 (3.5%)
<i>Ischaemic heart diseases</i>	11,715 (11%)	1,279 (12%)	1,378 (12%)	1,327 (11%)	1,169 (11%)	1,229 (11%)	1,266 (9.1%)	1,312 (11%)	1,444 (11%)	1,311 (11%)
<i>Malignant neoplasms</i>	28,519 (27%)	3,165 (29%)	3,226 (28%)	3,164 (27%)	3,102 (28%)	3,130 (28%)	3,161 (23%)	3,108 (26%)	3,270 (25%)	3,193 (27%)
<i>Other causes</i>	30,388 (28%)	2,952 (27%)	3,114 (27%)	3,266 (28%)	3,168 (29%)	3,265 (29%)	3,342 (24%)	3,603 (30%)	3,981 (31%)	3,697 (31%)

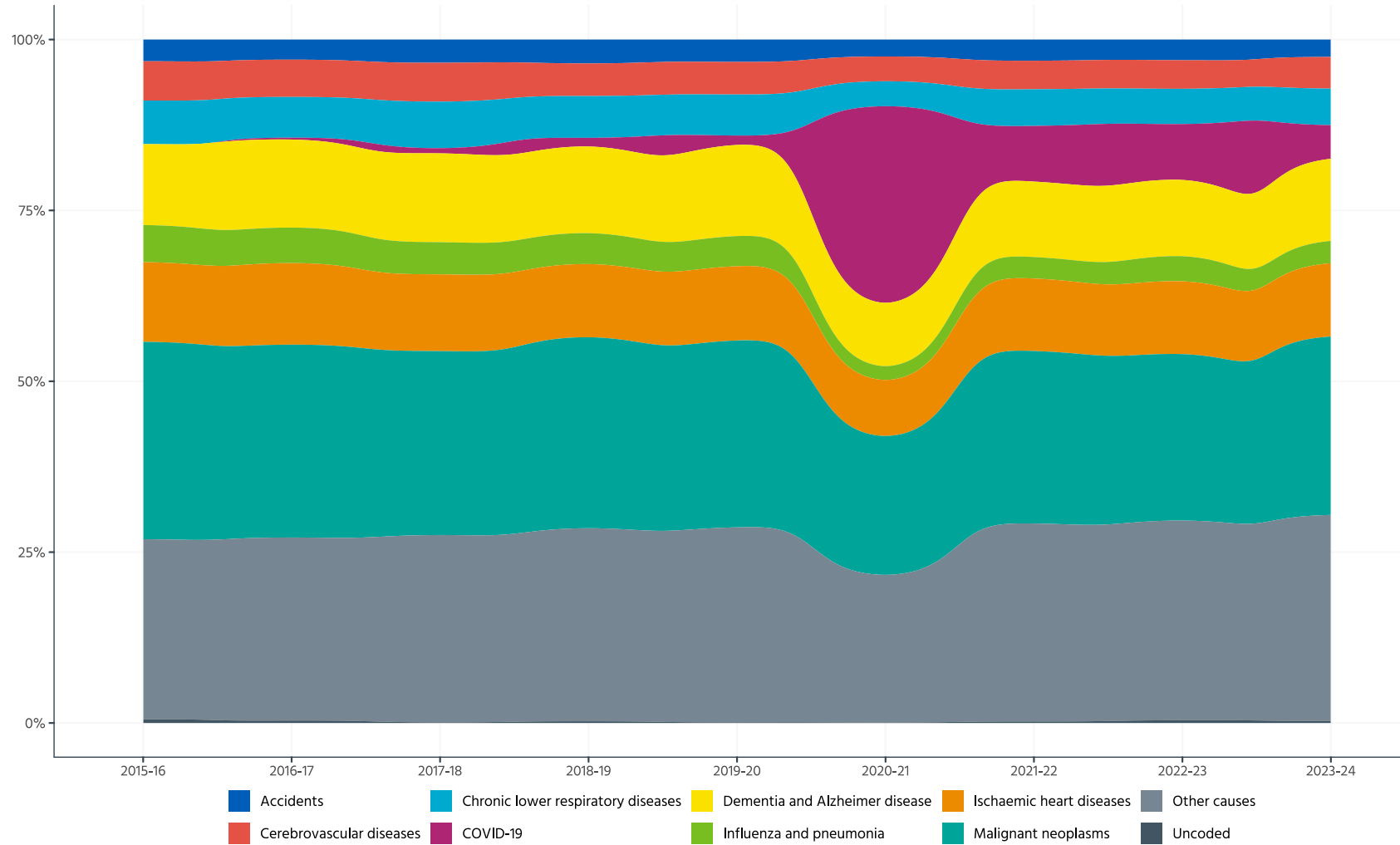
- This table is a summary of number of deaths by WHO leading cause and is based on the 'top 8 causes' and then all other remaining causes classed together
- Cancer is the most common cause of death
- During 2020/21 COVID became the most common cause of death

What are people dying of Staffordshire and Stoke-on-Trent?

WHO leading causes

Mortality trends by leading causes in Staffordshire and Stoke-on-Trent

Percentage of all deaths by year.



- These chart show of number of deaths by year for WHO leading cause and is based on the 'top 8 causes' and then all other remaining causes classed together
- Cancer is the most common cause of death
- During 2020/21 COVID became the most common cause of death

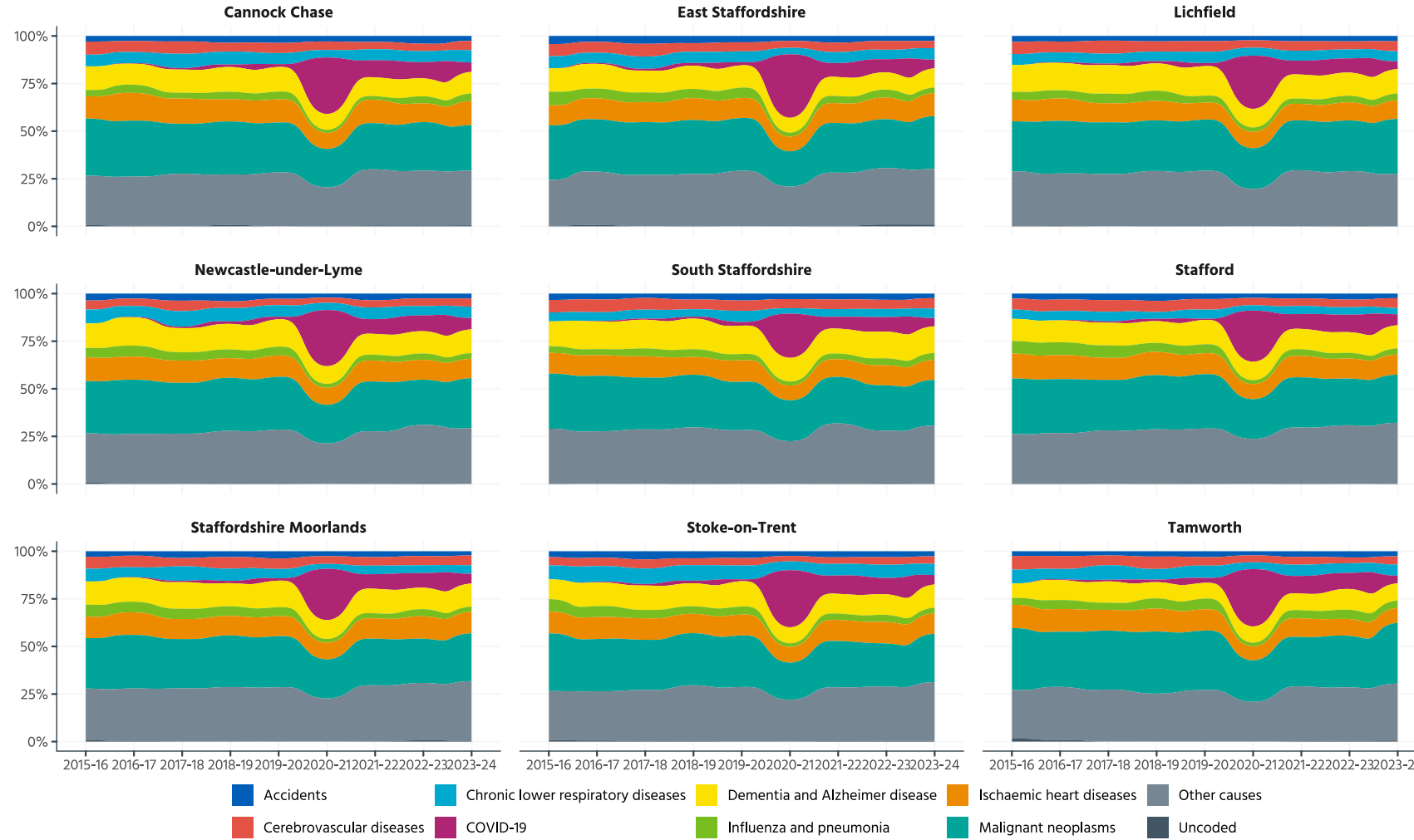
Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

WHO leading causes

Mortality trends by leading causes for each LTLA in Staffordshire and Stoke-on-Trent

Percentage of all deaths by year.



- These chart show of number of deaths by year for WHO leading cause and is based on the 'top 8 causes' and then all other remaining causes classed together
- Cancer is the most common cause of death
- During 2020/21 COVID became the most common cause of death
- Variation by local authority is broadly similar

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

WHO leading causes

Numbers of deaths by age group and WHO leading cause of death (summary), 2023/24:

	Overall, N = 11,865 ¹	Aged 0 to 19, N = 80	Aged 20 to 49, N = 381	Aged 50 to 64, N = 1,251	Aged 65 to 79, N = 3,624	Aged 80 and over, N = 6,529
WHO leading causes:						
<i>Accidents</i>	2.6%	3.8%	13%	2.6%	1.5%	2.5%
<i>Cerebrovascular diseases</i>	4.8%	0%	2.6%	3.1%	4.9%	5.3%
<i>Chronic lower respiratory diseases</i>	5.5%	0%	0.5%	5.4%	7.6%	4.8%
<i>COVID-19</i>	2.1%	0%	0.3%	1.2%	1.8%	2.6%
<i>Dementia and Alzheimer disease</i>	12%	0%	0%	0.5%	5.1%	20%
<i>Influenza and pneumonia</i>	3.5%	0%	1.8%	2.2%	2.1%	4.6%
<i>Ischaemic heart diseases</i>	11%	0%	7.1%	15%	14%	9.3%
<i>Malignant neoplasms</i>	27%	3.8%	27%	37%	37%	19%
<i>Other causes</i>	31%	93%	48%	33%	26%	32%

- This table is a summary of number of deaths by WHO leading cause and is based on the 'top 8 causes' for all ages and then all other remaining causes classed together
- Cancer is the most common cause of death for all ages but this varies by age (some of which are classed as 'other causes' in the table):
 - In the 0-19 age group '*certain conditions originating in the perinatal period*' was the most common cause of death and accounted for 46% of deaths
 - In aged 80 and over age group, '*Dementia and Alzheimer disease*' was the most common cause of death and accounted for one fifth (20%) of deaths

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Leading causes of death for children in Staffordshire and Stoke-on-Trent, 2023-24

Percentage of deaths by leading cause amongst persons aged 0 to 19.



- The latest data for the 2023/24 period shows that amongst the 0-19 age group:
- Conditions in the perinatal period is the most common cause of death accounting for nearly half of all deaths in this age group followed by congenital malformations, deformations and chromosomal abnormalities – meaning the majority of deaths in this age group are birth related

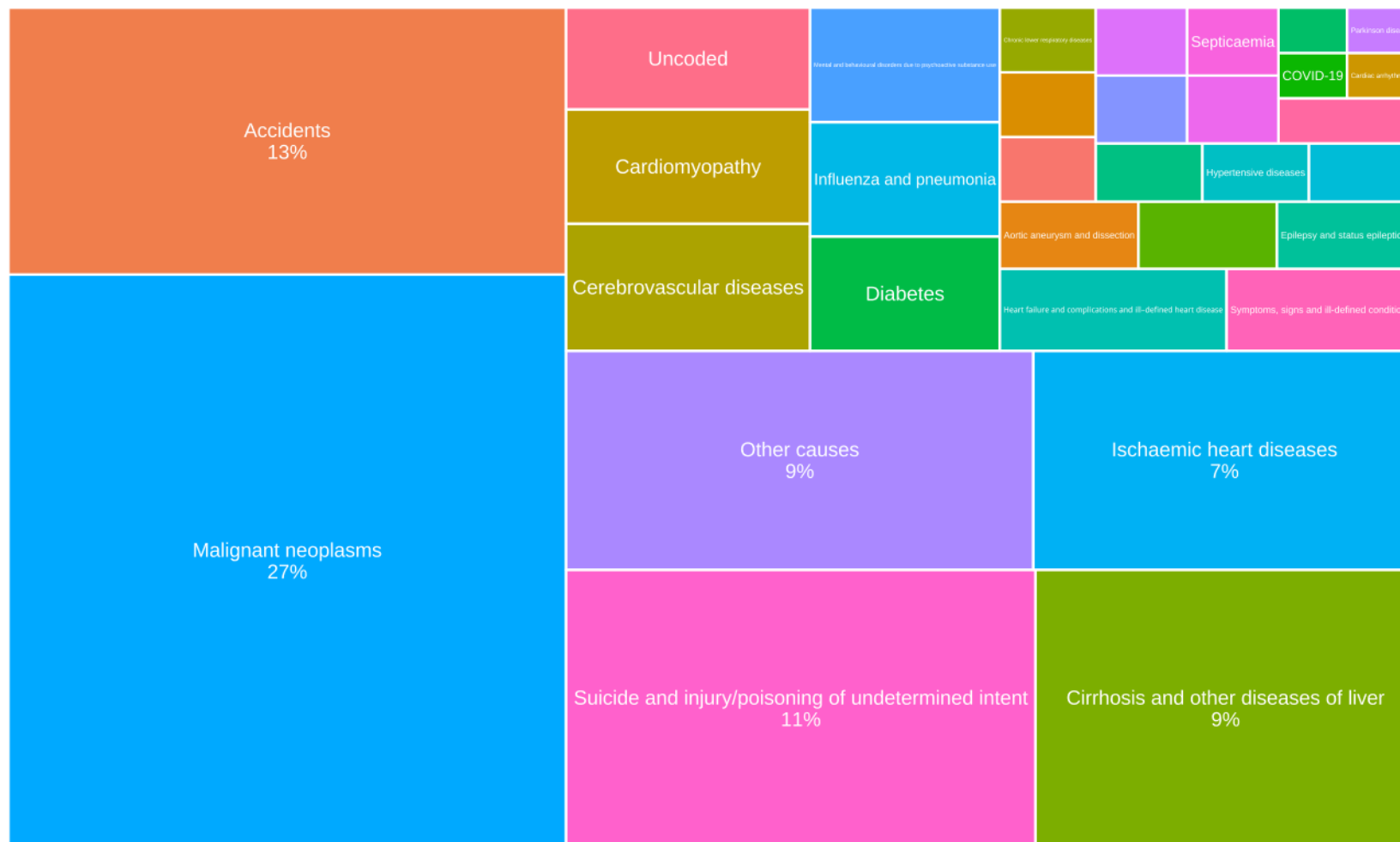
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Leading causes of death for young adults (20-49) in Staffordshire and Stoke-on-Trent, 2023-24

Percentage of deaths by leading cause amongst persons aged 20 to 49



- The latest data for the 2023/24 period shows that amongst the 20-49 age group:
- Cancer is the most common cause of death accounting for just over a quarter (27%) of all deaths in this age group
- This is followed by accidents (13%), suicide (11%) and cirrhosis/liver disease (9%)

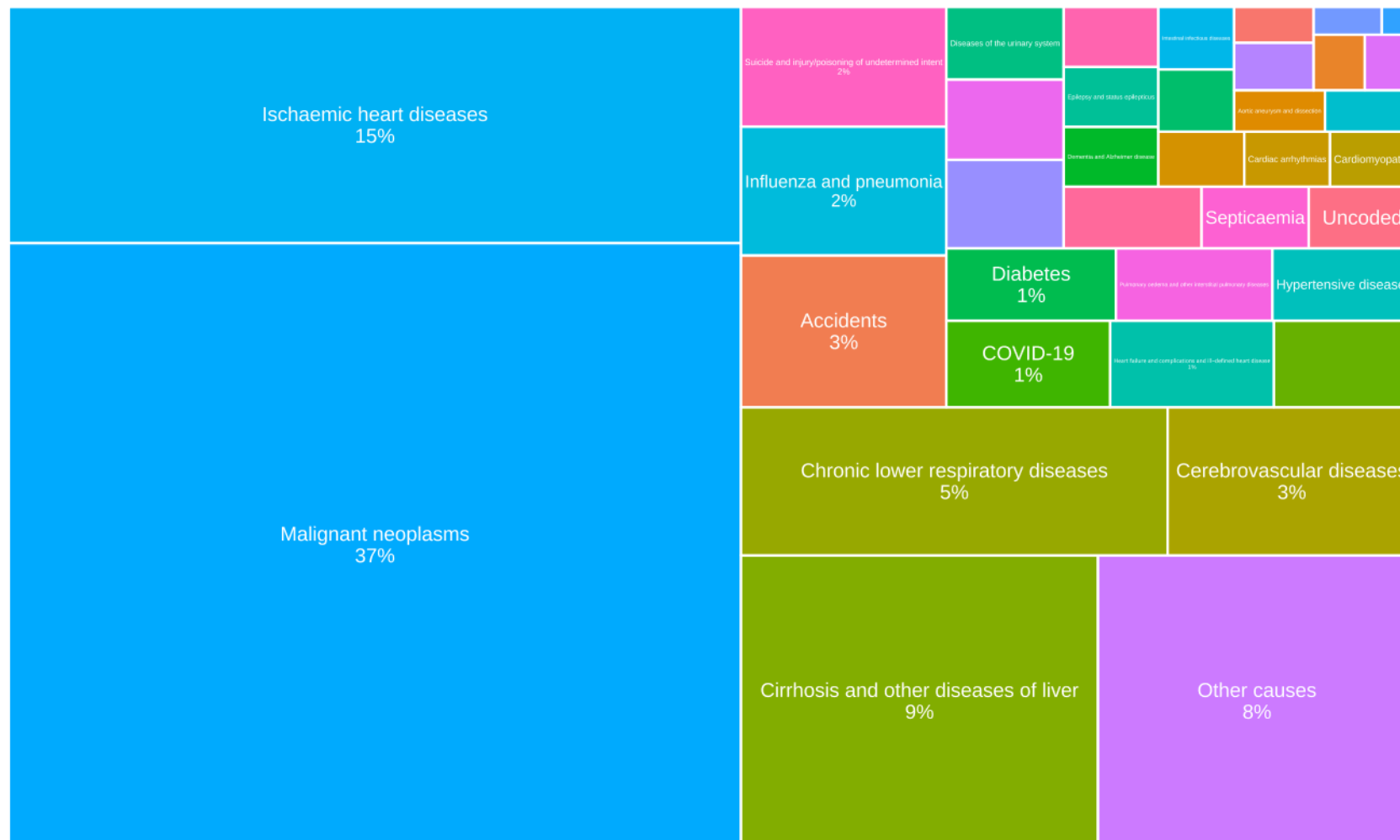
Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Leading causes of death for older middle age adults (50-64) in Staffordshire and Stoke-on-Trent, 2023-24

Percentage of deaths by leading cause amongst persons aged 50 to 64



- The latest data for the 2023/24 period shows that amongst the 50-64 age group:
- Cancer is the most common cause of death accounting for just over a third (37%) of all deaths in this age group
- This is followed by ischaemic heart disease (15%) and cirrhosis/liver disease (9%)

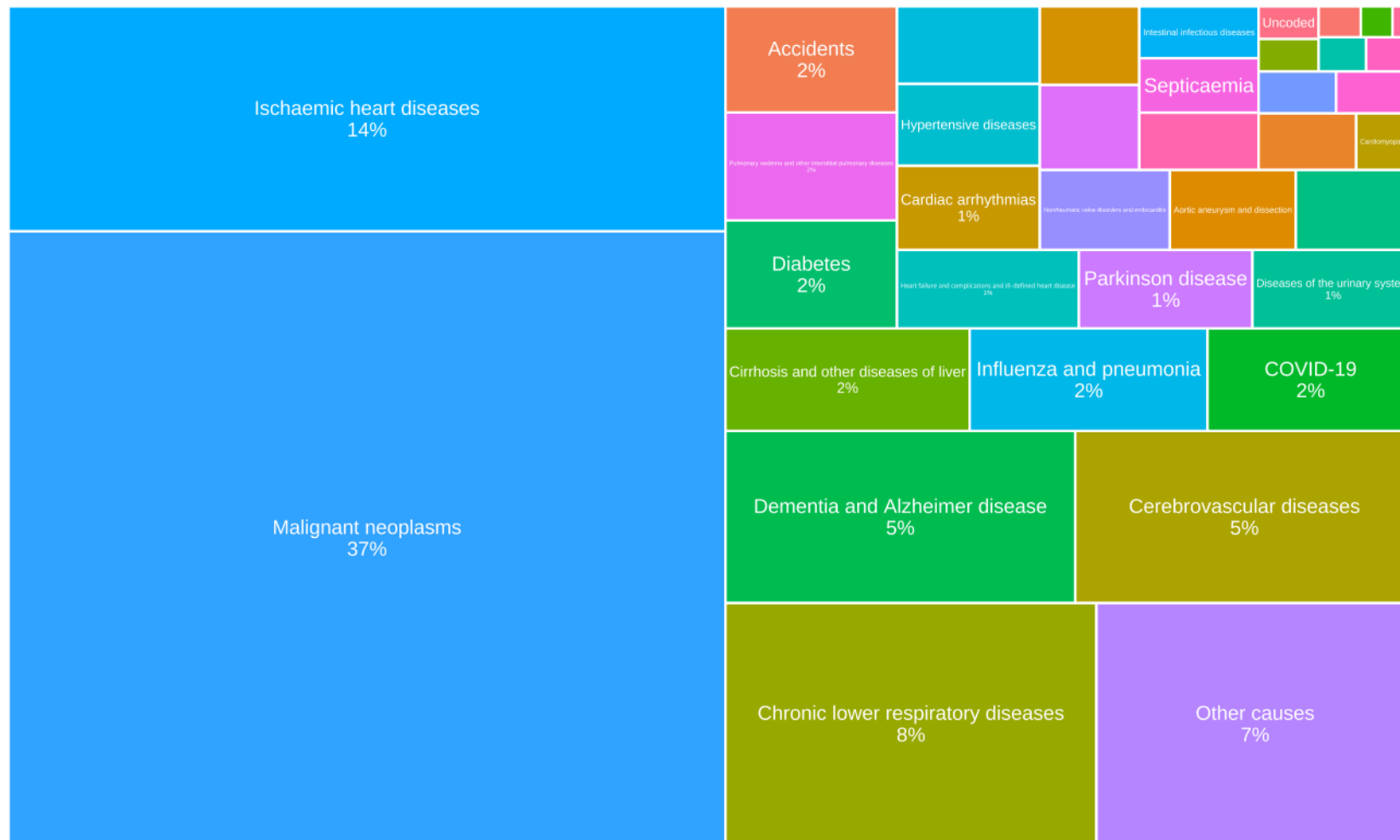
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Leading causes of death for older adults (65-79) in Staffordshire and Stoke-on-Trent, 2023-24

Percentage of deaths by leading cause amongst persons aged 65 to 79.



- The latest data for the 2023/24 period shows that amongst the 65-79 age group:
- Cancer is the most common cause of death accounting for just over a third (37%) of all deaths in this age group
- This is followed by ischaemic heart disease (14%) and chronic lower respiratory disease (8%)

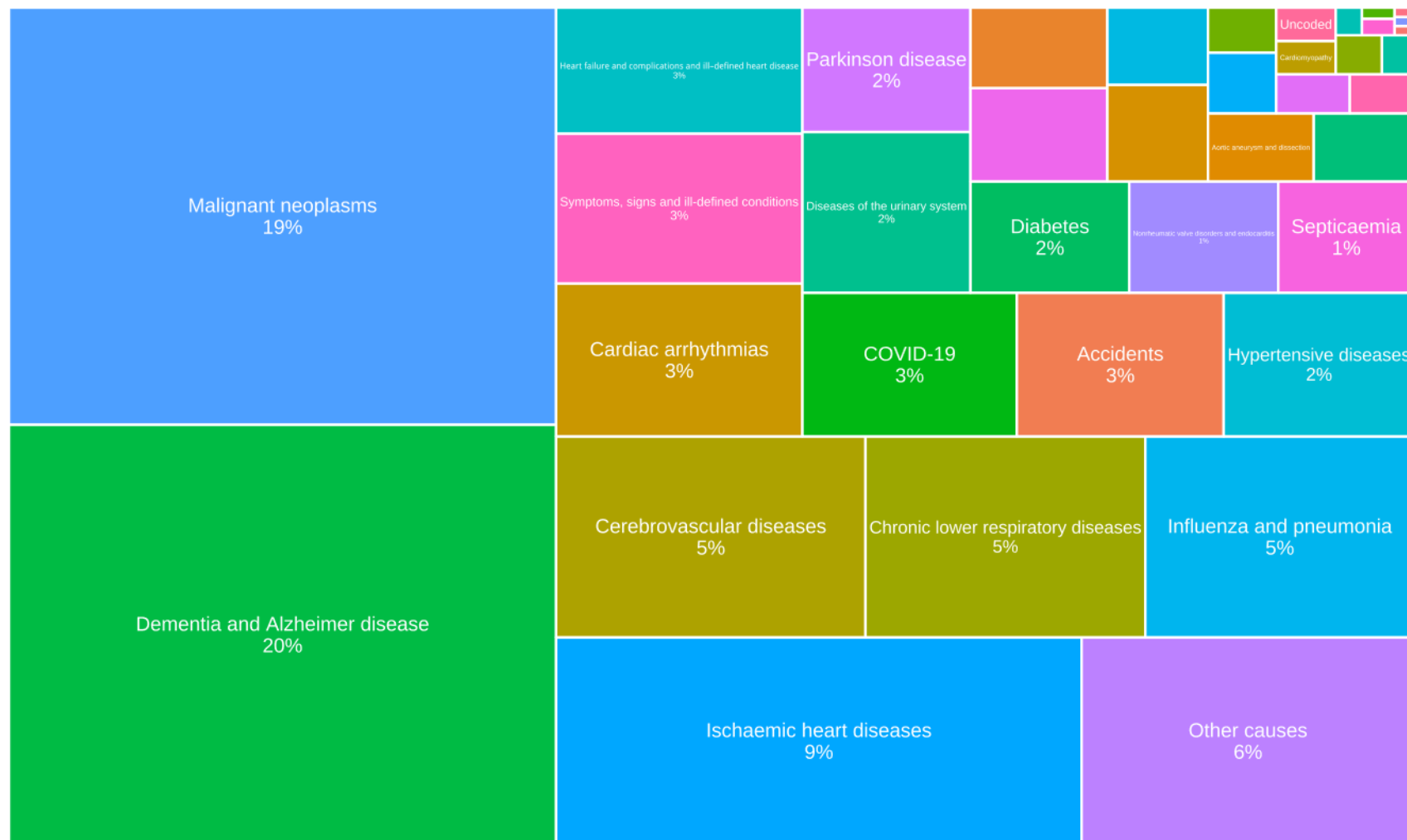
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Leading causes of death for elderly persons (80+) in Staffordshire and Stoke-on-Trent, 2023-24

Percentage of deaths by leading cause amongst persons aged 80 and over



- The latest data for the 2023/24 period shows that amongst the 80 and over age group:
- Dementia and Alzheimer disease is the most common cause of death accounting for just over fifth (20%) of all deaths in this age group
- This is closely followed by cancer (19%) and by ischaemic heart disease (9%)

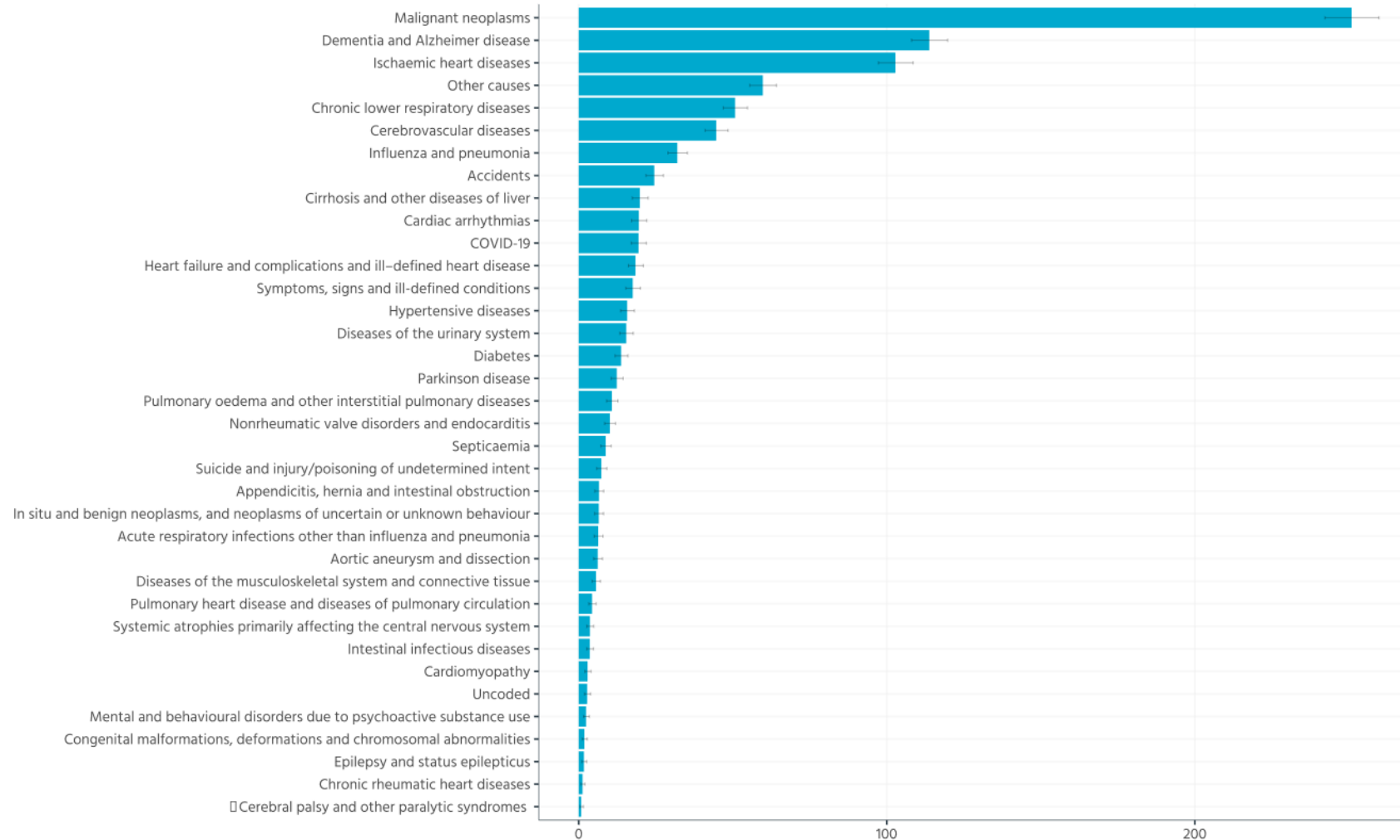
Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

What are people dying of Staffordshire and Stoke-on-Trent?

WHO leading causes

Mortality rate by underlying cause of death in Staffordshire and Stoke-on-Trent, 2023/24

Cause of death based on WHO leading causes. Directly age-standardised rates per 100,000.



- Age-standardised rates allow for more meaningful comparisons and means the data has been adjusted to account for differences in age
- The latest data for the 2023/24 period shows that - based on age-standardised rates - cancer is the most common leading cause of death
- Dementia and Alzheimer disease is the 2nd and ischaemic heart disease the 3rd most common leading causes of death

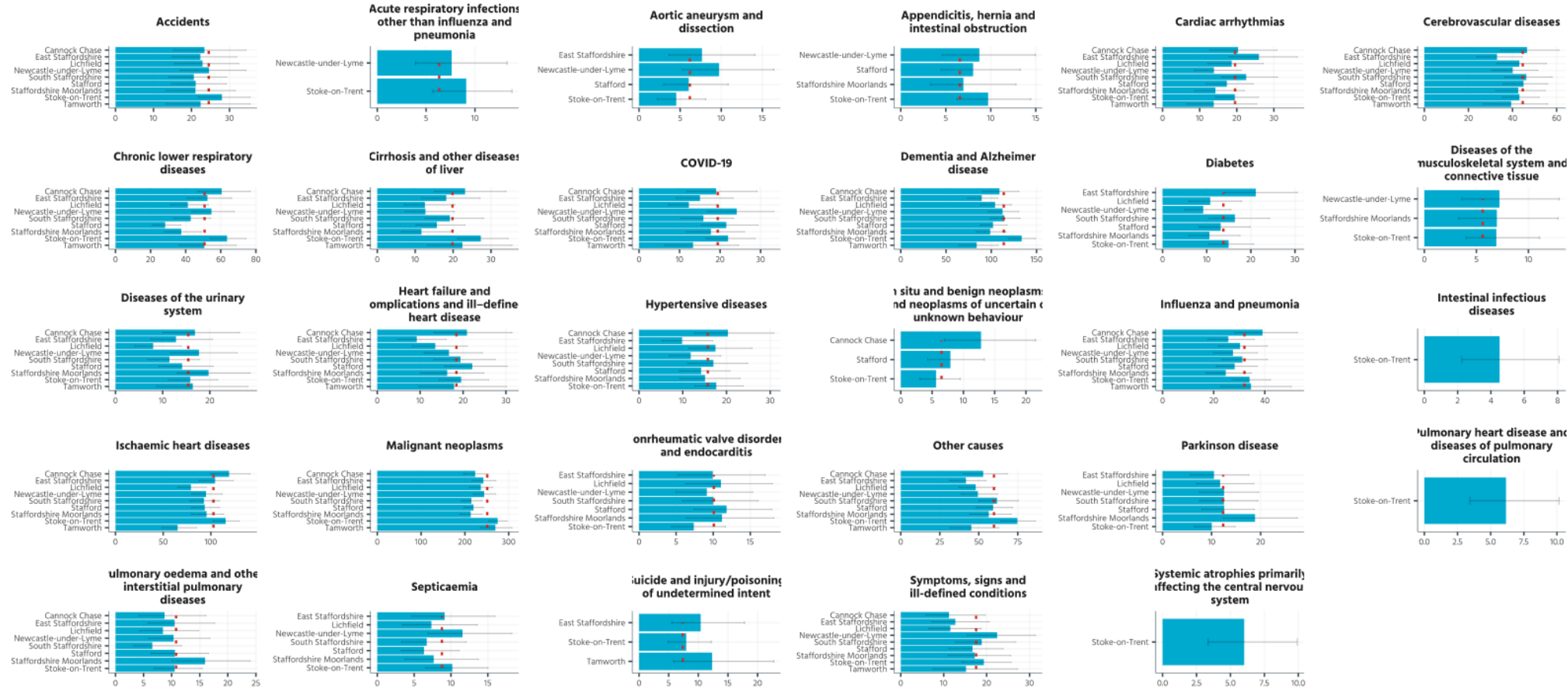
Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Mortality rate by underlying cause of death for each LTLA in Staffordshire and Stoke-on-Trent, 2023/24

Cause of death based on WHO leading causes. Directly age-standardised rates per 100,000.



Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

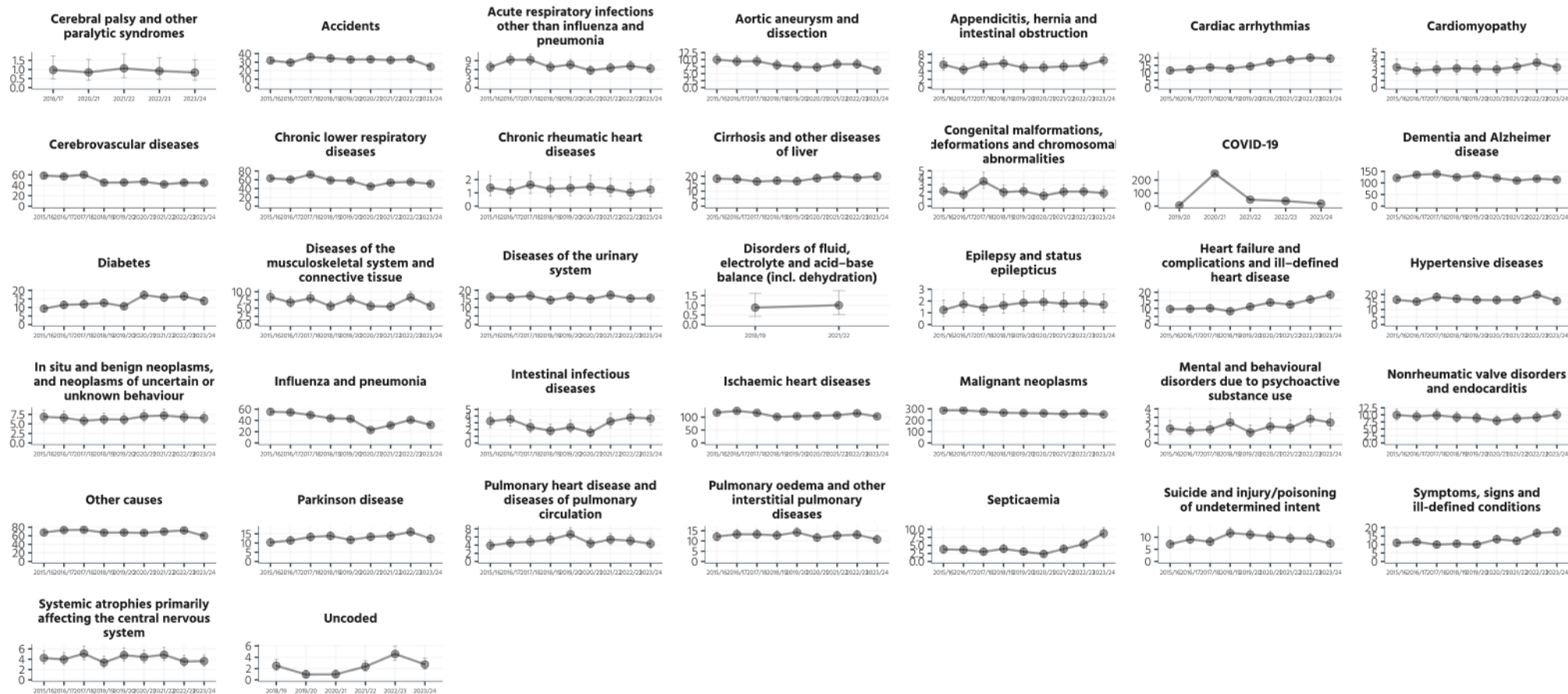
- Age-standardised rates allow for more meaningful comparisons and means the data has been adjusted to account for differences in age
- The latest data for the 2023/24 period shows that there is no significant variation by local authority
- The main exception is for Stoke-on-Trent which has significantly higher mortality rate for other causes compared to the ICB rate

What are people dying of in Staffordshire and Stoke-on-Trent?

WHO leading causes

Mortality rate trends by underlying cause of death for in Staffordshire and Stoke-on-Trent

Cause of death based on WHO leading causes. Directly age-standardised rates per 100,000.



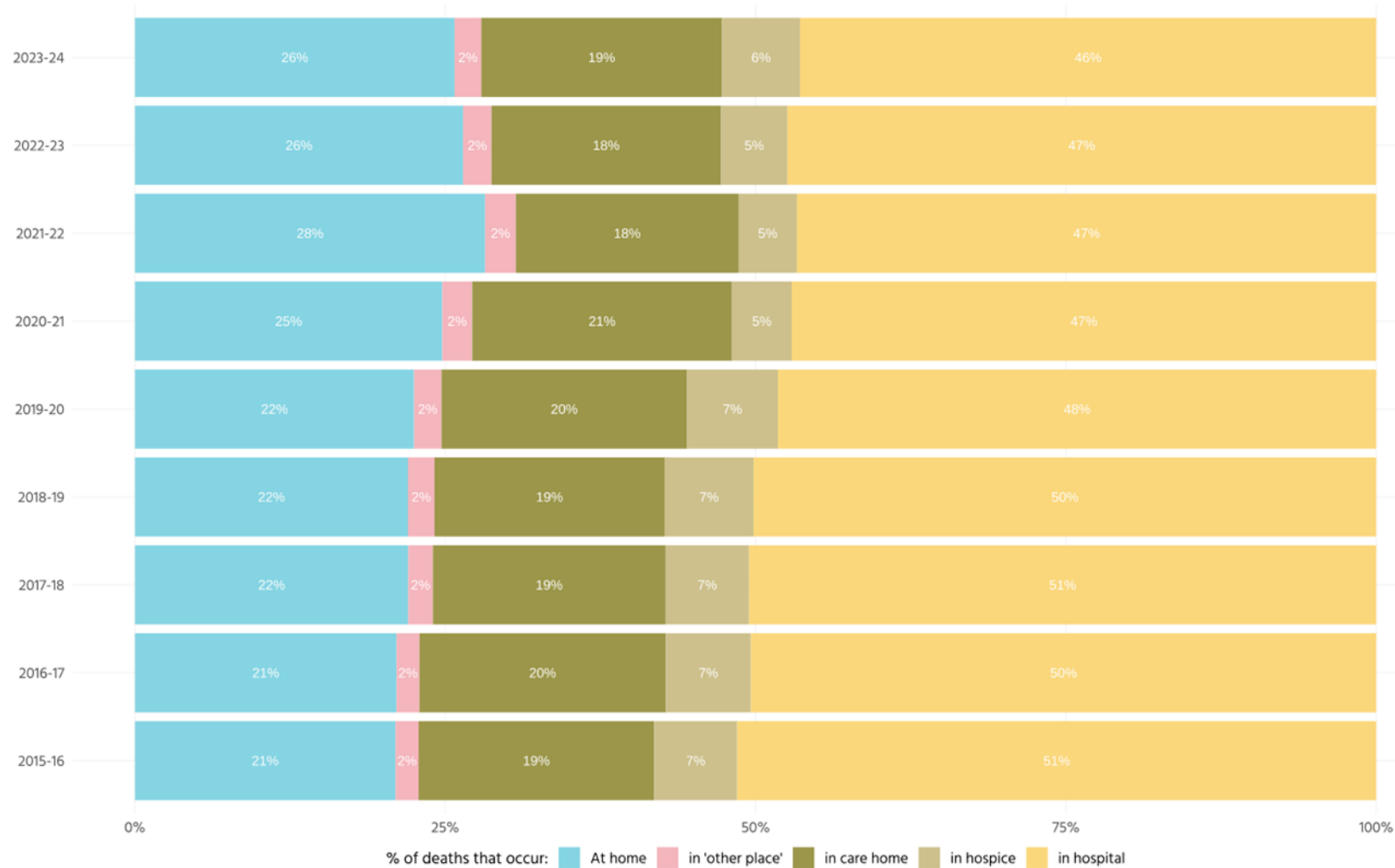
Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

- Age-standardised rates allow for more meaningful comparison over time by accounting for changing population size and age
- Trends over time show that there has been a **significant increase** in the mortality rate for the following causes:
 - Cardiac arrhythmias
 - Diabetes
 - Heart failure and complications and ill-defined heart disease
 - Septicaemia
 - Symptoms, signs and ill-defined conditions

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by year in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



In 2023/24:

- Just over a quarter (26%) of patients died at home
- Nearly one half (46%) of deaths were in hospital
- Around one fifth (19%) of deaths were in a care home

Trends:

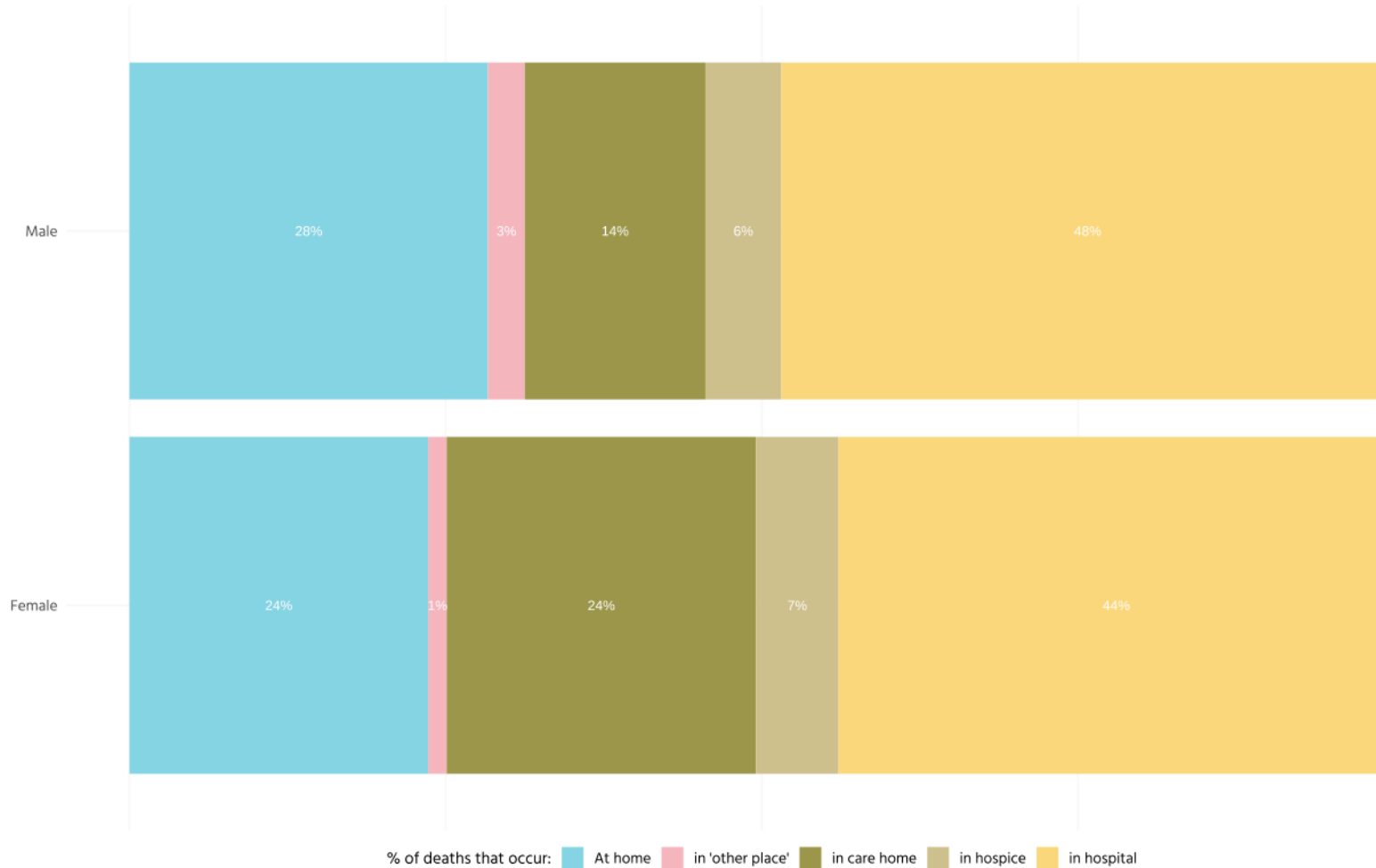
- The proportion of people dying in hospital within the ICB has been gradually decreasing since 2015/16
- Conversely, proportion of people dying at home has been increasing

Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by sex in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



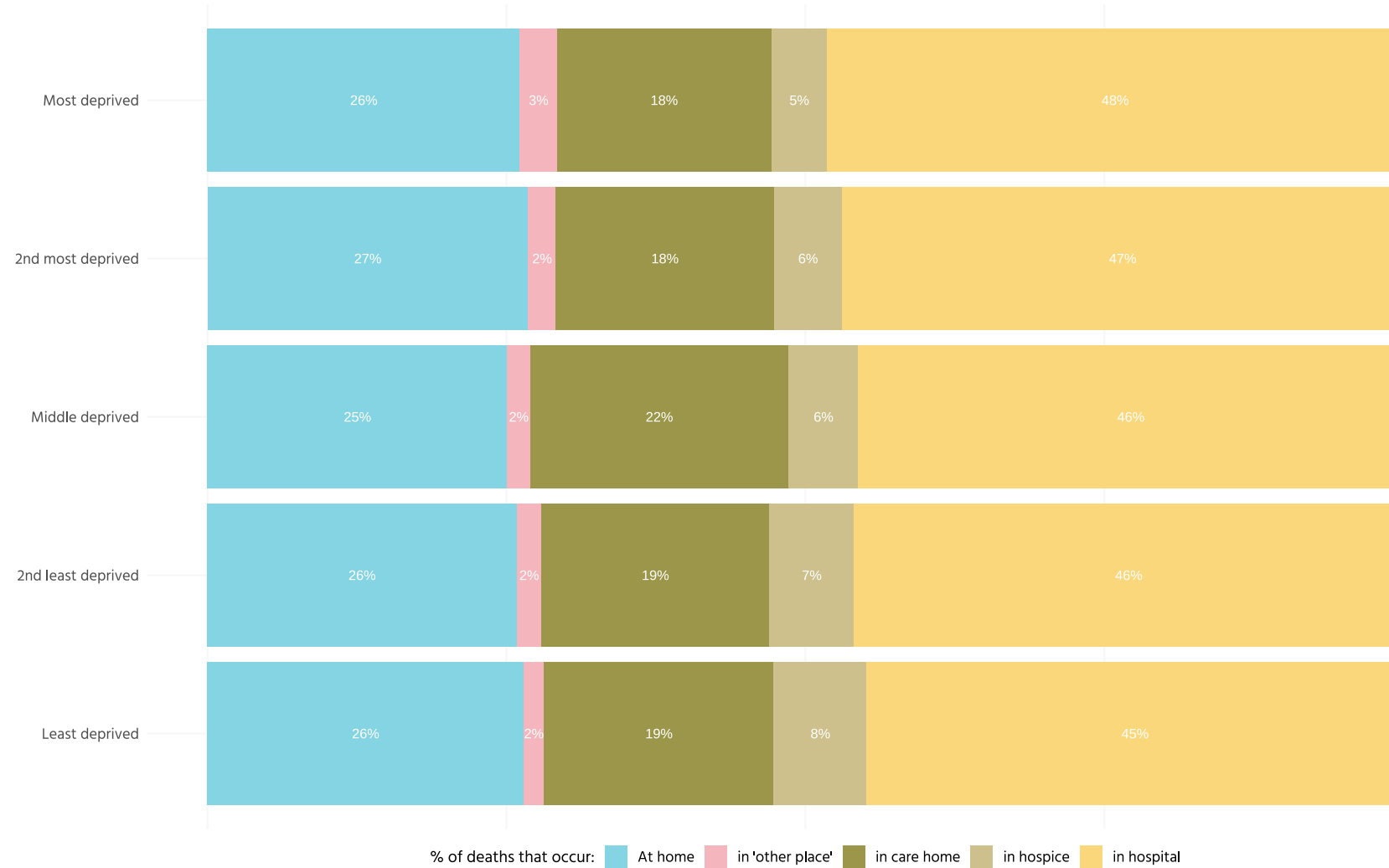
- There is a higher proportion of men who die in hospital compared to women
- There is a much higher proportion of women who die in a care home compared to men

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by deprivation in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



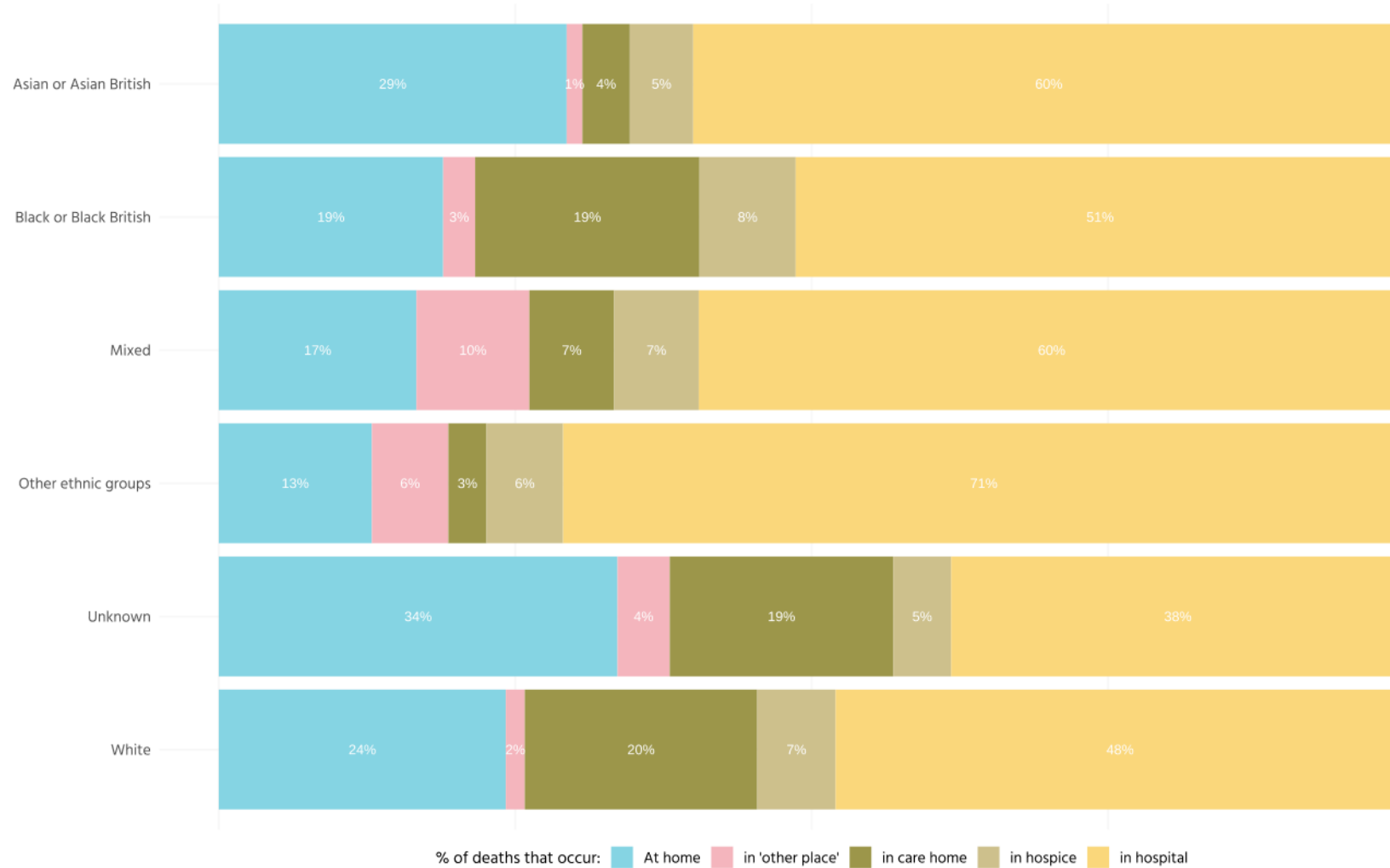
- There is a higher proportion of patients from the most deprived group who died in hospital compared to the other deprivation groups

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by ethnicity in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



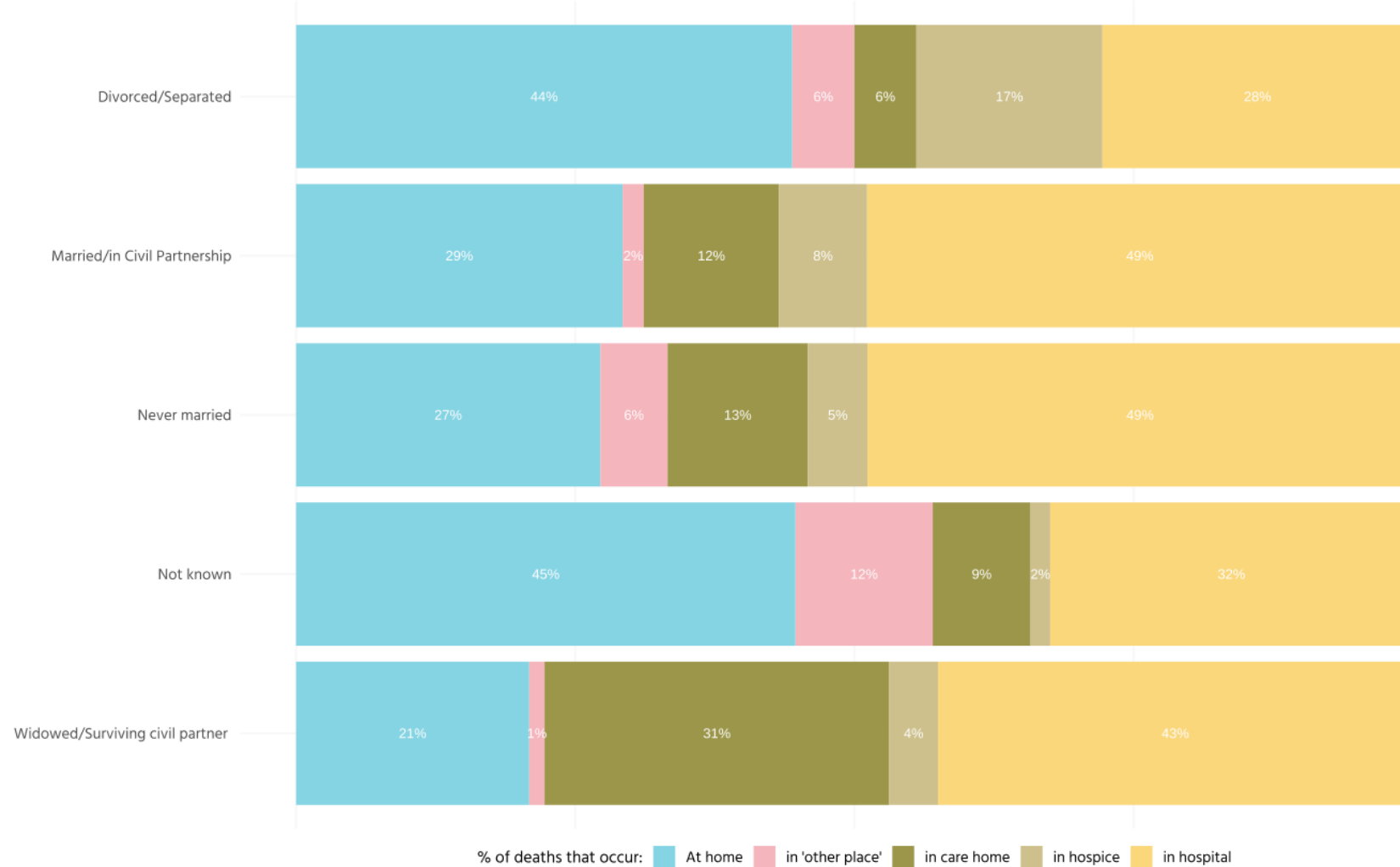
- For patients who are of ethnic minority groups, there is a higher proportion of deaths in hospital compared to patients of white ethnicity

Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by marital_status in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



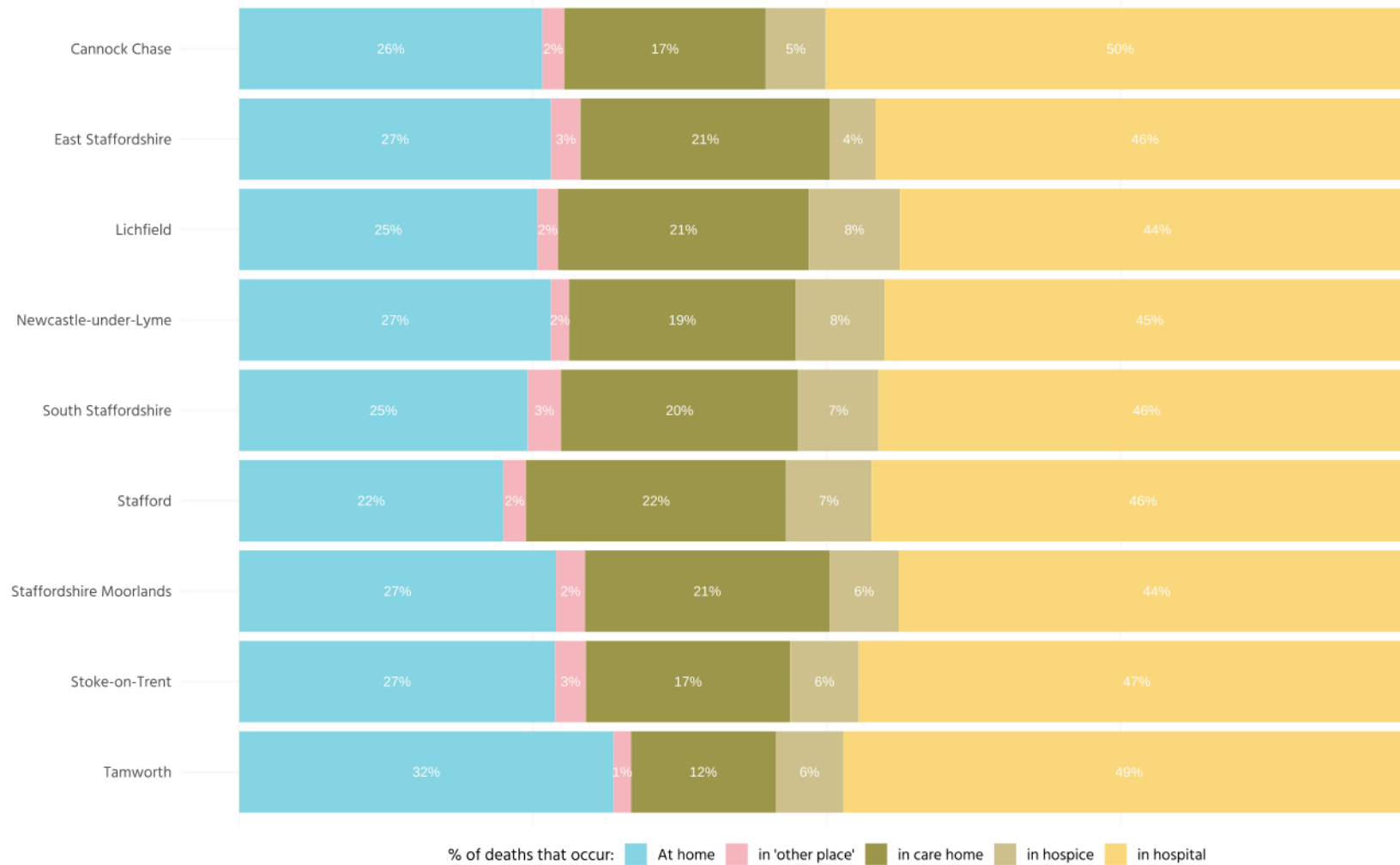
- There is a much higher proportion of widowers who die in a care home compared to other groups

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by LTLA in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



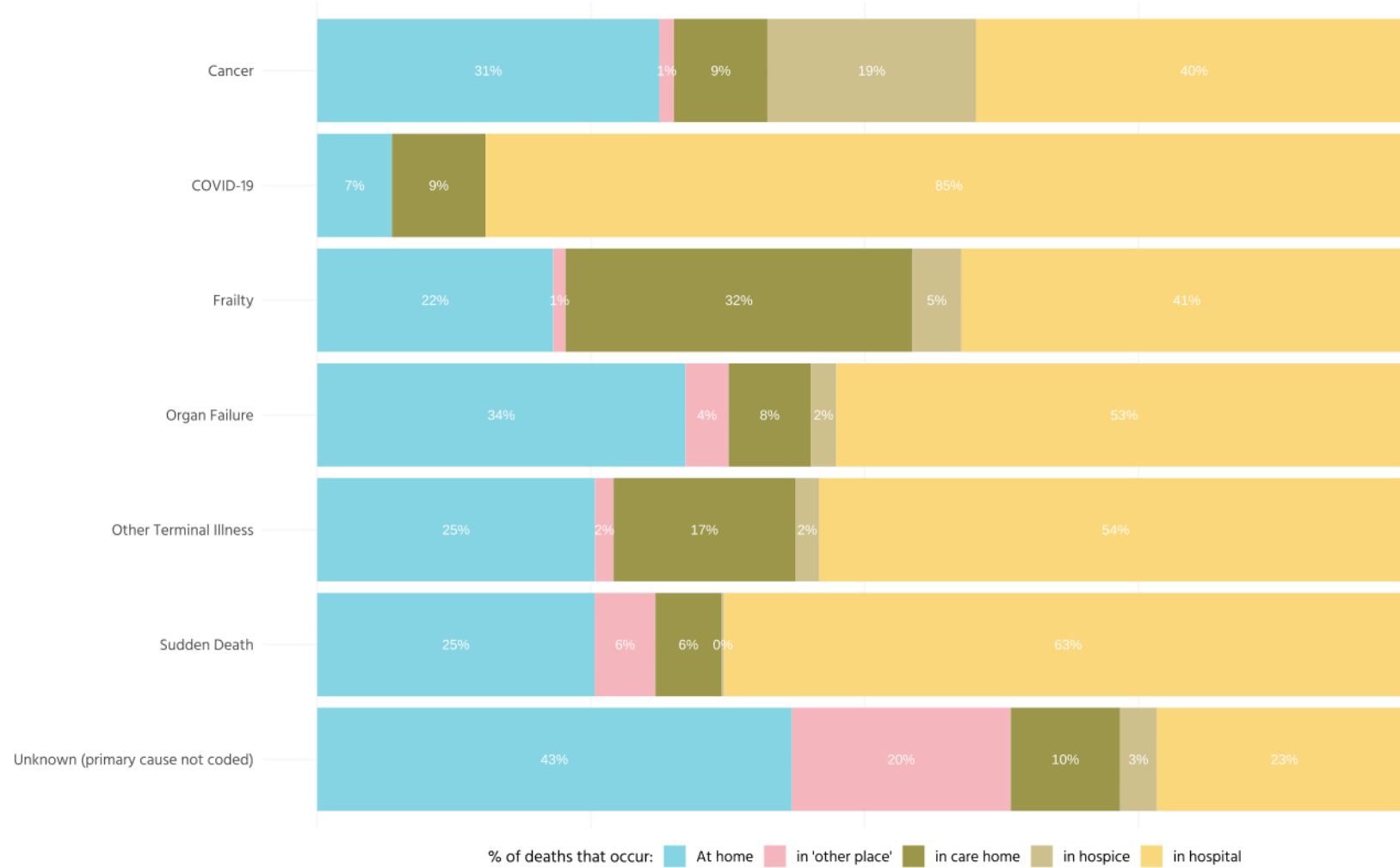
- Place of death by local authority is broadly similar with some variation:
 - Stafford has the lowest proportion of deaths at home
 - Cannock Chase and has the highest proportion of deaths in hospital

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by broad cause of death in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



When based on broad cause classification:

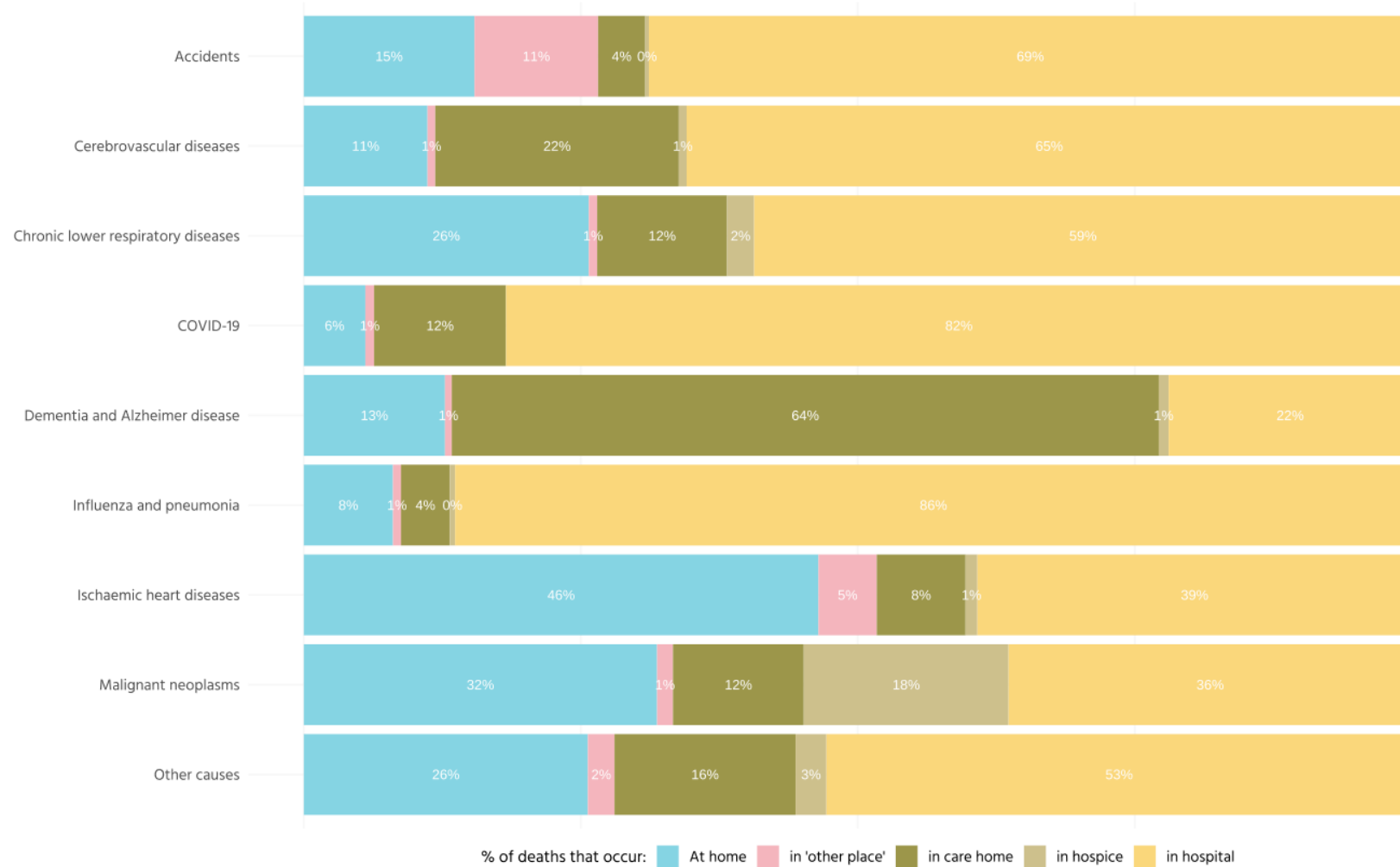
- There is a higher proportion of patients who die from frailty that die in a care home compared to other causes of death
- Patients who die from COVID are most likely to die in hospital

Periods are based on financial years.
Source: Local Deaths Register. NHS Digital. MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Place of death by leading cause of death in Staffordshire and Stoke-on-Trent ICB

Resident population. All persons. 2023/24.



When based on WHO leading causes classification:

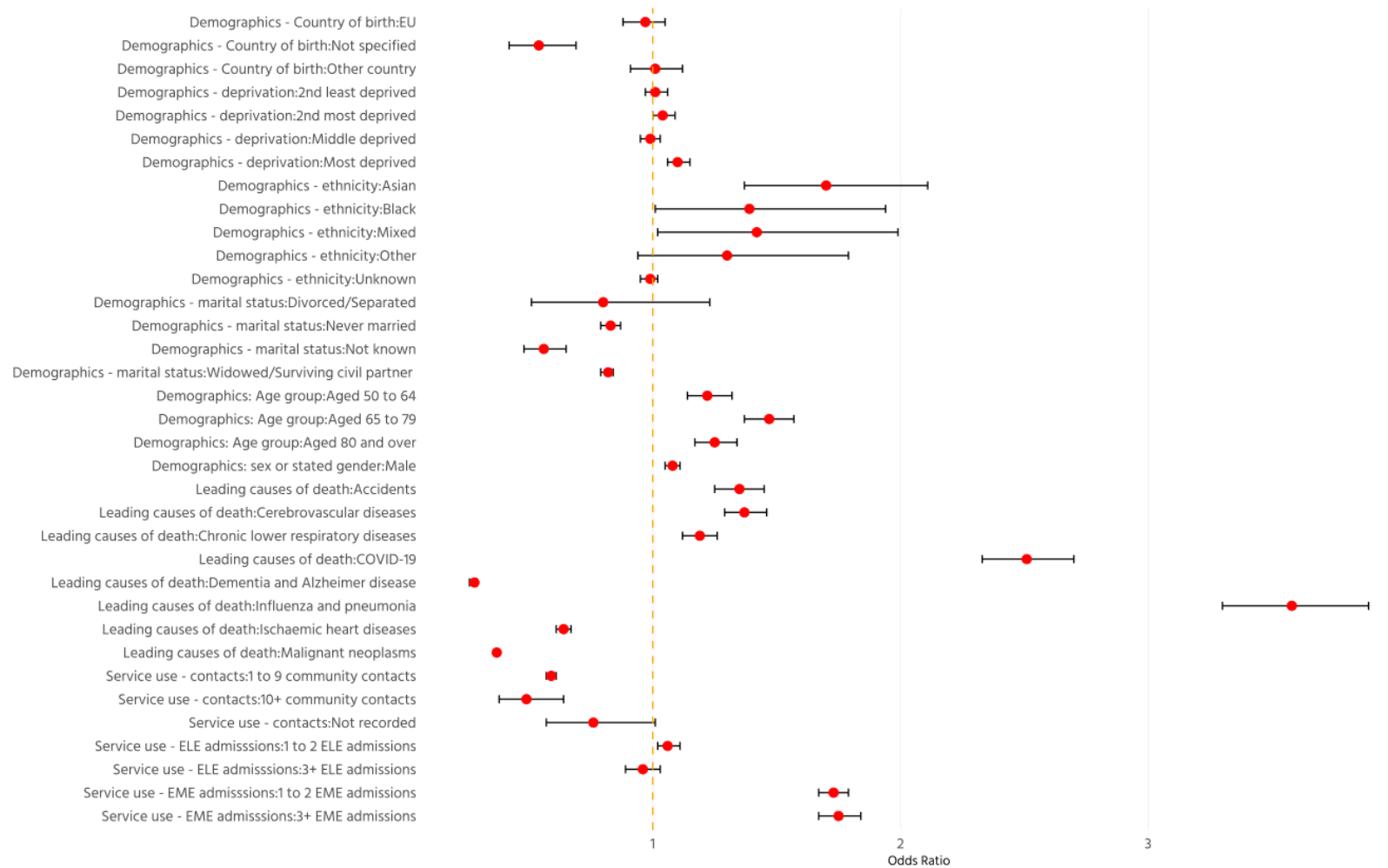
- There is a much higher proportion of patients who die from dementia and Alzheimer disease that die in a care home compared to other causes of death
- Patients who die from COVID or influenza/pneumonia are most likely to die in hospital

Periods are based on financial years.
Source: Local Deaths Register, NHS Digital, MLSCU.

Where are people dying of in Staffordshire and Stoke-on-Trent

Risk factors associated with place of death: hospital

All deaths in Staffordshire and Stoke-on-Trent, 2015/16 to 2023/24



Source of data: SUS, CSDS and Local Deaths Register, MLCSU and NHS Digital.

Logistic regression was used to identify potential risk factors that may increase the likelihood of dying in the hospital

Demographic risk factors:

- Asian patients were significantly more likely to die in hospital compared to white patients
- Patients of black ethnicity or of mixed ethnicity were also at increased risk
- More deprived patients at increased risk of dying in hospital compared to the least deprived
- Men were at slight increased risk of dying in hospital compared to women
- Older age was an increased risk factor, most notably in the 65-79 year-old age group

Leading causes of death:

- Patients who died from influenza and pneumonia were most strongly dying in hospital (compared to persons who died of 'all other causes')
- Patients who died from COVID were also strongly associated with an increased risk
- Those who died from accidents, cerebrovascular and chronic respiratory disease were also more likely to die in hospital

Health service user risk factors:

- Patients who had multiple emergency admission in the 12 months before death were at increased risk of dying in hospital
- Little association with elective admissions in 12 months before death
- Community service users were significantly *less* likely to die in hospital

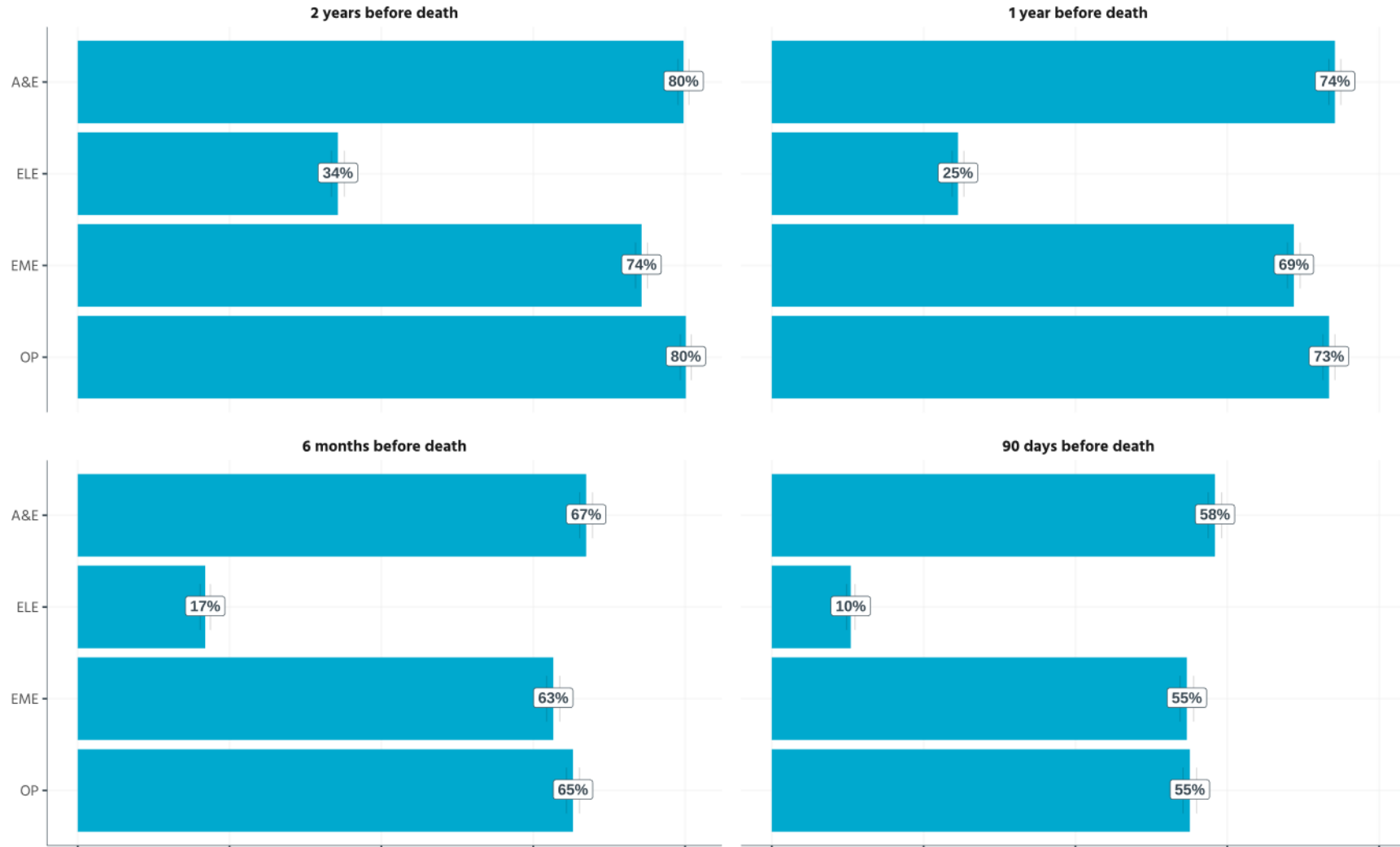
Health service activity prior to death

(of all persons who have died of any cause)

Secondary care activity prior to death

Proportion of decedent population with at least one emergency admission prior to death, 2023/24

Staffordshire and Stoke-on-Trent ICB



This data summarise all secondary care activity (A&E attendance, elective admission, emergency admission and outpatient appointment) and showing the proportion of people with at least one attendance prior to death based on a specified time-frames (2 years, 1 year, 6 months or 90 days before death). Longer time-frames will inevitably include more people individuals meaning the proportion will always be smaller in the periods closer to death.

The majority of patients who have died will have either had an emergency admission, A&E attendance or outpatient appointment up to 2 years before death, and over half within the last 3 months before they died.

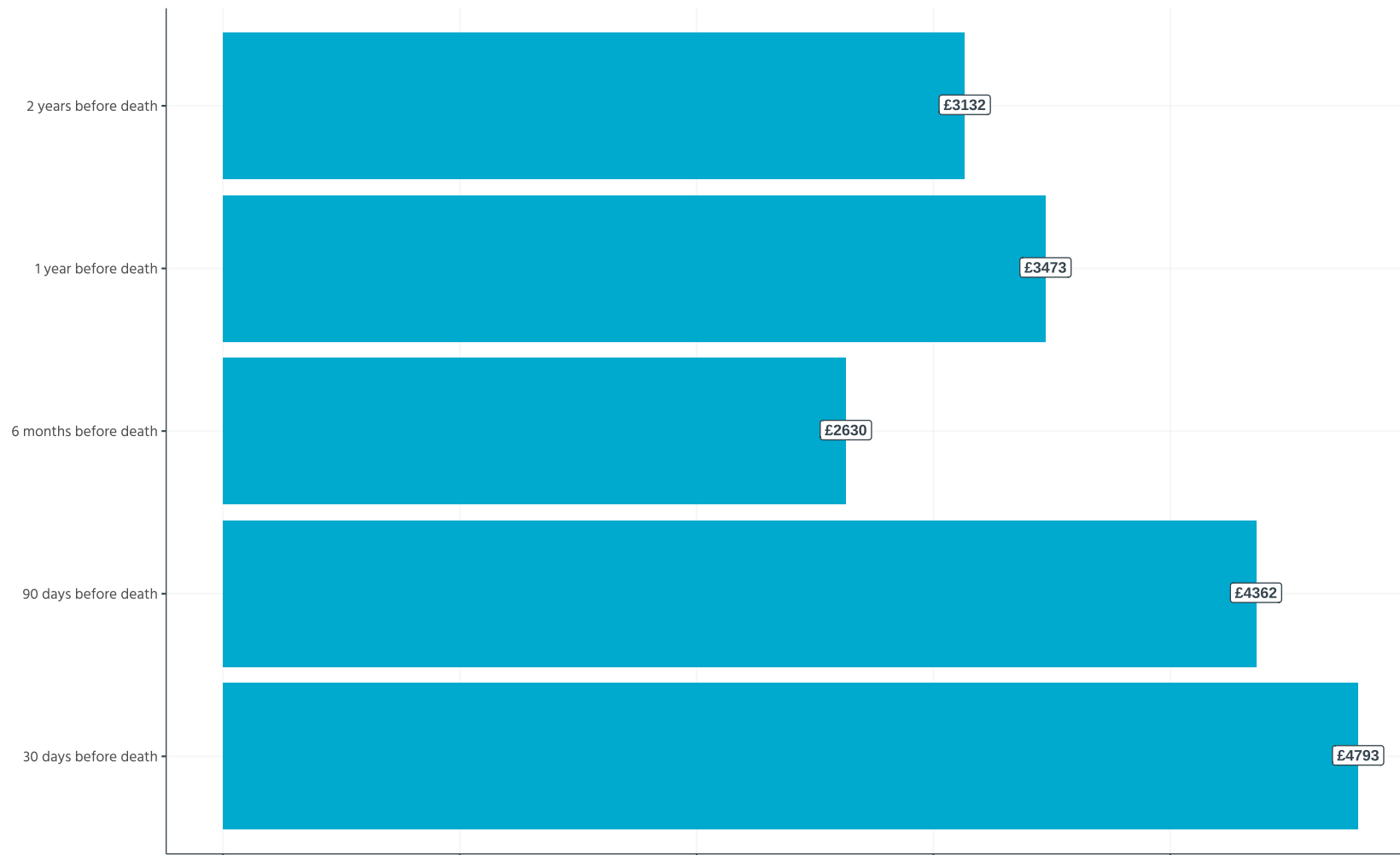
Only around a third of patients who died had an elective admission up to 2 years before death, and just one in ten up to 90 days before death.

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Secondary care activity prior to death

Cost per inpatient activity prior to death, 2023/24

Staffordshire and Stoke-on-Trent ICB



This data is adjusted so that it shows total inpatient cost per inpatient activity.

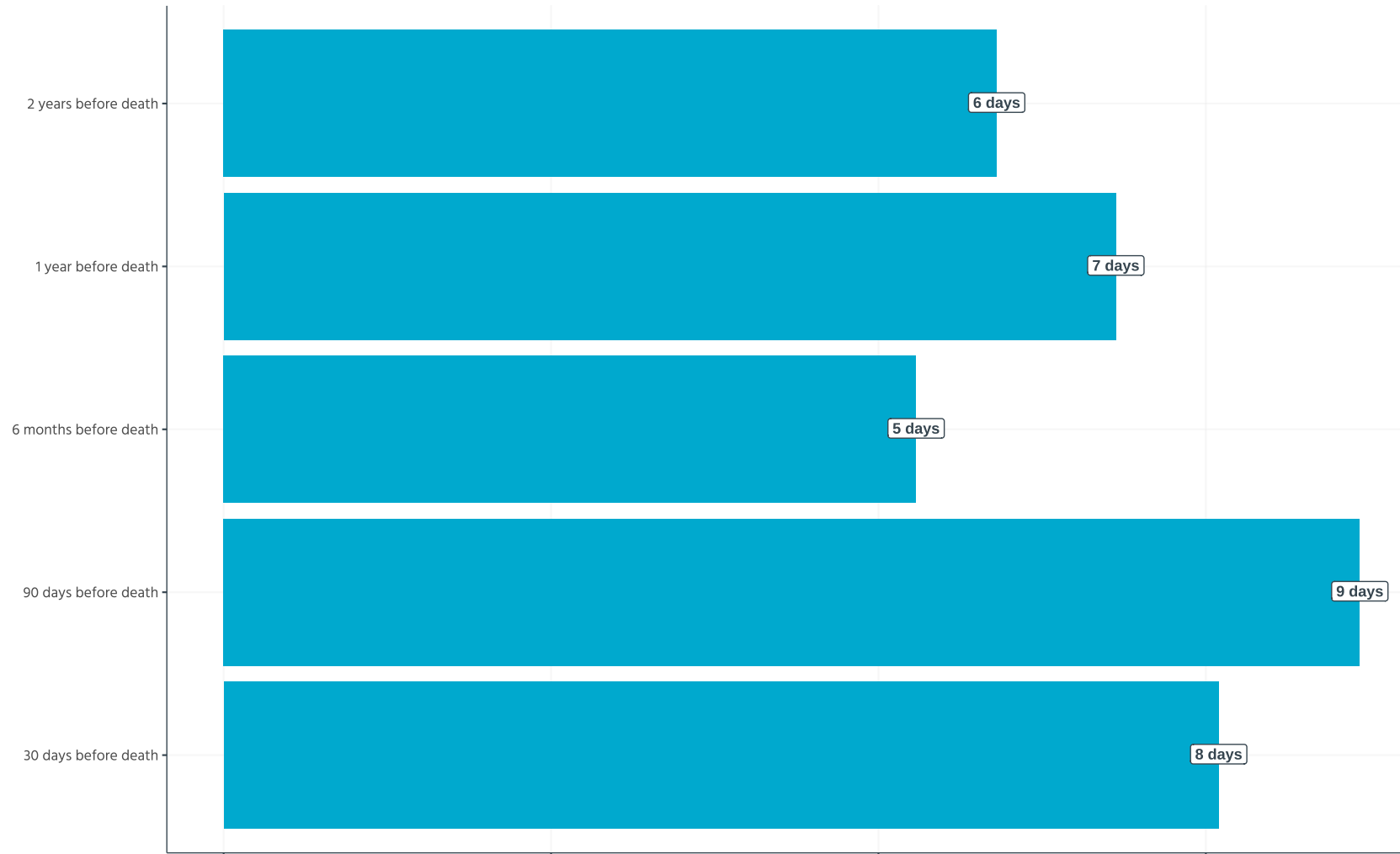
For patients who died in 2023/24, cost per activity is higher in the period closer to death.

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Secondary care activity prior to death

Length of stay per inpatient activity prior to death, 2023/24

Staffordshire and Stoke-on-Trent ICB



This data is adjusted so that it shows total inpatient length of stay per inpatient activity.

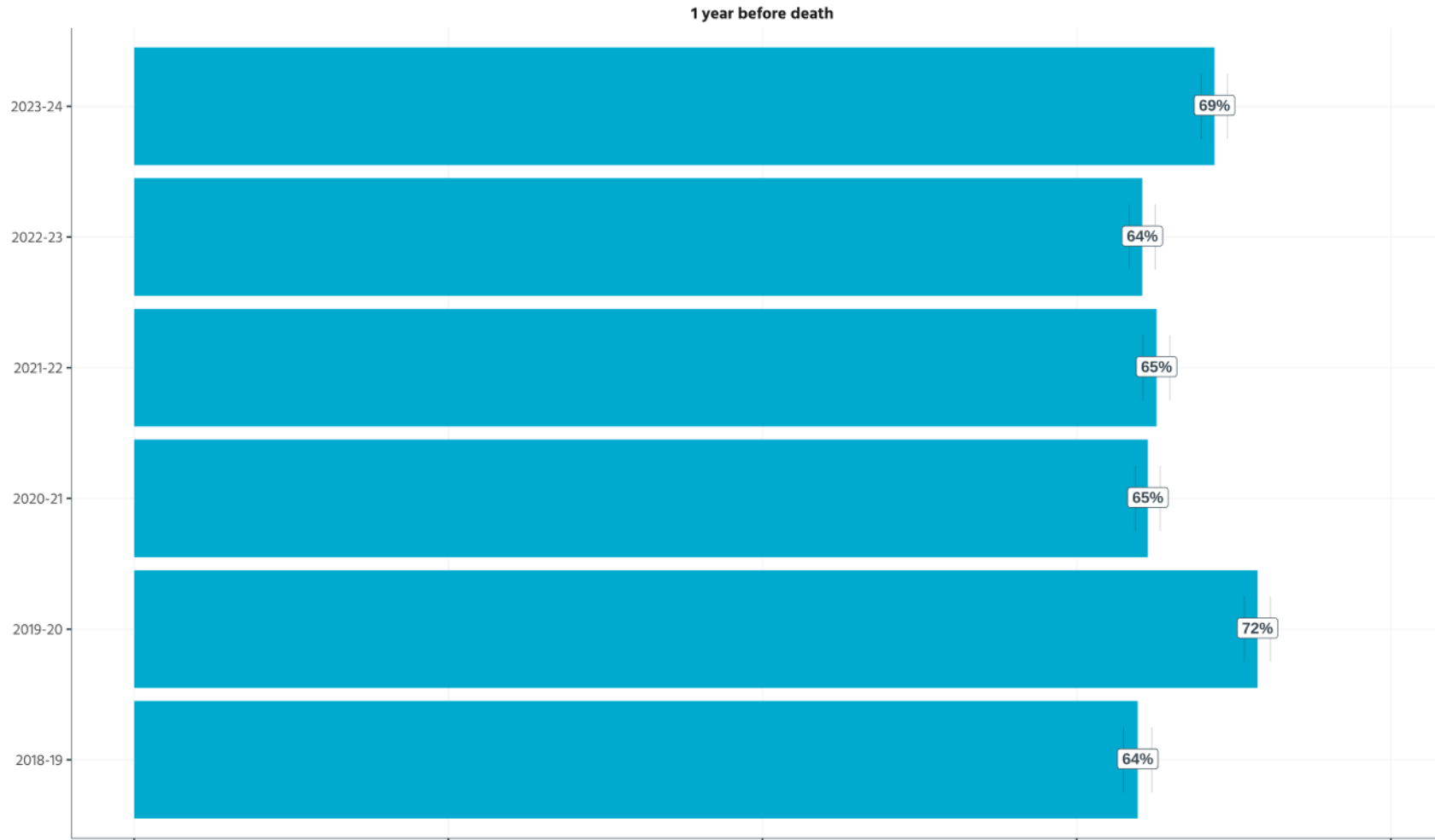
For patients who died in 2023/24, there is a longer length of stay per activity in the period closer to death.

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death, 2018/19 to 2023/24

Staffordshire and Stoke-on-Trent ICB



- The majority (69%) of patients who have died will have experienced an emergency admission up to one year before death
- For patients who died in year during 2023/24, the proportion with at least one hospital admission prior to death is still slightly below pre-pandemic levels during 2019/20 but has been increasing

Note that due to suppression rules full date of death is not available and is instead based on month and year of death only. A mid-month date of death has been assumed in the analysis, meaning that activity periods may vary by up to ±15 days.

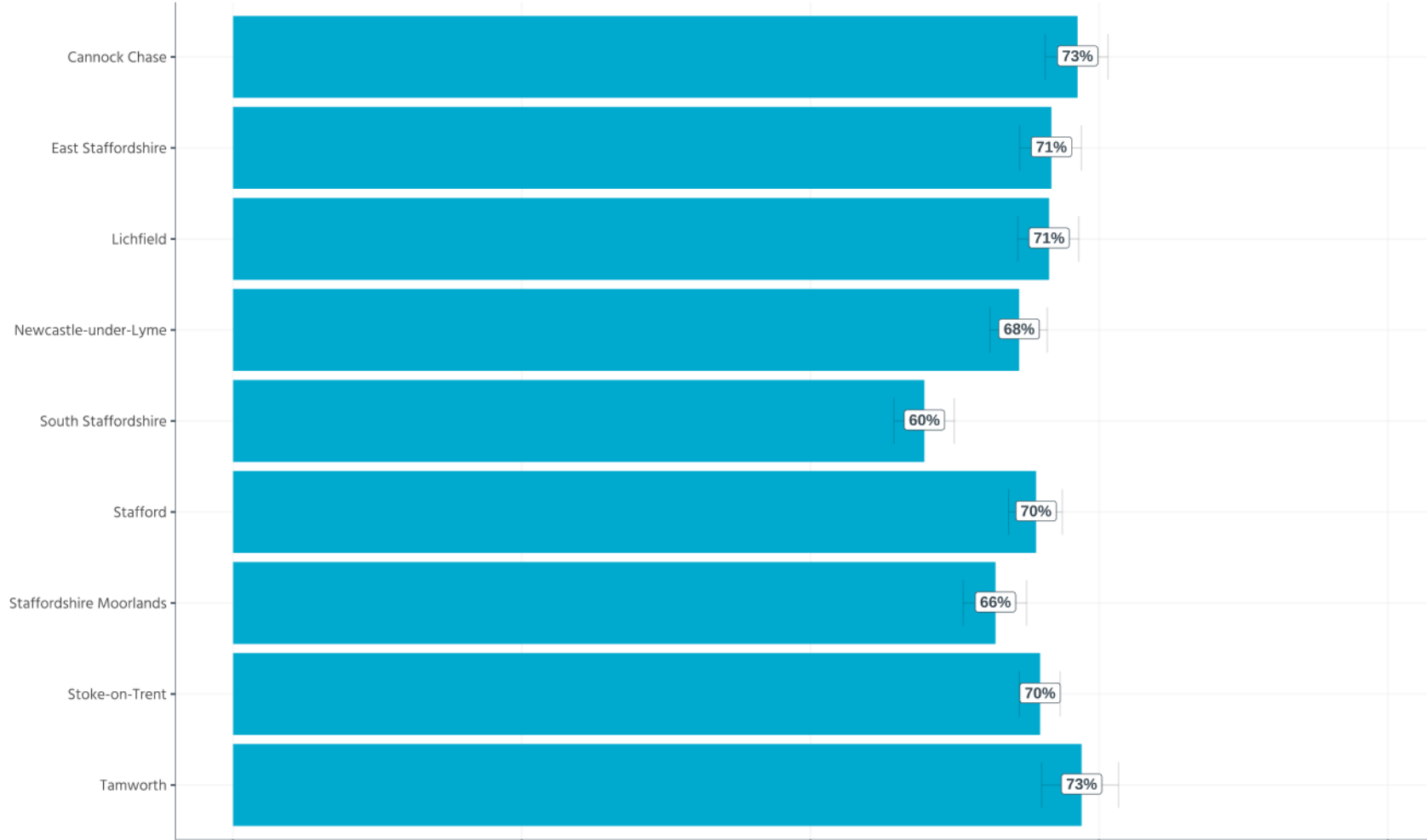
Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death, 2023/24

Staffordshire and Stoke-on-Trent LTLAs

1 year before death



For patients who died in year during 2023/24, the proportion with at least one hospital admission prior to death is broadly similar for all LTLAs with some small variations:

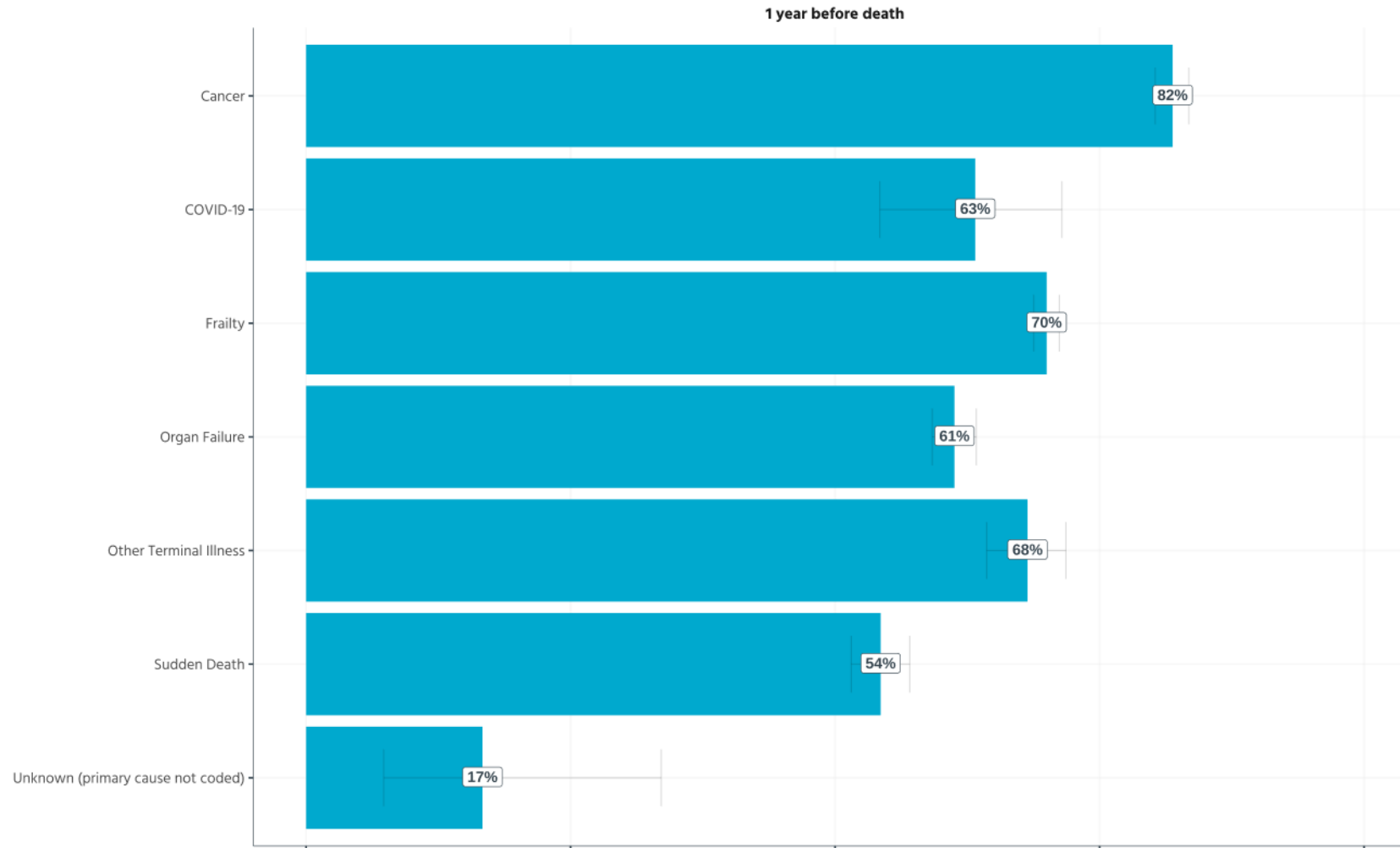
- South Staffordshire has the lowest proportion of patients who had an emergency admission before their death

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by broad cause of death, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

For patients who died in year during 2023/24:

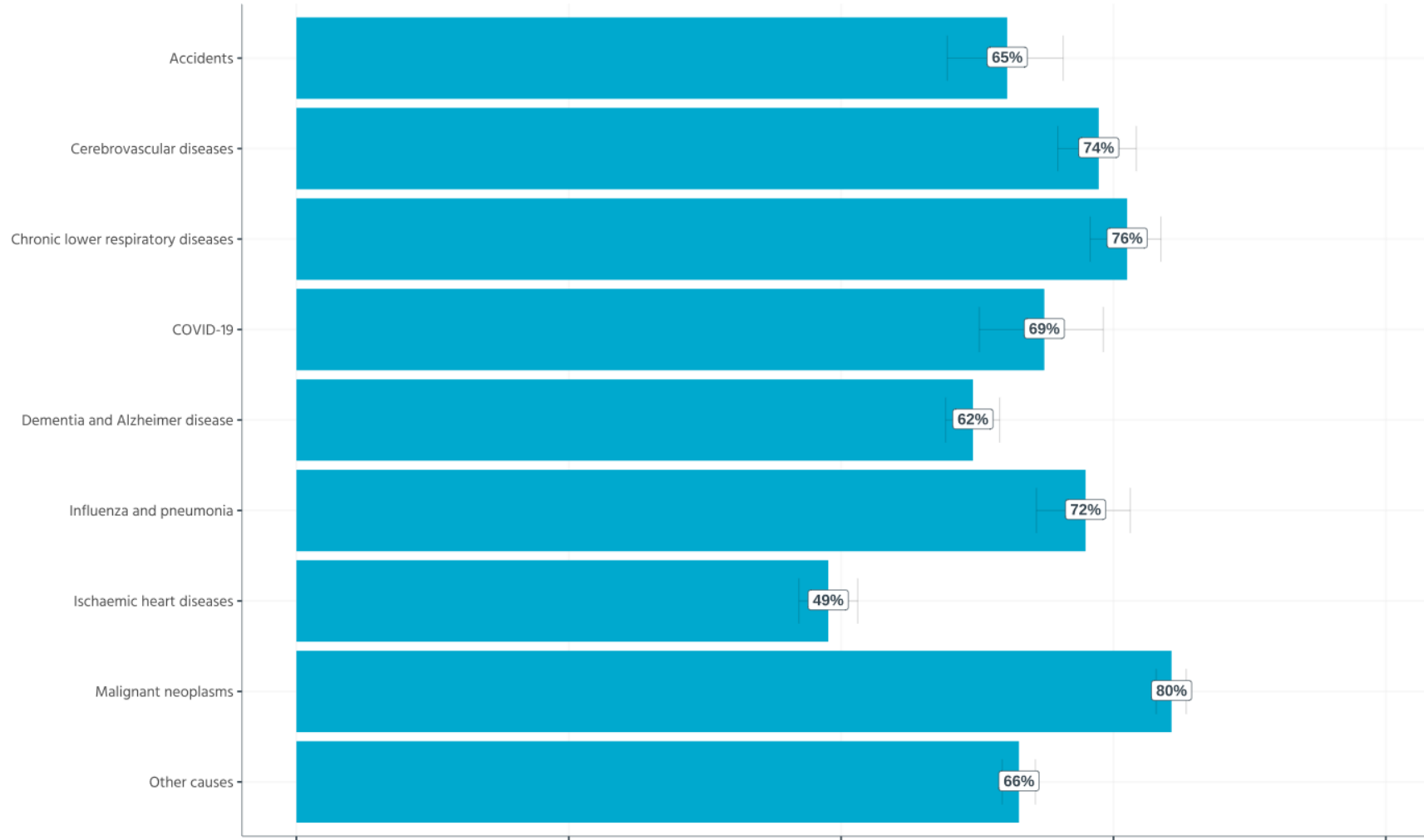
- Patients who died from cancer have a significantly higher proportion of emergency admissions prior to their death
- Patients who due to sudden death had the lowest proportion of emergency admissions prior to their death

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by leading causes, 2023/24

Staffordshire and Stoke-on-Trent ICB

1 year before death



For patients who died in year during 2023/24:

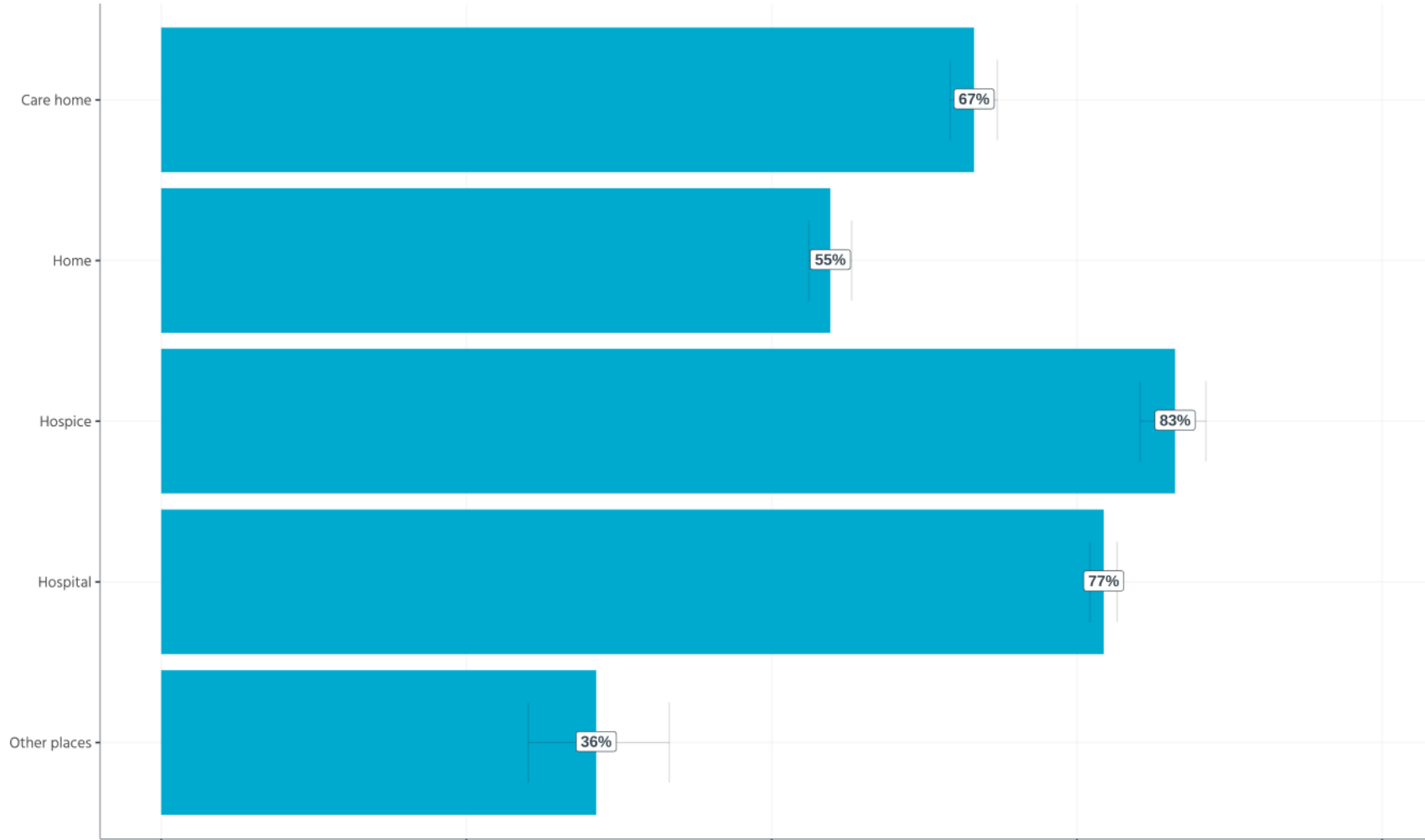
- Patients who died from cancer had the highest proportion of emergency admissions prior to their death
- Patients who died due to ischaemic heart diseases had the lowest proportion of emergency admissions prior to their death

Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by place of death 2023/24
Staffordshire and Stoke-on-Trent ICB

1 year before death



For patients who died in during 2023/24:

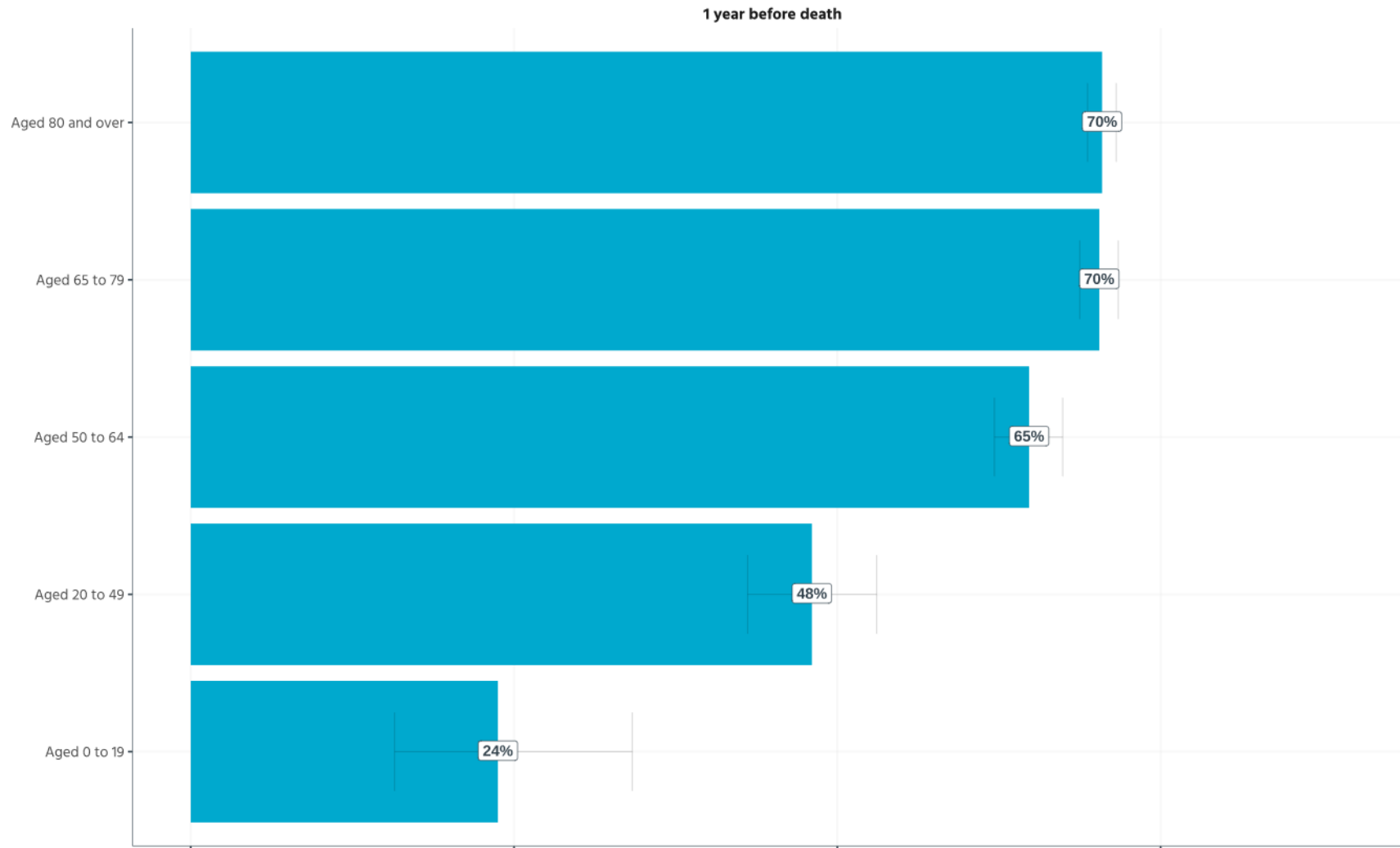
- Patients who died in a hospice had the highest proportion of emergency admissions prior to their death
- Patients who died in other places the lowest proportion of emergency admissions prior to their death

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by age, 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

- Patients with higher emergency admissions tended to increase with age; with older patients generally seeing highest emergency activity

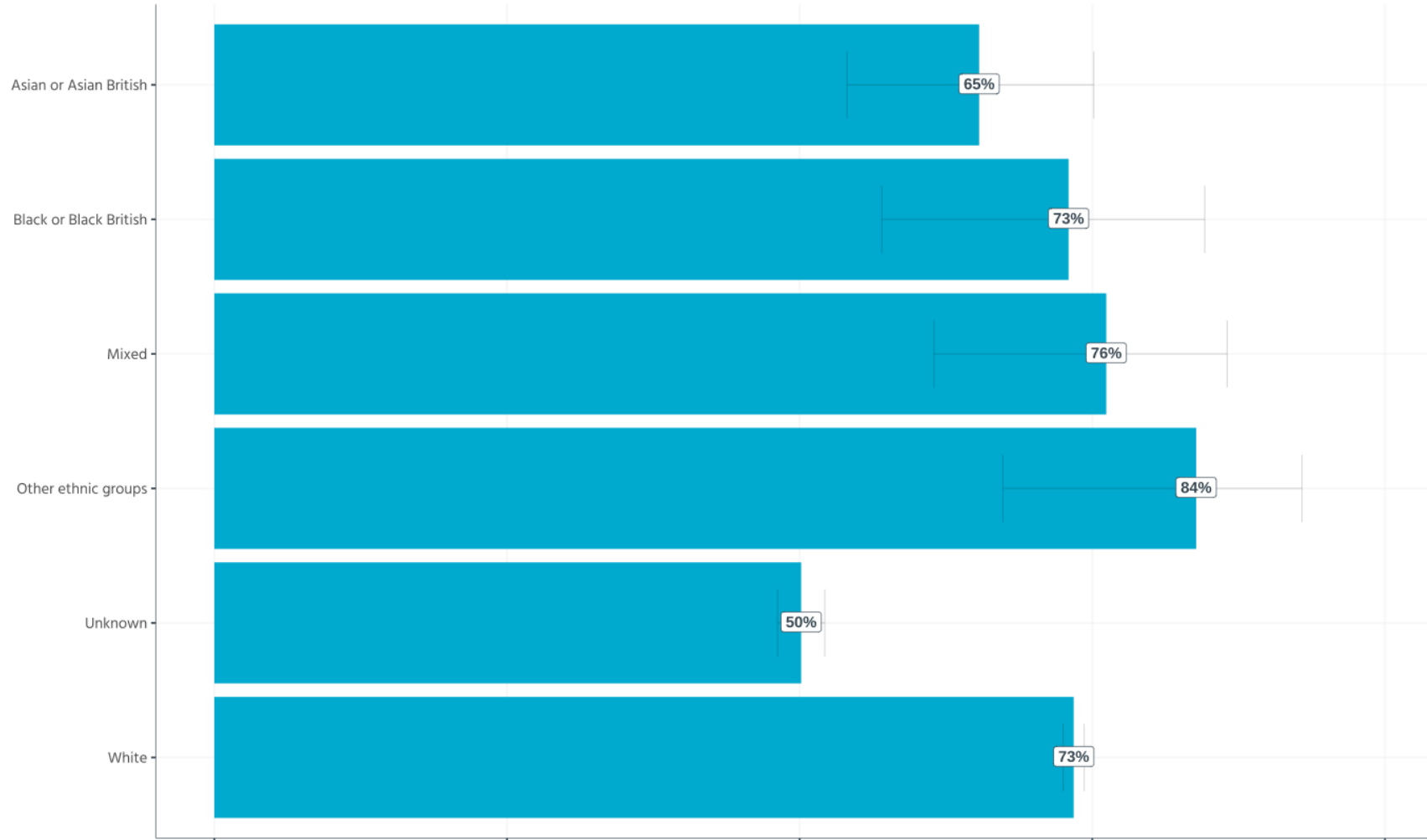
Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by ethnicity, 2023/24

Staffordshire and Stoke-on-Trent ICB

1 year before death



For patients who died in during 2023/24:

- Although patients in some ethnic minority groups appear to have a slightly higher proportion of emergency admissions there was little significant variation
- Note that this data is based on crude proportion and has not been adjusted for age, so some caution should be used in its interpretation

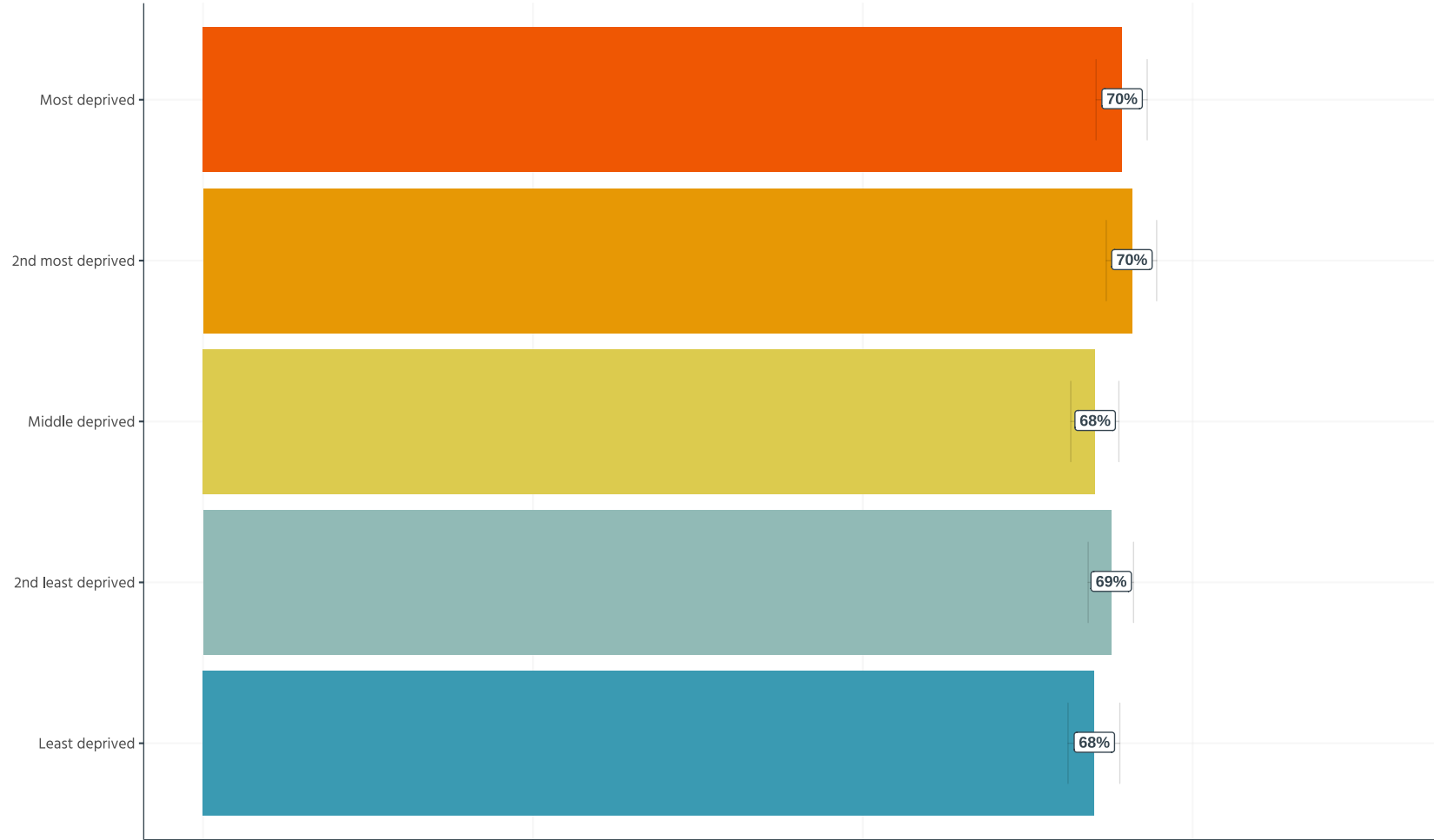
Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Emergency admissions in the 12 months prior to death

Proportion of decedent population with at least one emergency admission prior to death by IMD, 2023/24

Staffordshire and Stoke-on-Trent ICB

1 year before death



For patients who died in during 2023/24:

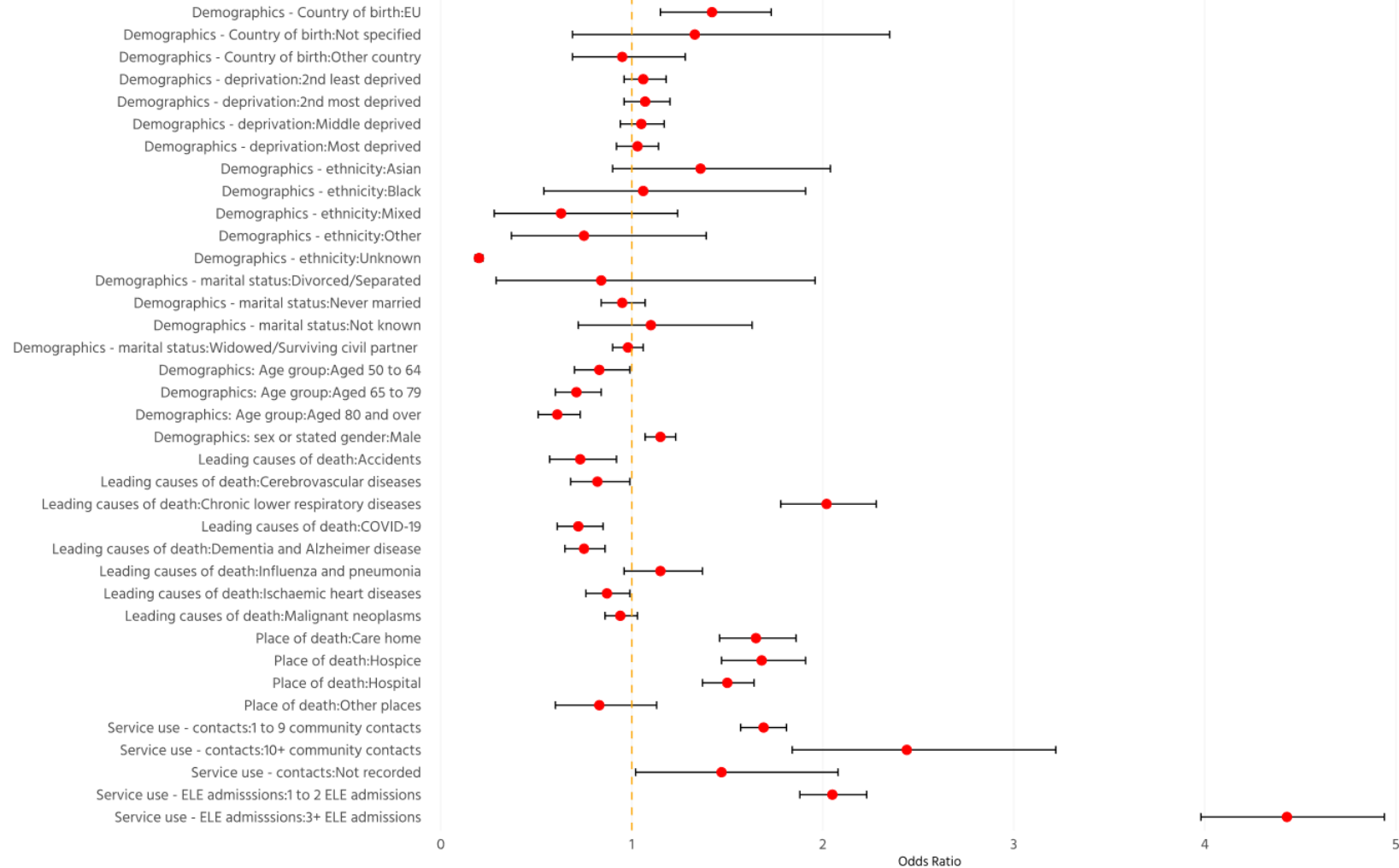
- Although patients in the most deprived quintiles appear to have a slightly higher proportion of emergency admissions there was no significant variation
- Note that this data is based on crude proportion and has not been adjusted for age, so some caution should be used in its interpretation

Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Emergency admissions in the 12 months prior to death

Risk factors associated with 5 or more EME admissions in last 12 months

All deaths in Staffordshire and Stoke-on-Trent, 2015/16 to 2023/24



Source of data: SUS, CSDS and Local Deaths Register, MLCSU and NHS Digital.

Logistic regression was used to identify potential risk factors that may increase the likelihood of having multiple (five or more) emergency admissions in the last 12 months before death

Demographic risk factors:

- Patients born outside the UK and within the UK had an increased risk of multiple emergency admissions (compared to UK-born patients)
- Men were also at an increased risk compared to women

Leading causes of death:

- Patients who died from chronic lower respiratory disease were most strongly associated with multiple emergency admissions (compared to those who died from 'all other causes')

Place of death:

- Patients who died in a care home, hospice or hospital were more likely to have had multiple emergency admissions (compared to those who died at home)

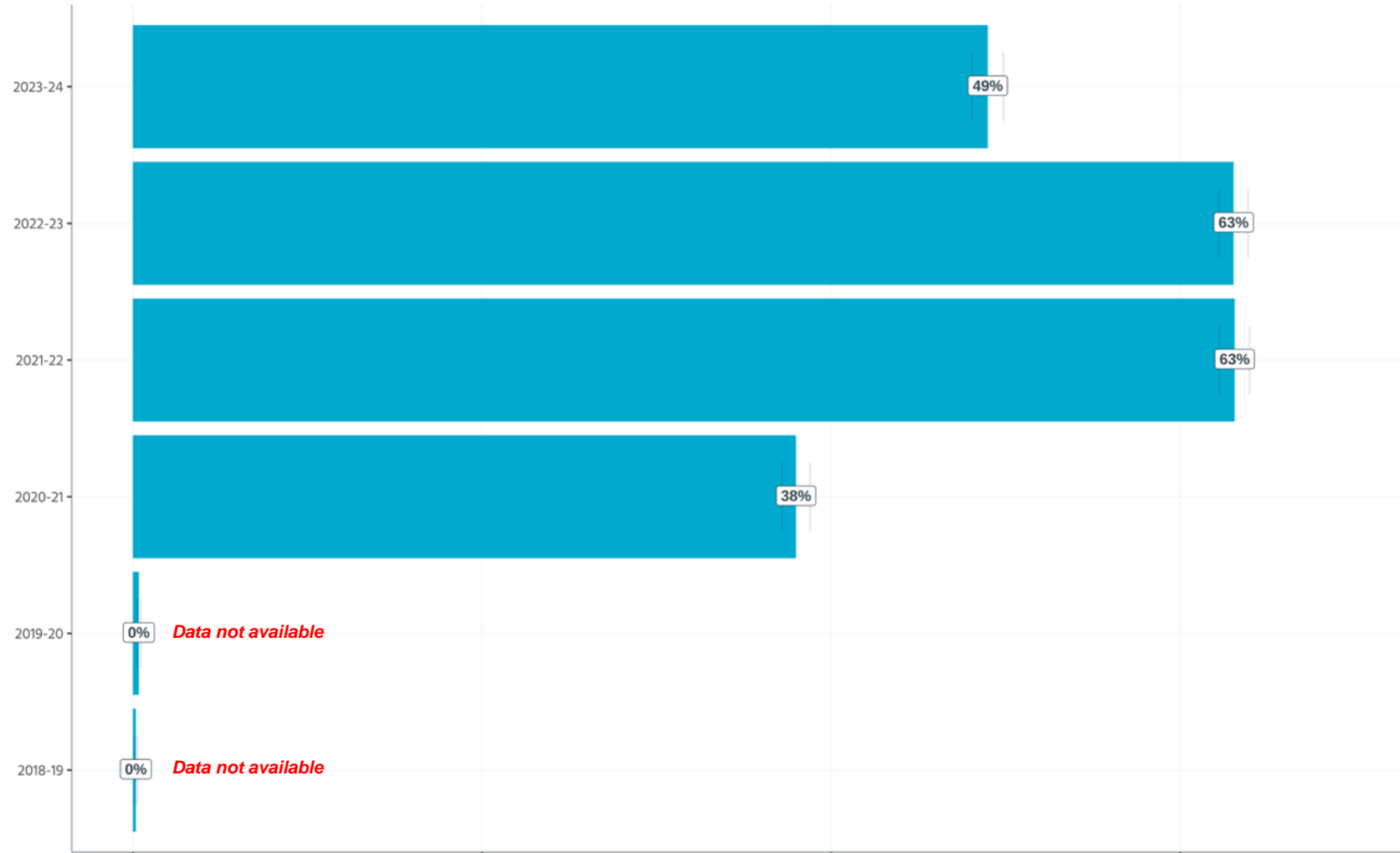
Health service user risk factors:

- Community service users (with multiple contacts of any type) were at an increased risk of multiple emergency admissions
- There was a very strong association of patients with multiple (3 or more) elective admissions and multiple emergency admissions

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death, 2018/19 - 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

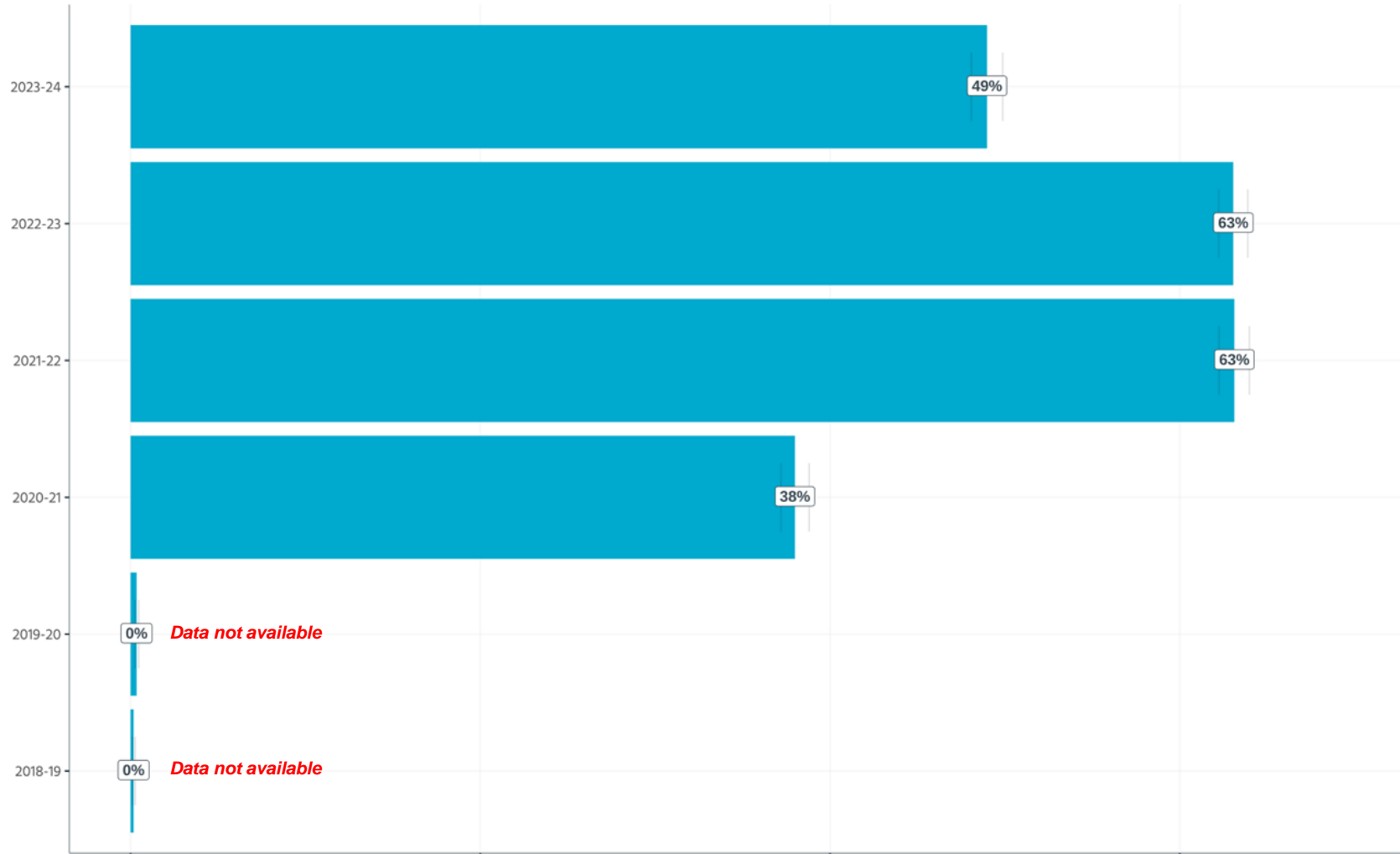
For patients who died in during 2023/24:

- Nearly half had some sort of referral to a community service
- This is significantly lower than the proportion of decedents who had received referrals between 2021/22 and 2022/23

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death, 2018/19 - 2023/24

Staffordshire and Stoke-on-Trent ICB



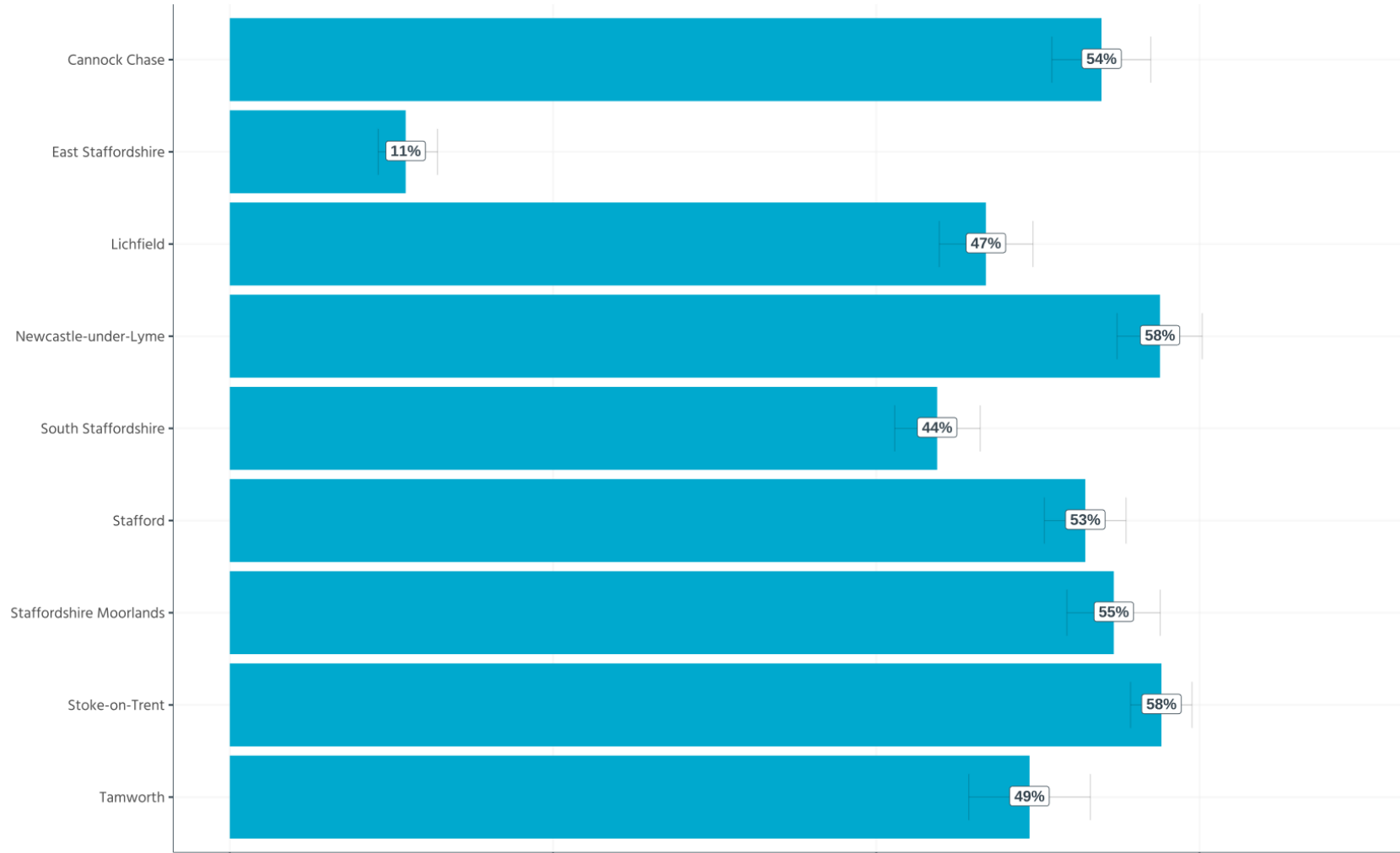
- Of patients who died in 2023/24, nearly half had some sort of referral to a community service
- This is significantly lower than the proportion of decedents who had received referrals between 2021/22 and 2022/23

Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death, 2023/24

Staffordshire and Stoke-on-Trent LTLAs



For patients who died in during 2023/24:

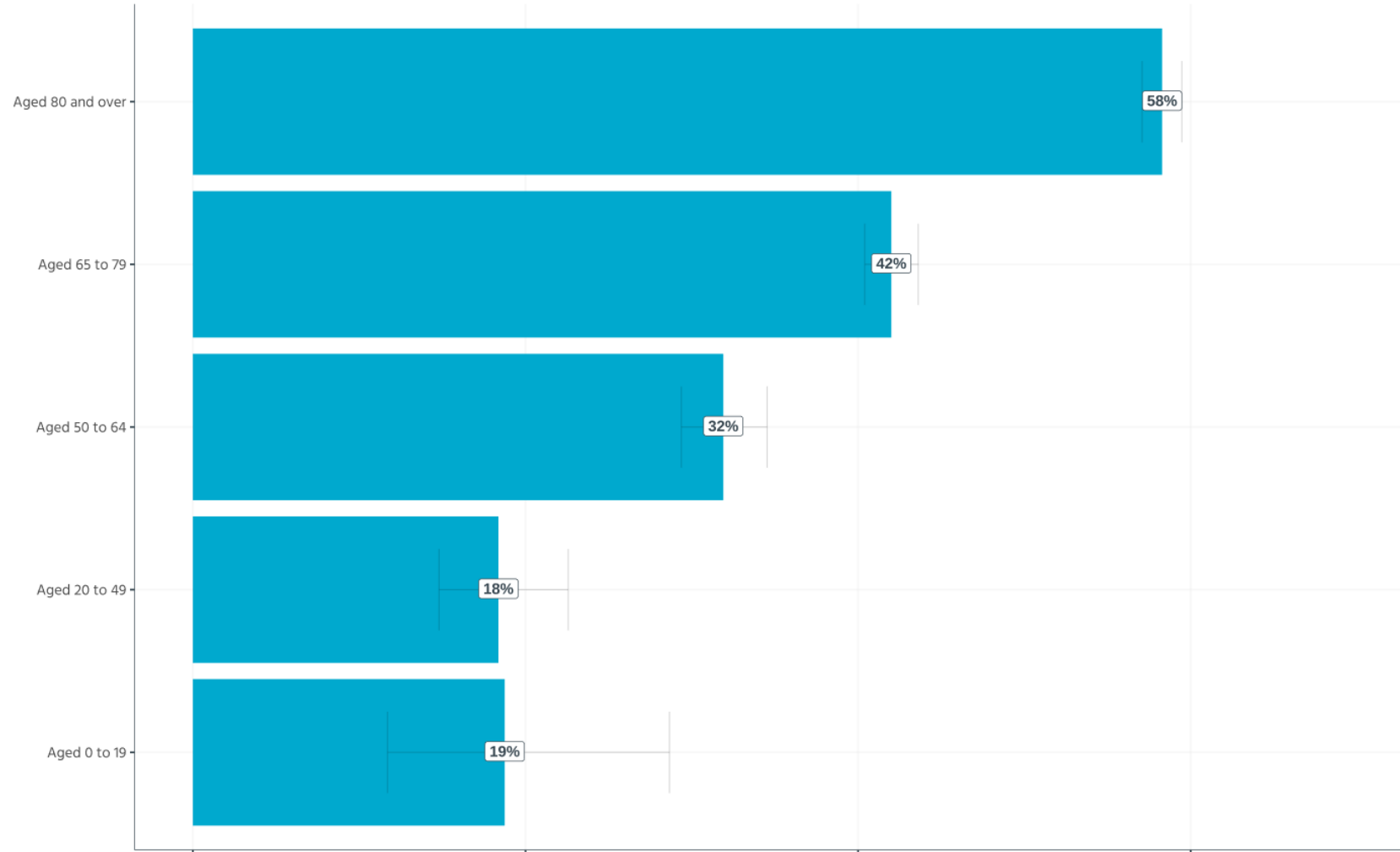
- Most local authorities have seen similar proportion of referral to community services as the ICB average of around 50%
- The proportion is significantly lower in East Staffordshire *and this is reflective of different referrals routes in place there??*

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by age 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

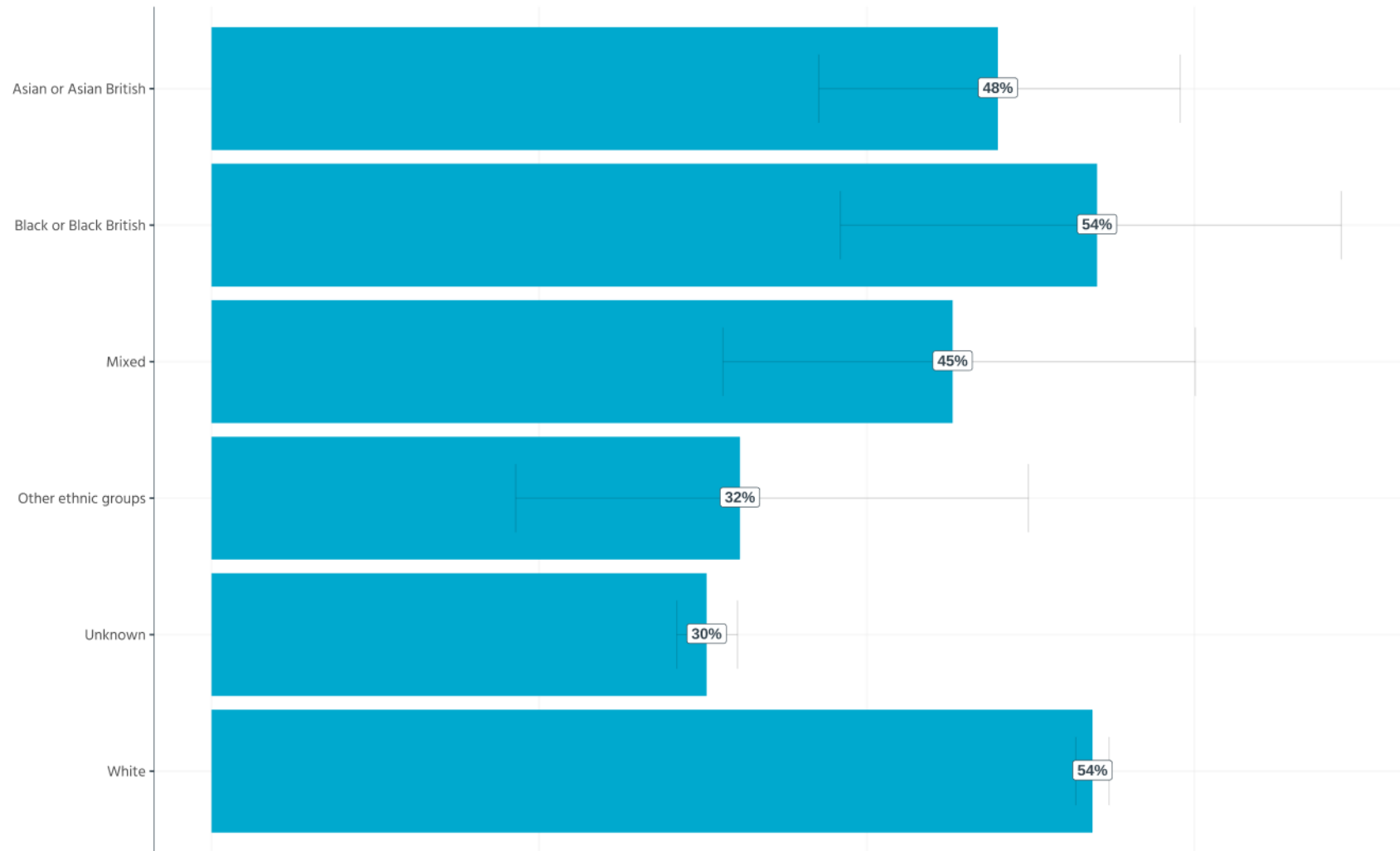
- Older patients tended to have a higher proportion of referrals to a community service

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by ethnicity, 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

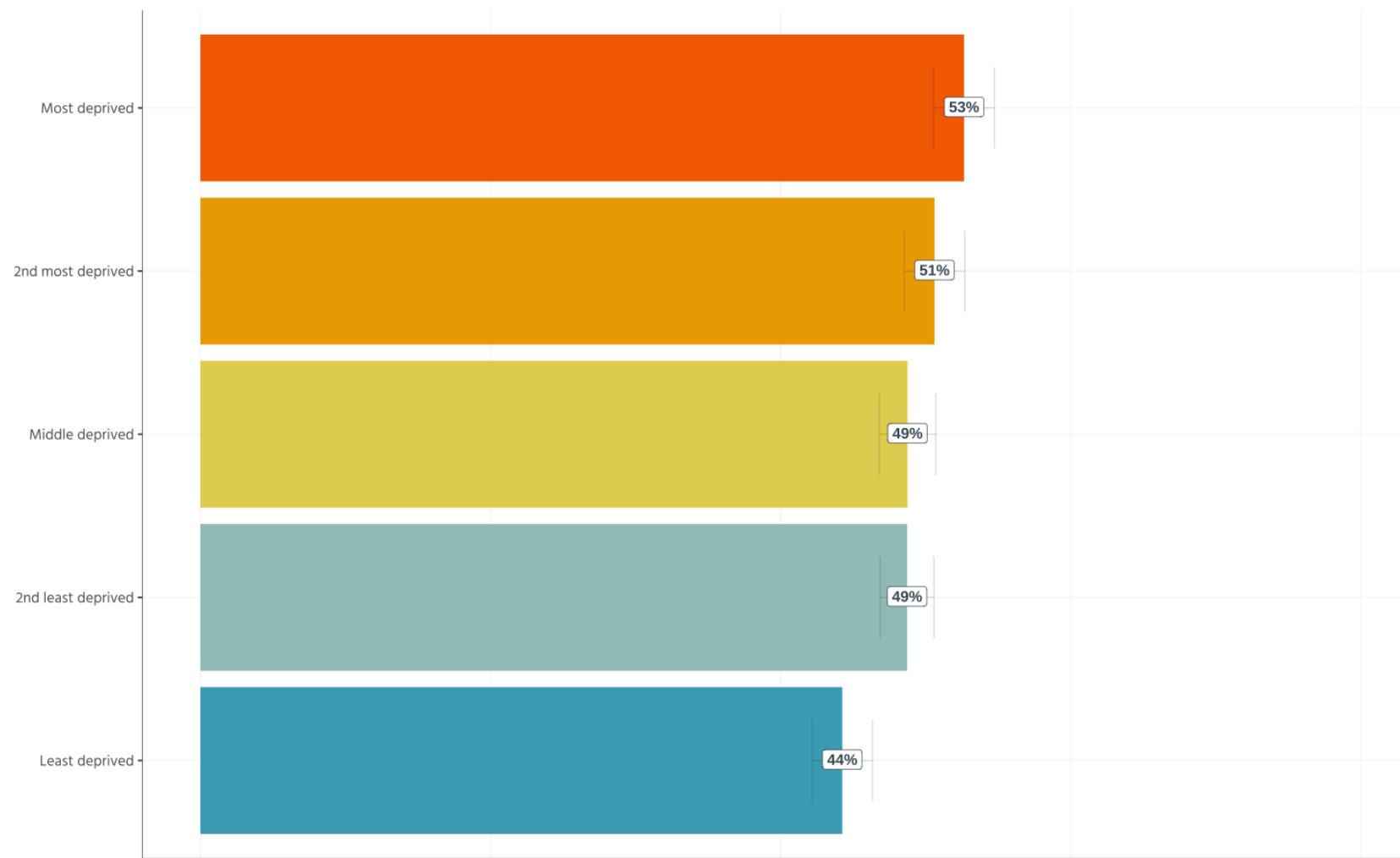
- Patients of 'other ethnicity' had a significantly lower proportion of referrals compared to patients of white ethnicity
- There was otherwise little in terms of significant variation between ethnic groups
- Note that this data is based on crude proportion and has not been adjusted for age, so some caution should be used in its interpretation

Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by deprivation, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

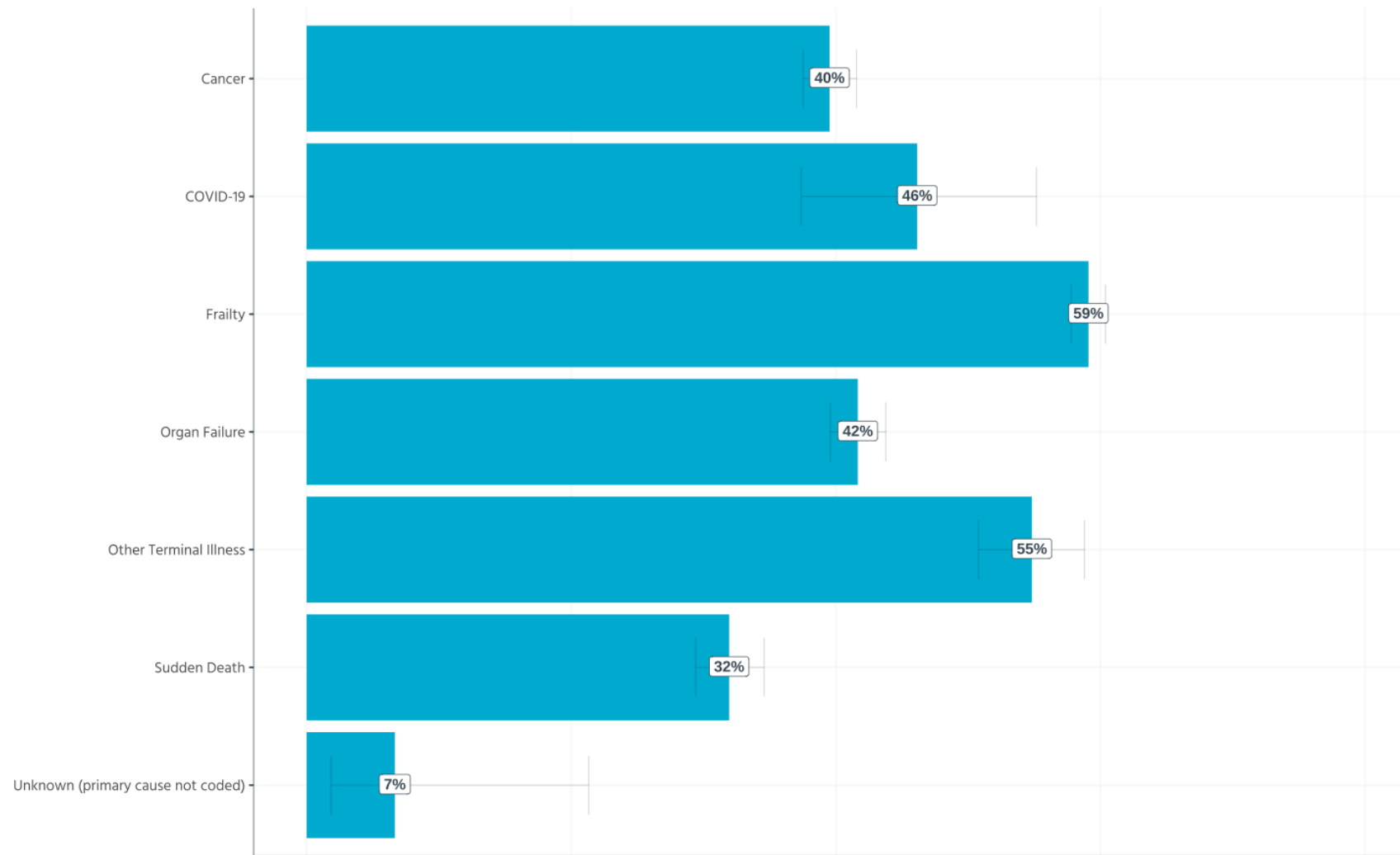
For patients who died in during 2023/24:

- Patients in the most deprived quintile had a significantly higher proportion of referrals compared those in the least deprived
- The proportion of patients with at least one referrals tends to increase with deprivation
- Note that this data is based on crude proportion and has not been adjusted for age, so some caution should be used in its interpretation

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by broad cause, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

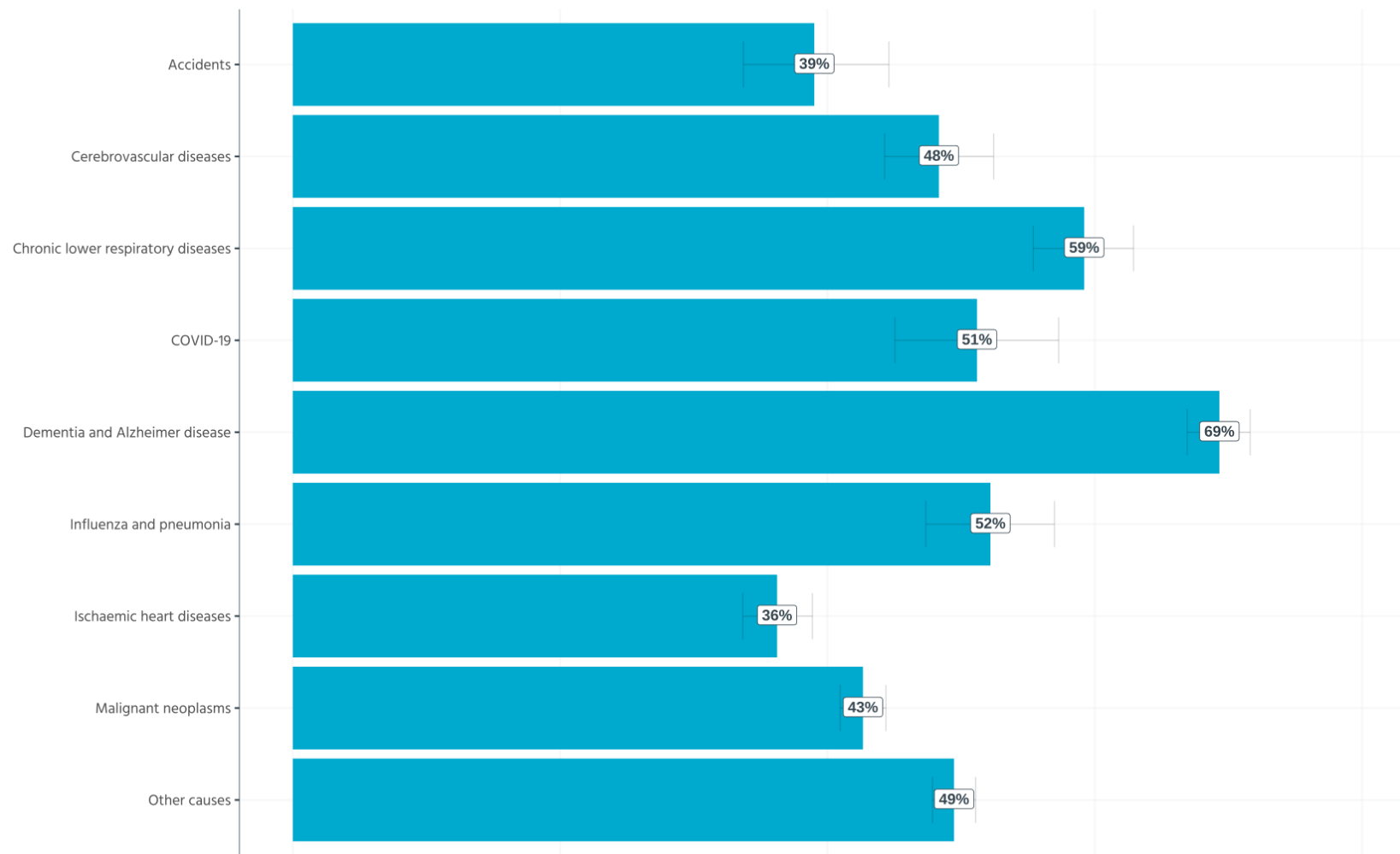
For patients who died in during 2023/24:

- Patients who died due to frailty or from terminal illness were more likely to have had at least on community service referral, compared to other causes
- Patients who died from sudden death were less likely to have had a community service referral

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by leading cause, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

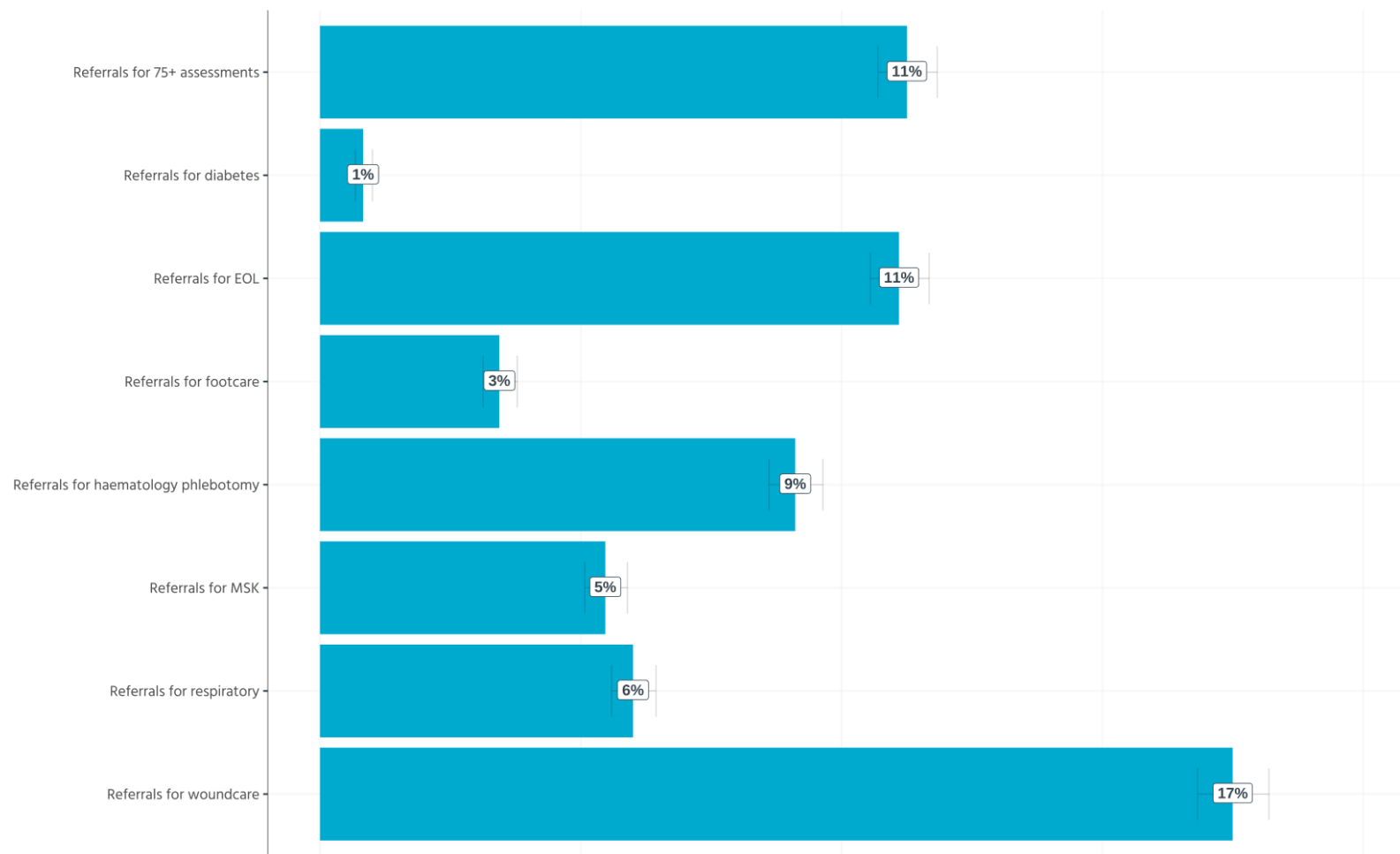
For patients who died in during 2023/24:

- Patients who died due dementia were significantly more likely to have had at least on community service referral, compared to other causes
- Patients who died from ischaemic heart disease were least likely to have had a community service referral

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by referral type, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

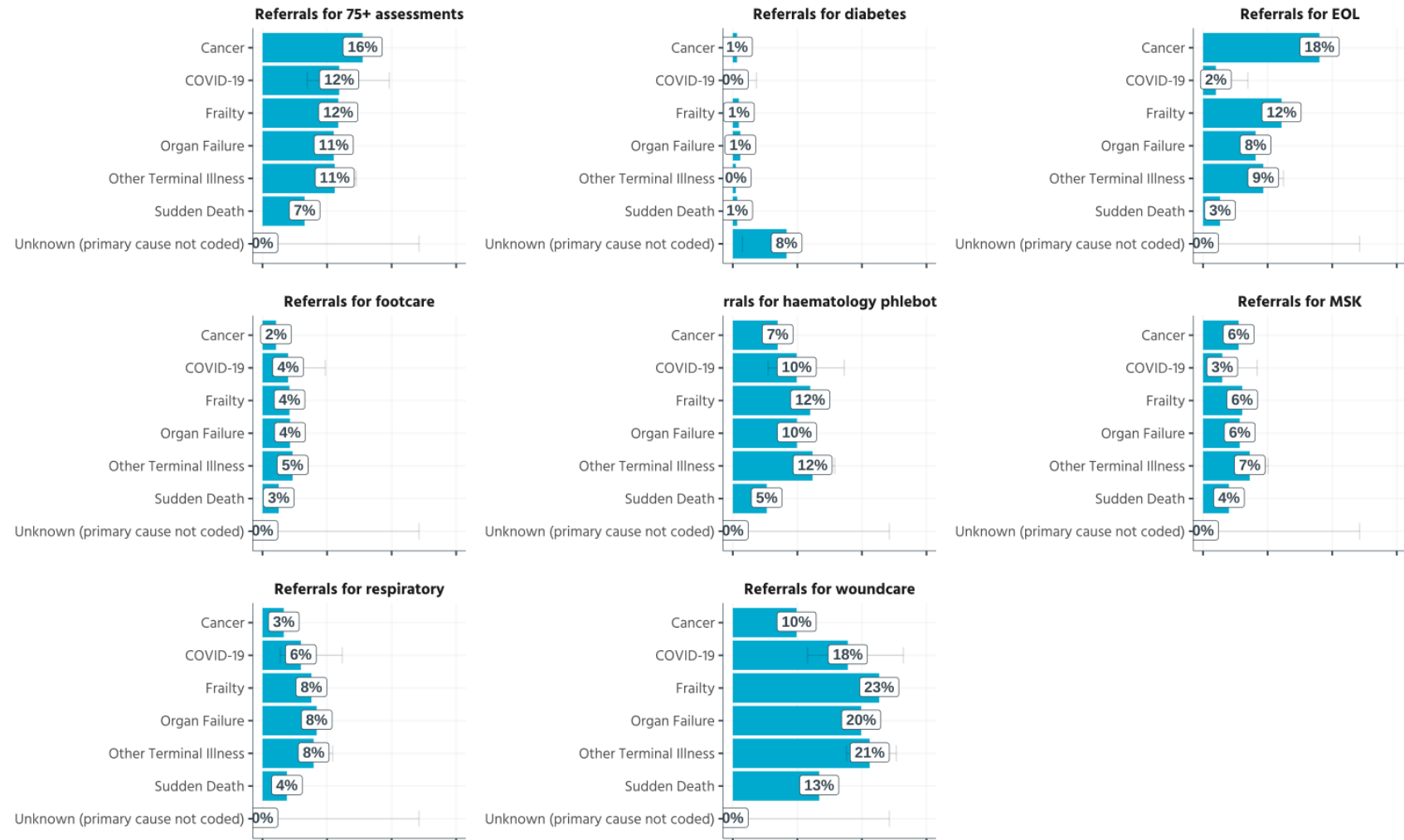
For patients who died in during 2023/24:

- Nearly one fifth (17%) had at least one referral for wound care
- Around one in ten (11%) had at least one referrals for 75+ assessments or end of life
- Referrals for diabetes were lowest in the referral types included in the analysis

Referrals for community services in the 12 months prior to death

Proportion of decedent population with at least one referral for community services within the year before death by broad cause of death, 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

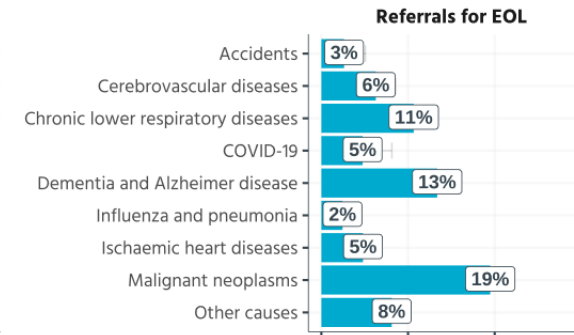
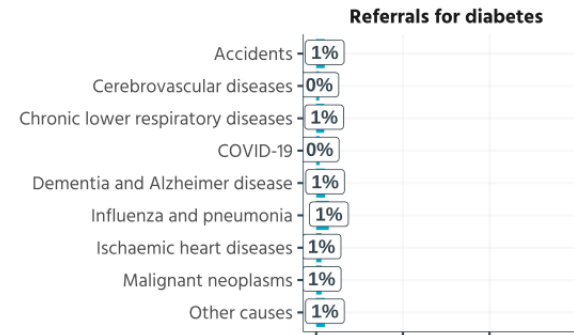
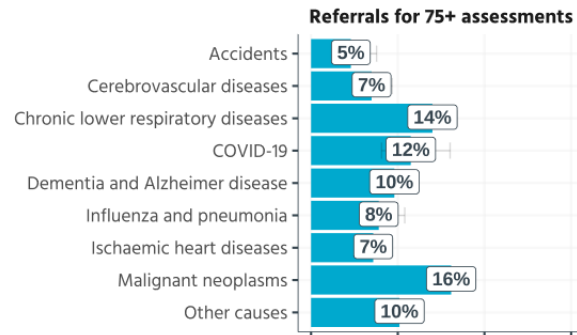
- Referrals for end of life was significantly higher for patients who died from cancer

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Referrals for community services in the 12 months prior to death

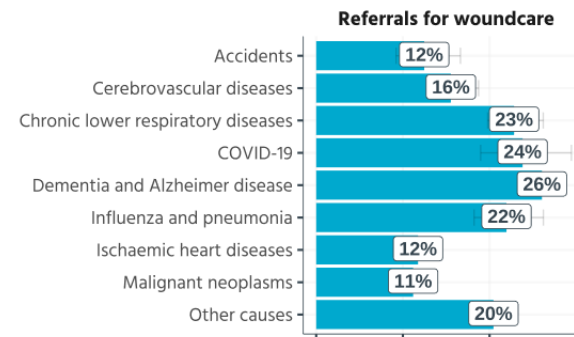
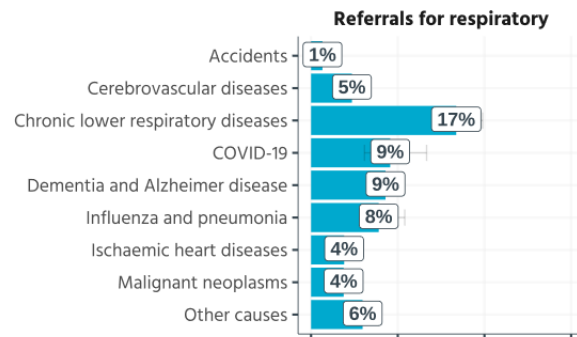
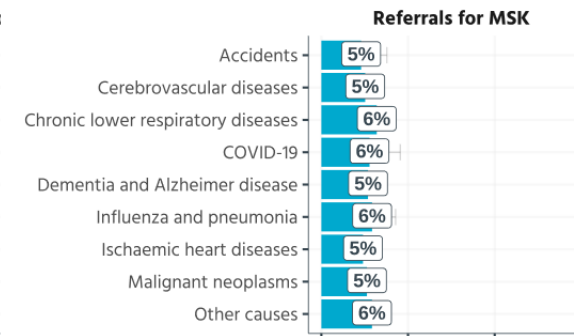
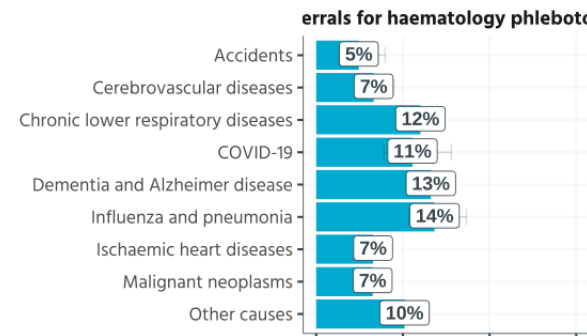
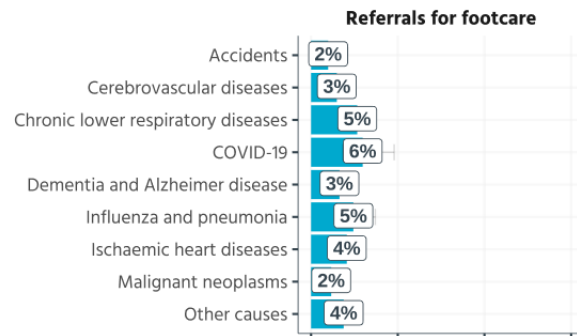
Proportion of decedent population with at least one referral for community services within the year before death by leading causes, 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

- Referrals for end of life was significantly higher for patients who died from cancer
- Referrals for respiratory was significantly higher for patients who died from chronic lower respiratory disease

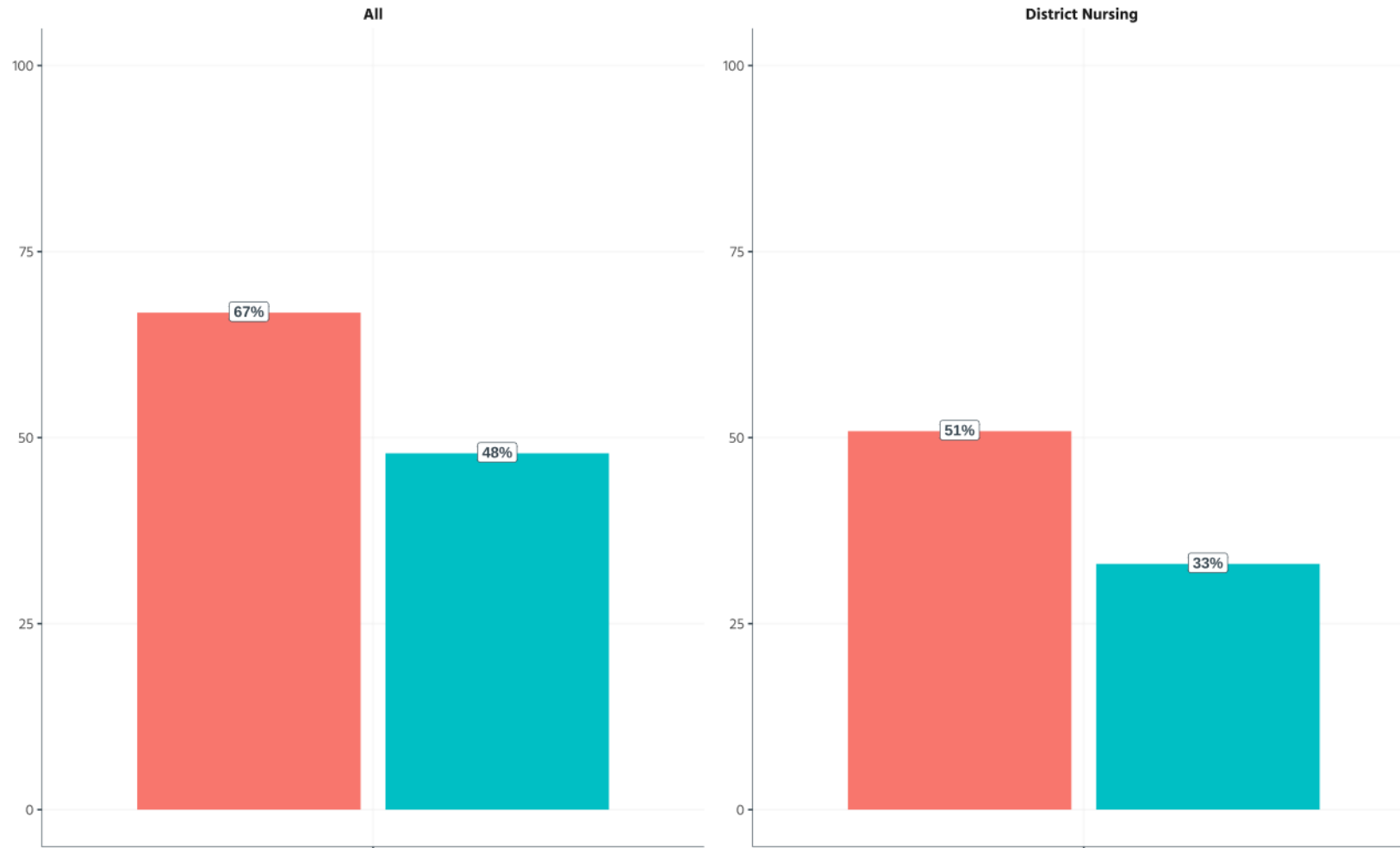


Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

Community service contacts in the 12 months prior to death

Proportion of decedent population with at least one community contact or visit, 2023/24

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

For patients who died in during 2023/24:

Any service:

- Around two thirds had at least one community contact (for any type of service) in the last 12 months of their life
- Nearly half (48%) had at least one contact where they were seen and which was a face-to-face contact (and deemed likely to be a visit)

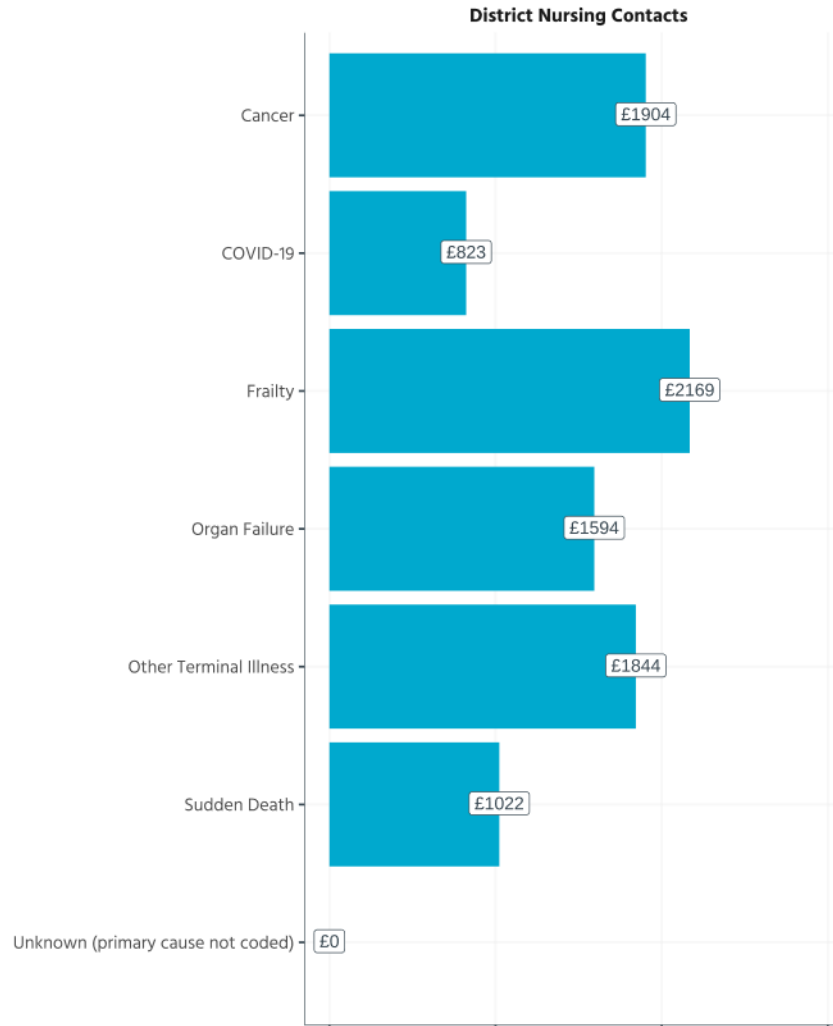
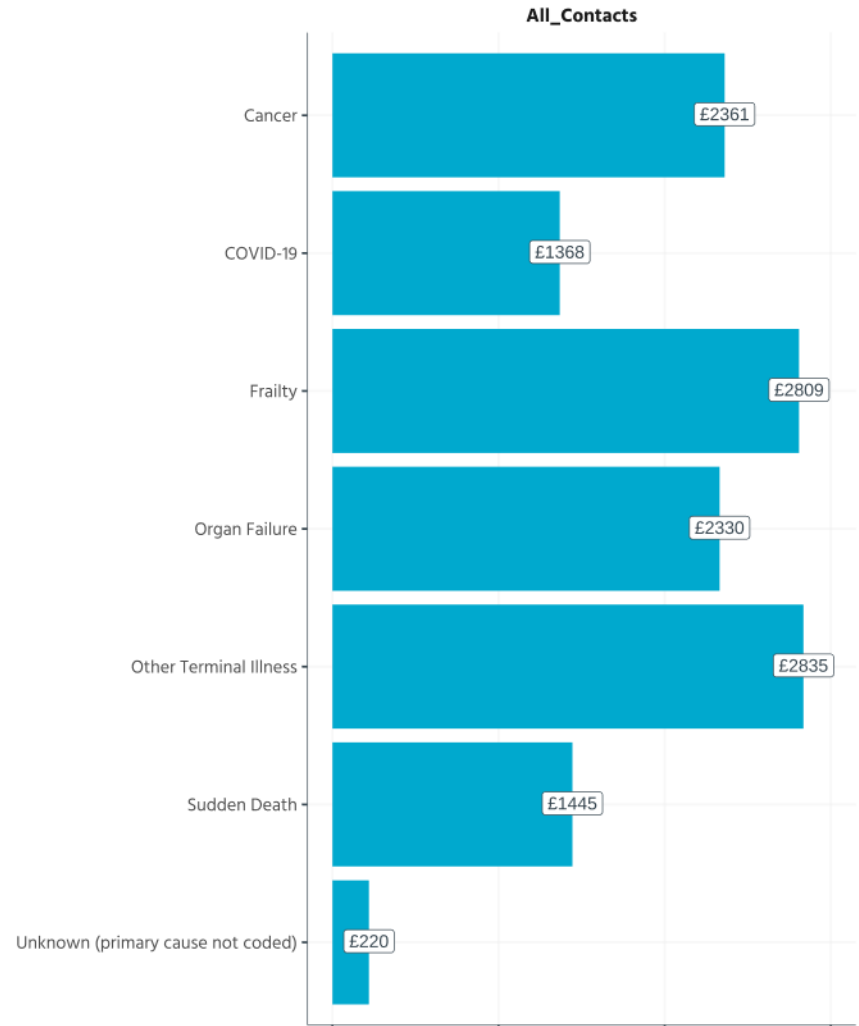
District Nursing service:

- Just over half (51%) had at least one contact with a district nursing service
- A third (33%) had at least one district nursing contact where they were seen and which was a face-to-face (and deemed likely to be a visit)

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

Any service:

- Patients who died from frailty or terminal illness had the highest cost per decedent
- Patients who died from COVID or sudden death had the lowest cost per decedent

District Nursing service:

- Patients who died from frailty had the highest cost per decedent
- Patients who died from COVID had the lowest cost per decedent

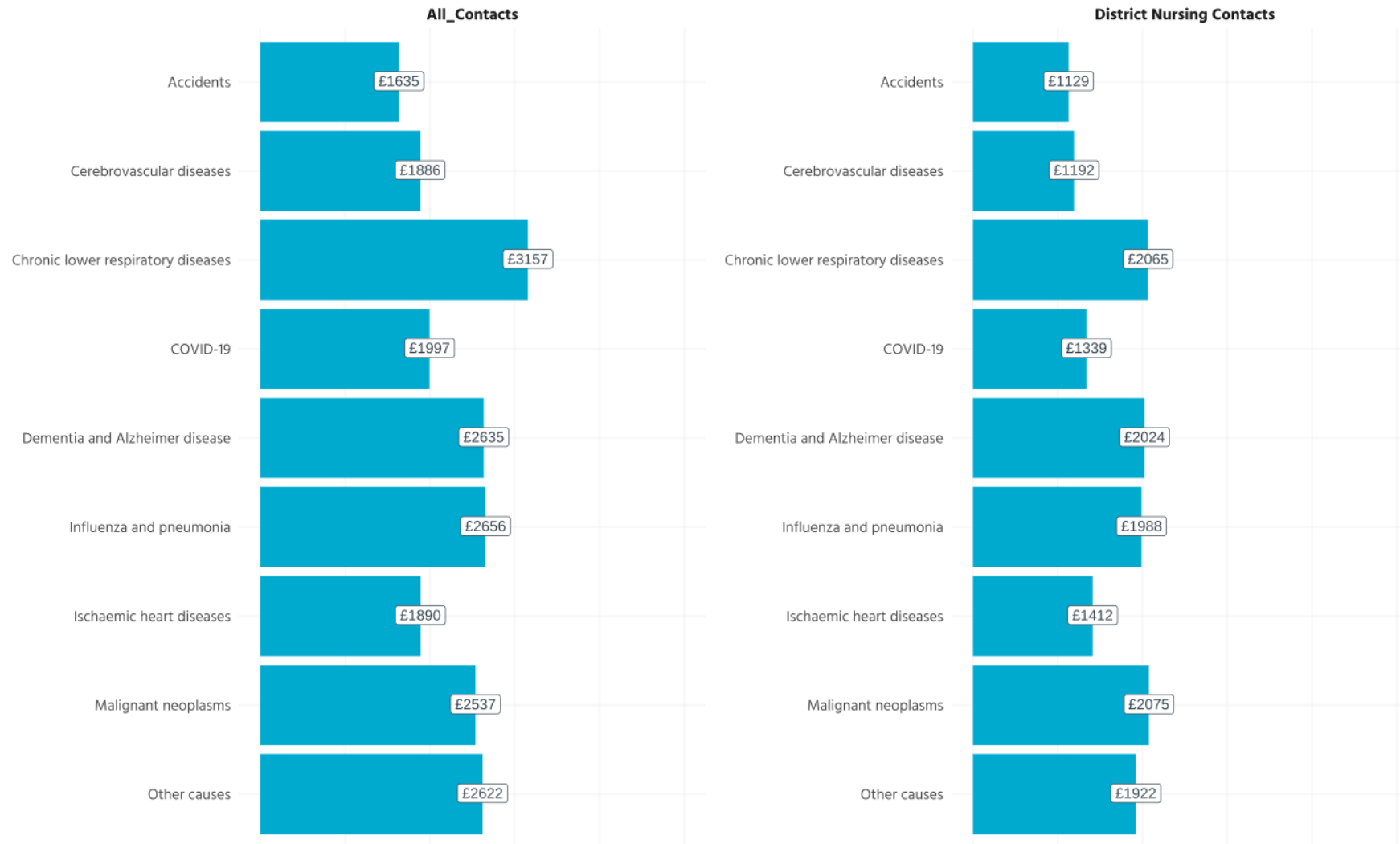
Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

A 'place holder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24 by leading causes

Staffordshire and Stoke-on-Trent ICB



For patients who died in during 2023/24:

Any service:

- Patients who died from chronic lower respiratory disease had the highest cost per decedent
- Patients who died from accidents had the lowest cost per decedent

District Nursing service:

- Patients who died from cancer had the highest cost per decedent
- Costs were also at around £2000 per decedent for those who died from dementia or chronic lower respiratory disease

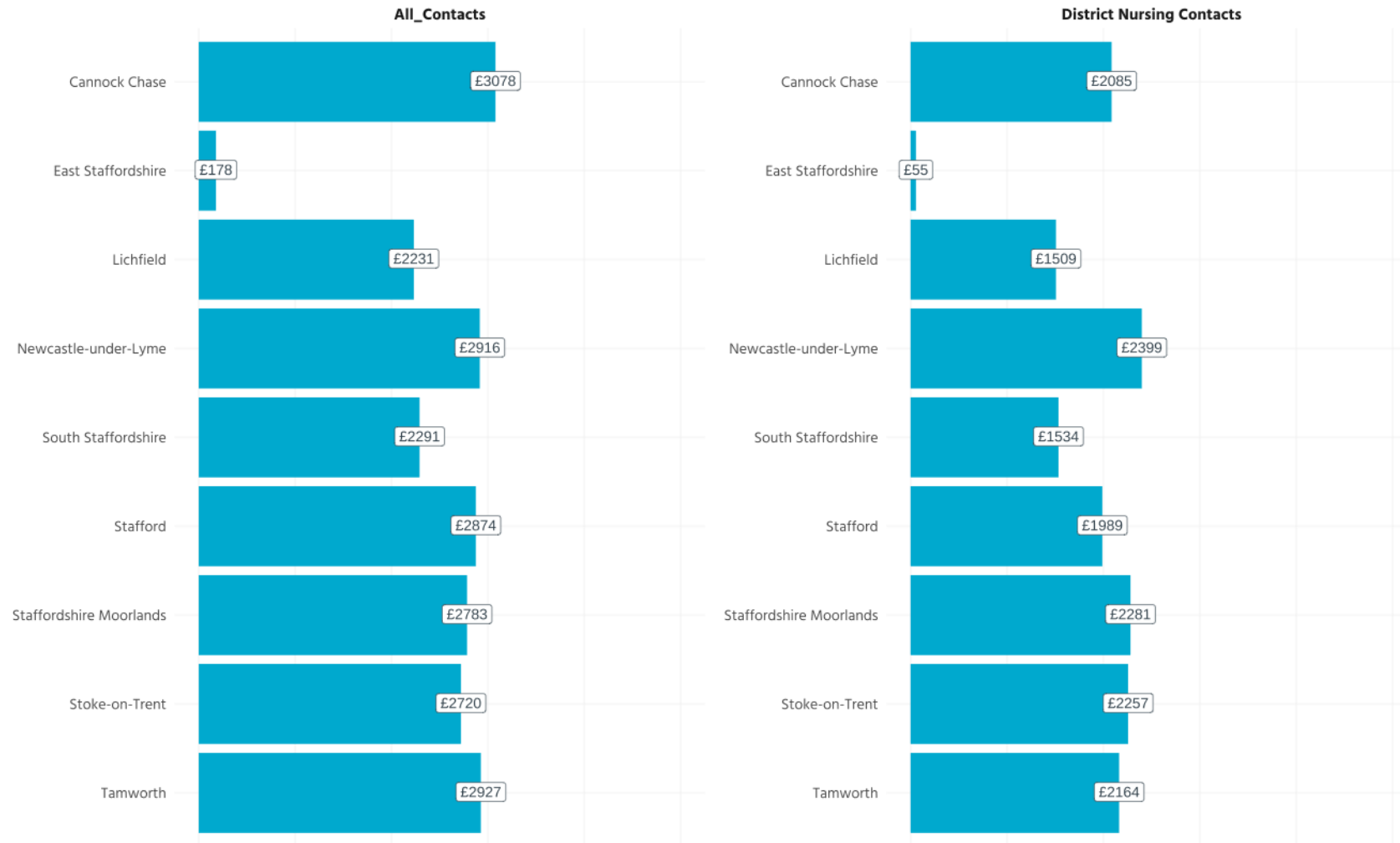
A 'placeholder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24 by LTLA

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

For patients who died in during 2023/24:

Any service:

- Patients from Cannock Chase who died had the highest cost per decedent
- Patients from East Staffordshire who died had the lowest cost per decedent
this is reflective of different referrals routes in place there??

District Nursing service:

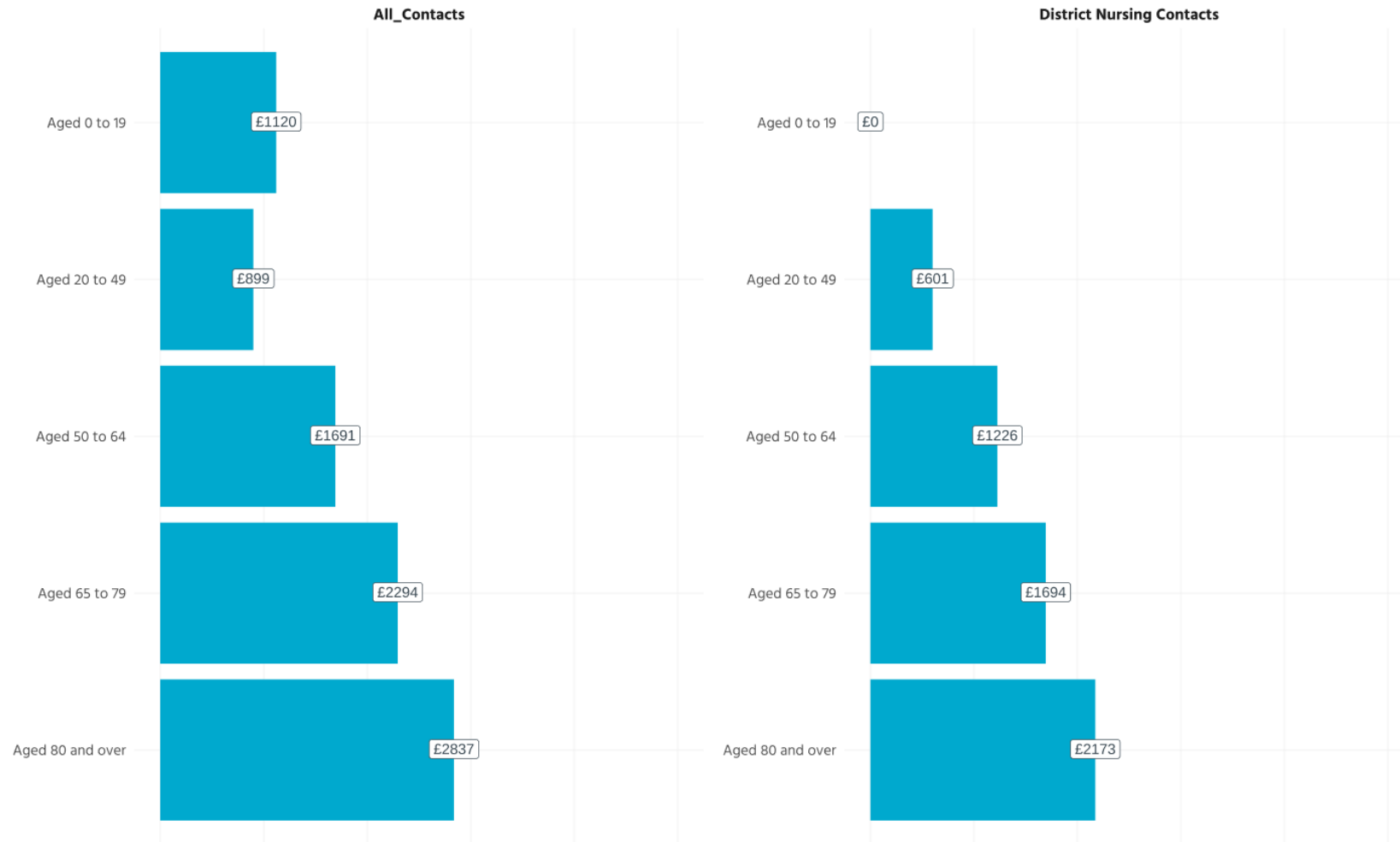
- Patients from Newcastle-under-Lyme who died had the highest cost per decedent

A 'placeholder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24 by age

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

For patients who died in during 2023/24:

Any service:

- Older patients had higher costs per decedent

District Nursing service:

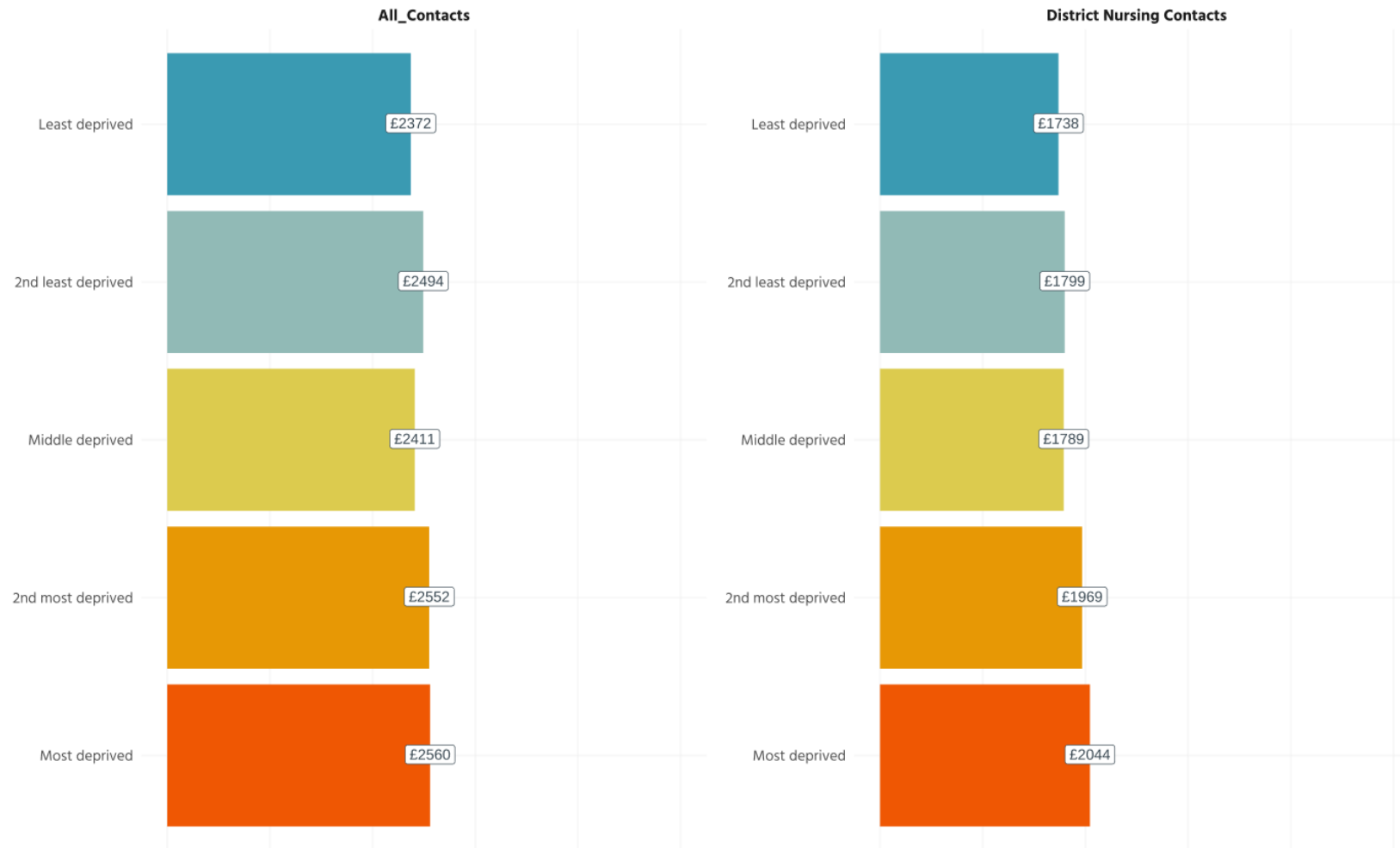
- Older patients had higher costs per decedent

A 'place holder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24 by deprivation

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register. NHS Digital. MLSCU.

For patients who died in during 2023/24

Any service:

- Patients from the most deprived group had higher cost per decedent
- Patients from the least deprived group had lower cost per decedent

District Nursing service:

- Patients from the most deprived group had higher cost per decedent
- Patients from the least deprived group had lower cost per decedent

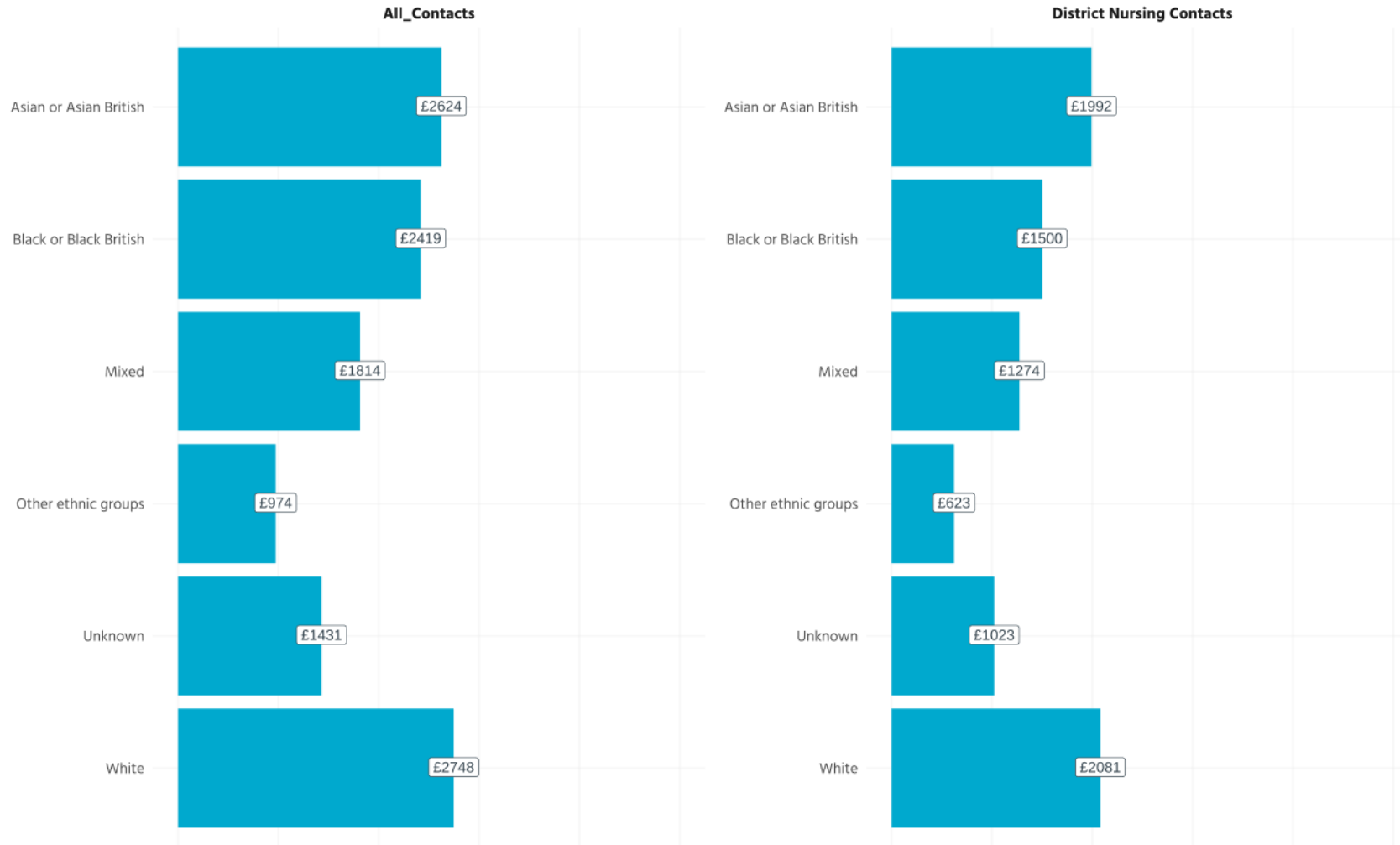
(Note that this data is based on crude proportions and has not been adjusted for age, so some caution should be used in its interpretation)

A 'place holder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Community service contacts in the 12 months prior to death

Estimated community service cost per decedent 12 months before death 2023/24 by ethnicity

Staffordshire and Stoke-on-Trent ICB



Sources: SUS and Local Deaths Register, NHS Digital, MLSCU.

For patients who died in during 2023/24

Any service:

- Patients of white ethnicity had had higher cost per decedent, closely followed by those of Asian ethnicity

District Nursing service:

- Patients of white ethnicity had had higher cost per decedent, closely followed by those of Asian ethnicity

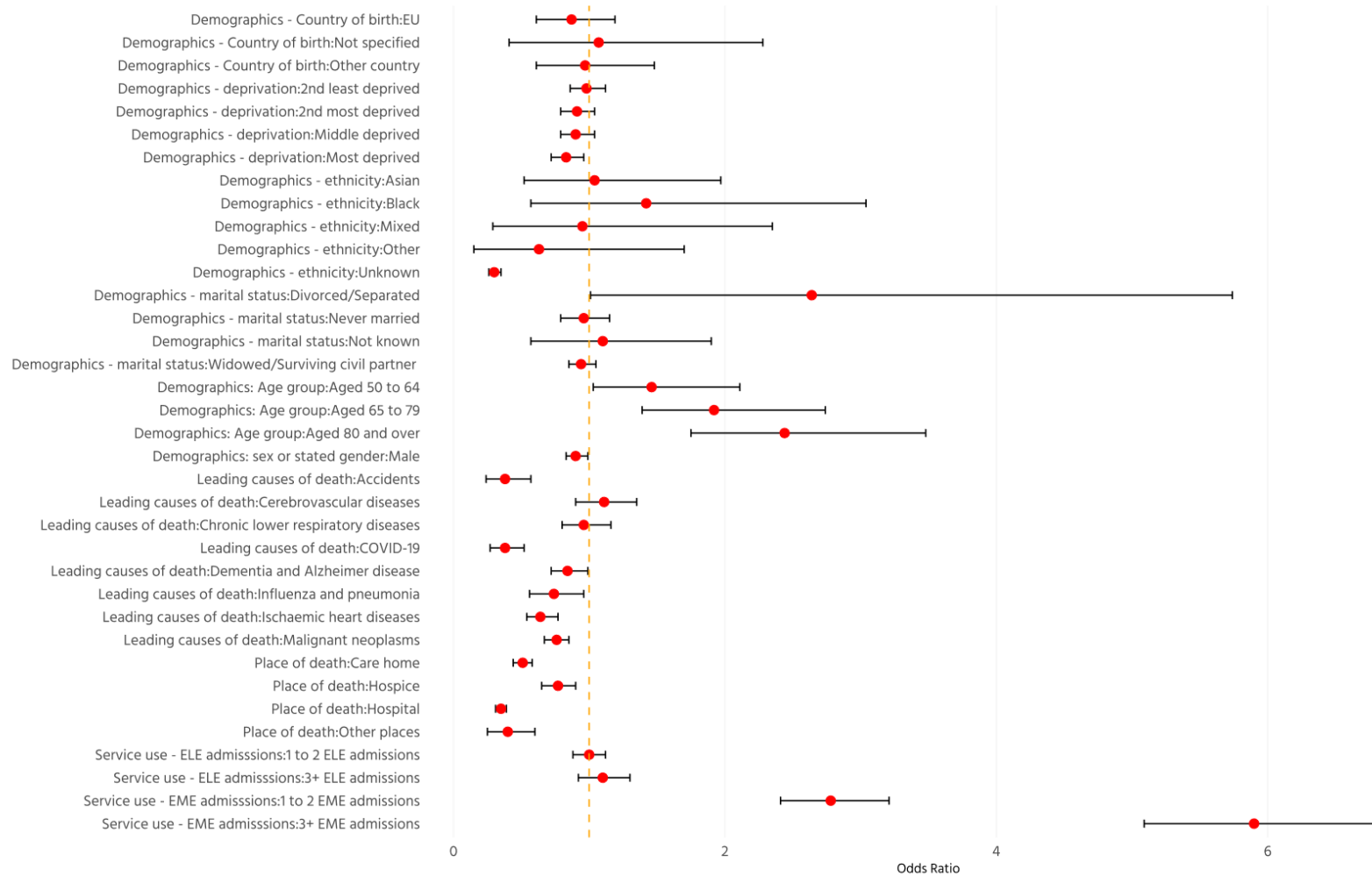
(Note that this data is based on crude proportions and has not been adjusted for age, so some caution should be used in its interpretation)

A 'place holder' cost of £100 per contact has been used. We are looking to derive more accurate costs via PLICS data which will reflect costs by different service type.

Community service contacts in the 12 months prior to death

Risk factors associated with 10 or more face-to-face community contacts in last 12 months

All deaths in Staffordshire and Stoke-on-Trent, 2015/16 to 2023/24



Source of data: SUS, CSDS and Local Deaths Register, MLCSU and NHS Digital.

Logistic regression was used to identify potential risk factors that may increase the likelihood of having multiple (ten or more) face-to-face contacts with community services (and where the patient was also seen) in the last 12 months before death.

Demographic risk factors:

- Older patients were more likely to have multiple face-to-face contacts, compared to those aged under 50, with those 80 and over at the most increased risk
- There are indications that divorced/separated patients may be more likely to have multiple face-to-face contacts compared to patients who were married (*although p-value is <0.05*) it should be noted there is very wide confidence interval)

Leading causes of death:

- Patients who died from 'all other cause' were most associated with multiple face-to-face contacts

Place of death:

- Patients who died at home were most associated with multiple face-to-face contacts

Health service user risk factors:

- There was a very strong association with those who had multiple emergency admissions and those who had multiple face-to-face contacts

Health Profile of PEOLC patients

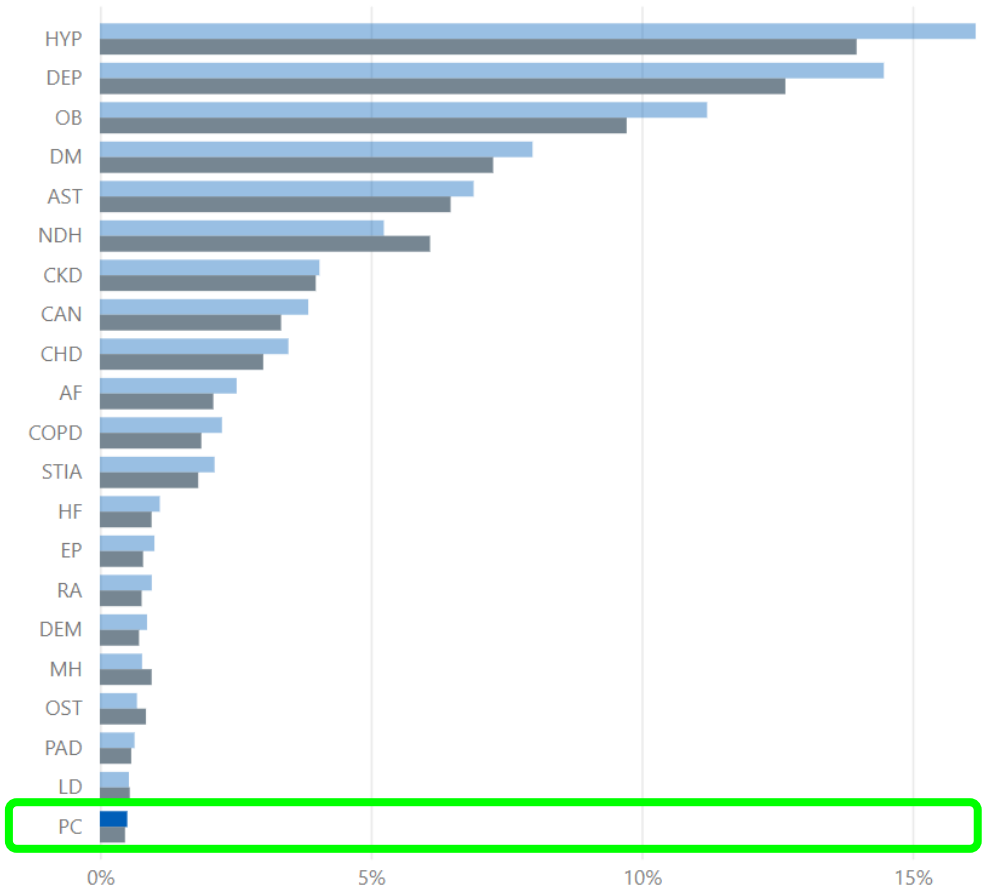
(all patients with a palliative care flag but who are still alive)

How many PEOLC patients are there in SSoT

Indicator group code	Indicator group name	Register	Patient list size	Prevalence %
AST	Asthma	75,886	1,099,900	6.90%
AF	Atrial fibrillation	29,562	1,171,024	2.52%
CAN	Cancer	45,044	1,171,024	3.85%
CKD	Chronic kidney disease	38,045	938,699	4.05%
COPD	Chronic obstructive pulmonary disease	26,381	1,171,024	2.25%
DEM	Dementia	10,185	1,171,024	0.87%
DEP	Depression	135,864	938,699	14.47%
DM	Diabetes mellitus	76,005	951,569	7.99%
EP	Epilepsy	9,446	938,699	1.01%
HF	Heart failure	12,946	1,171,024	1.11%
HYP	Hypertension	189,345	1,171,024	16.17%
LD	Learning disability	6,272	1,171,024	0.54%
MH	Mental health	9,112	1,171,024	0.78%
NDH	Non-diabetic hyperglycaemia	49,209	938,699	5.24%
OB	Obesity	105,235	938,699	11.21%
OST	Osteoporosis: secondary prevention of fragility f...	3,290	481,225	0.68%
PC	Palliative care	5,888	1,171,024	0.50%
PAD	Peripheral arterial disease	7,487	1,171,024	0.64%
RA	Rheumatoid arthritis	9,233	964,381	0.96%
CHD	Secondary prevention of coronary heart disease	40,755	1,171,024	3.48%
STIA	Stroke and transient ischaemic attack	24,786	1,171,024	2.12%

Prevalence percentage per indicator group

● Selection prevalence percentage ● National prevalence percentage

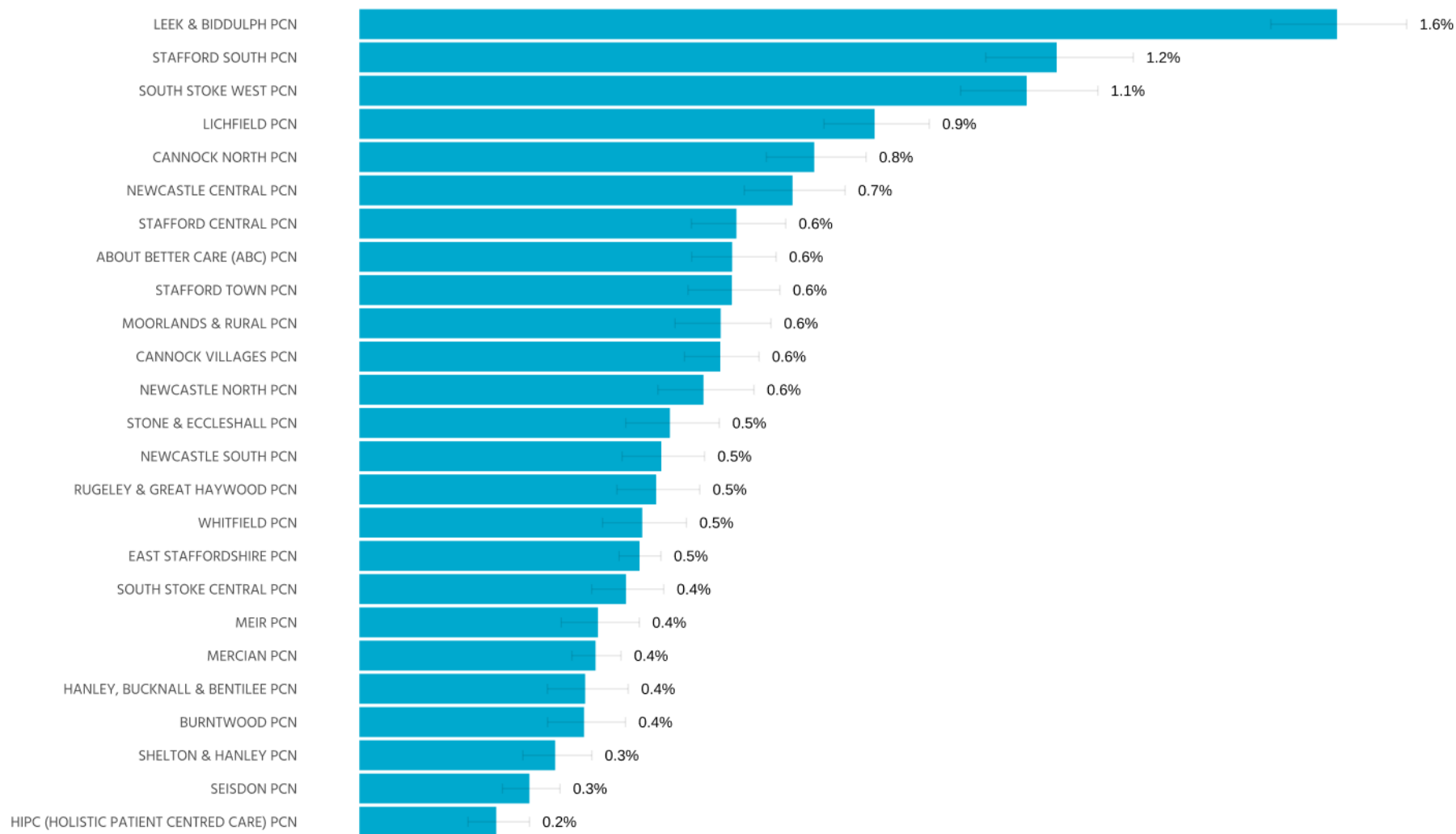


Source: QOF 2021/21 Dashboard, NHS Digital

How many PEOLC patients are there in SSoT

% of patients on the palliative care register by PCN

Staffordshire and Stoke-on-Trent ICB



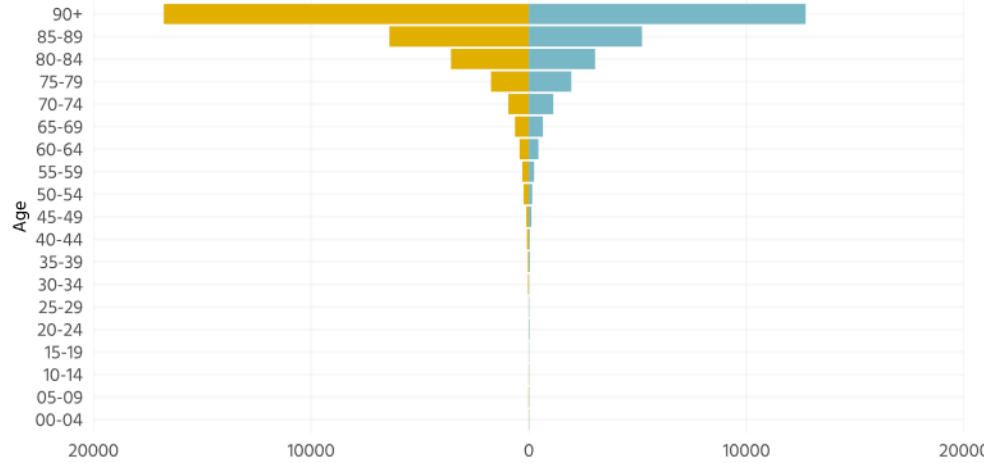
Sources: Unvalidated Data from GP Clinical Systems - Not for wider sharing

- Primary care data, sourced from MCLSU Risk Stratification dataset, shows that there are around **6,900 patients recorded with palliative care flag**
- Data by PCN shows that PEOLC prevalence is significantly higher in Leek and Biddulph
- be noted that this prevalence is only available by crude rates and therefore is not adjusted by age and may reflect older population by PCN.

What is the demographic profile of (PEOLC) patients

Palliative care patients: females vs males

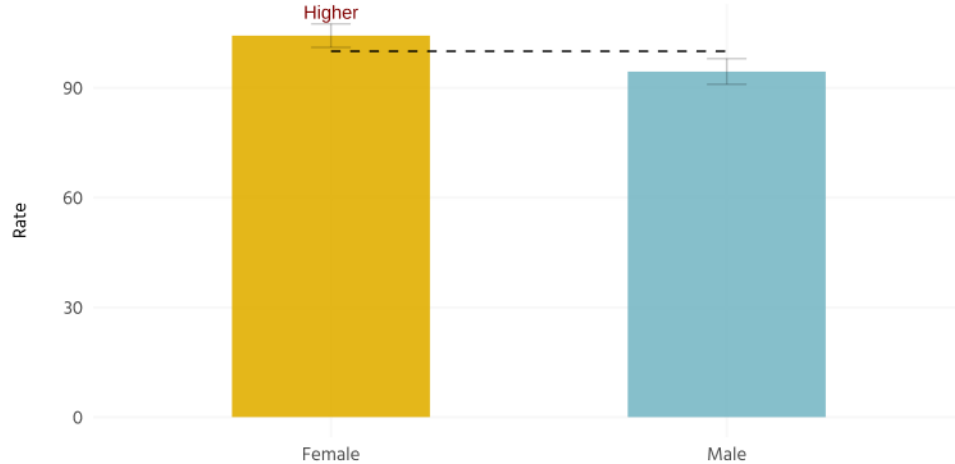
Age-specific rates per 100,000. Staffordshire and Stoke-on-Trent ICB.



Sources: Risk Stratification dataset. MLCSU.

Palliative care patients: females vs males

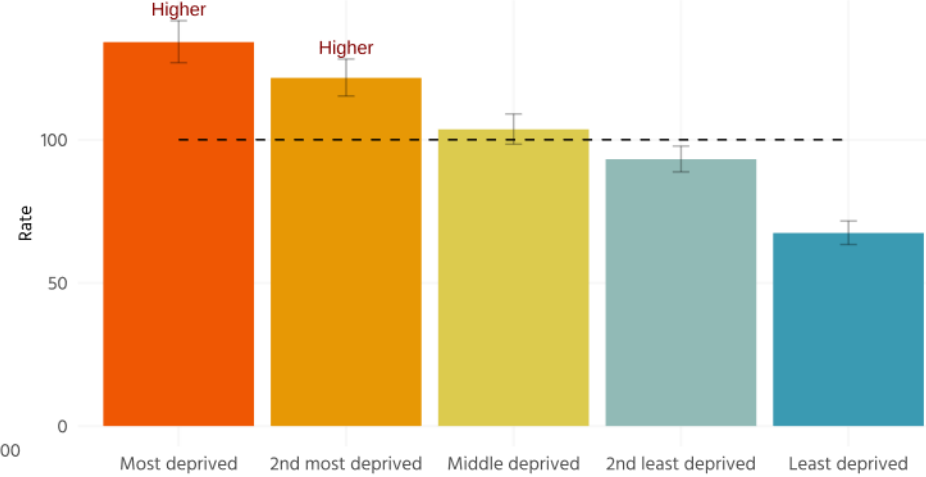
Indirectly age-standardised rates per 100,000. Staffordshire and Stoke-on-Trent ICB



Sources: Risk Stratification dataset. MLCSU.

Palliative care patients by deprivation quintile

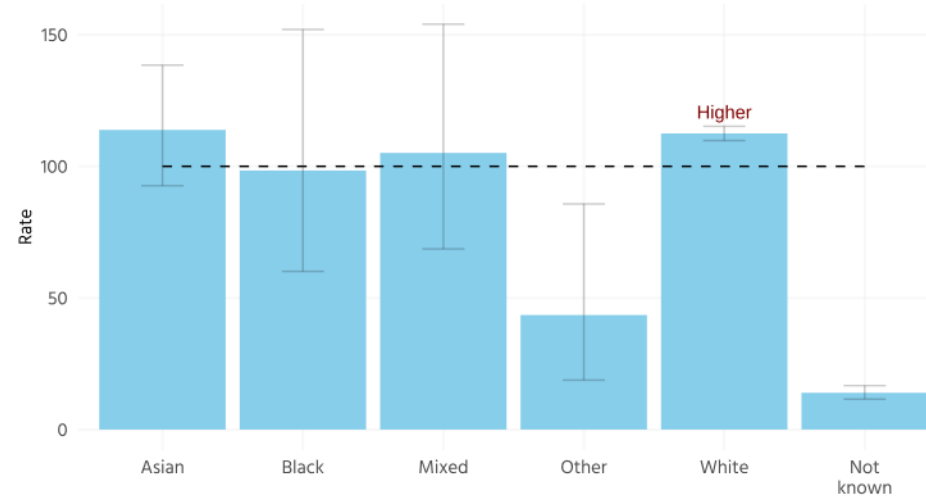
Indirectly age-standardised rates per 100,000. Staffordshire and Stoke-on-Trent ICB



Sources: Risk Stratification dataset. MLCSU.

Palliative care patients by ethnic group

Indirectly age-standardised rates per 100,000. Staffordshire and Stoke-on-Trent ICB



Sources: Risk Stratification dataset. MLCSU.

- Primary care data, sourced from MCLSU Risk Stratification dataset, shows that there are **6,900 patients recorded with palliative care flag**
- The data has been standardised to enable appropriate comparisons by different demographics
- Palliative care is highest for patients in the 90+ age group and increases with age
- Women have a significantly higher prevalence rate
- Prevalence is also significantly higher for more deprived patients
- The data shows that a recorded palliative care status is also higher for white patients

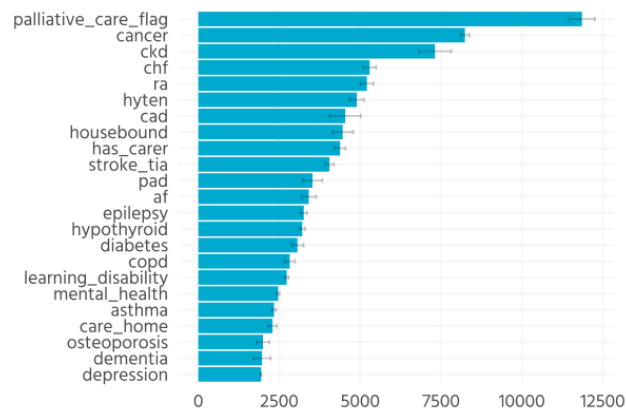
Secondary care activity of (PEOLC) patients

Secondary activity over the last 12 months by recorded primary care status

Staffordshire and Stoke-on-Trent ICB

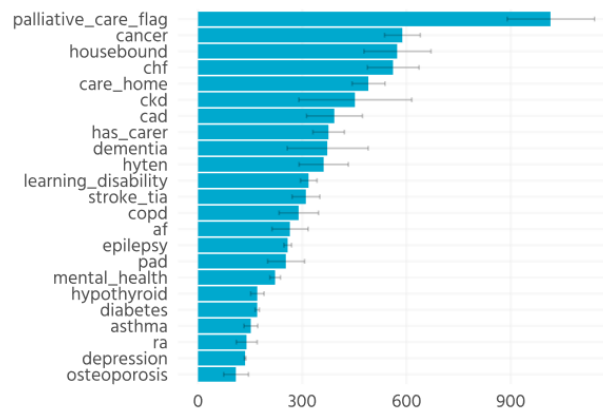
A&E attendances

Directly age-standardised rates per 1,000.



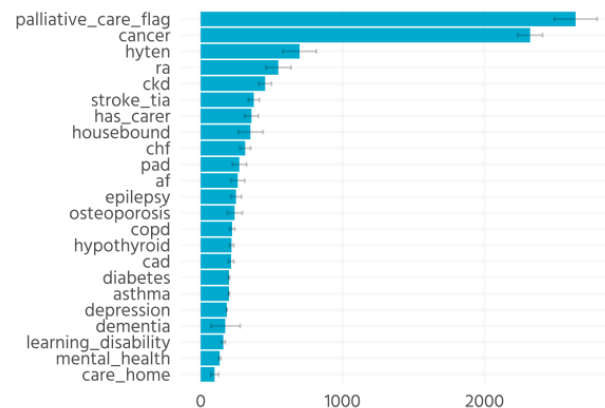
Inpatient admissions

Directly age-standardised rates per 1,000.



Elective inpatient admissions

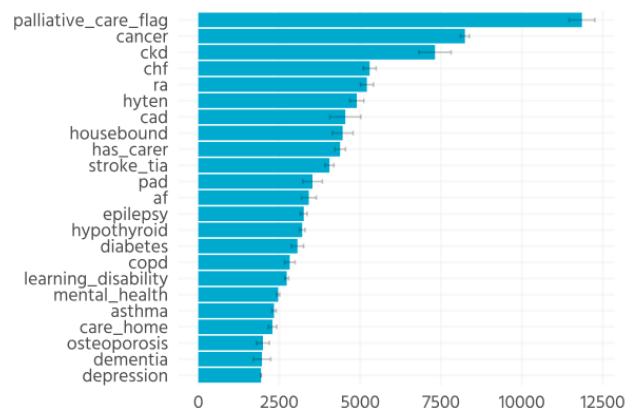
Directly age-standardised rates per 1,000.



- Patients with a **palliative care flag** have **significantly higher secondary care activity** compared to all other patients

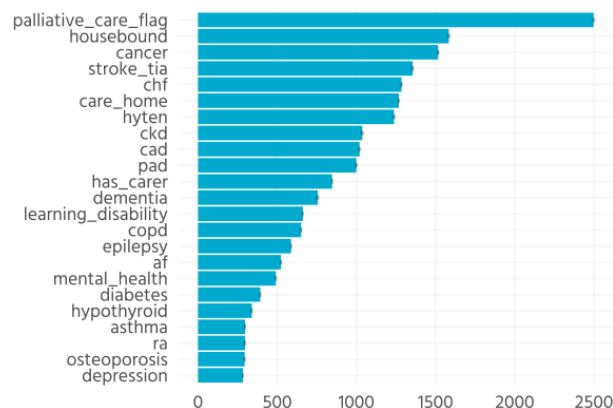
Outpatient appointments

Directly age-standardised rates per 1,000.



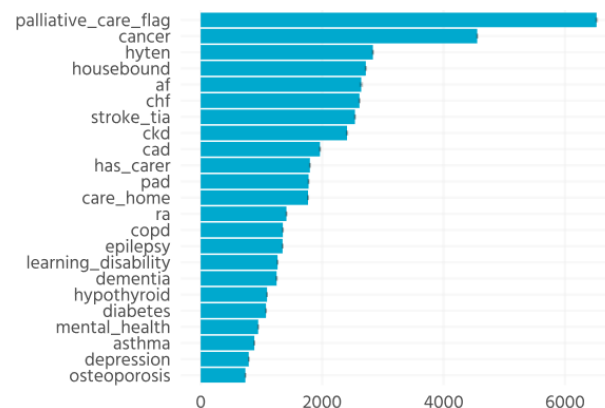
Total non-elective cost

Directly age-standardised rates per person.



Total cost

Directly age-standardised rates per person.



Note that patients are likely to be within more than one group.

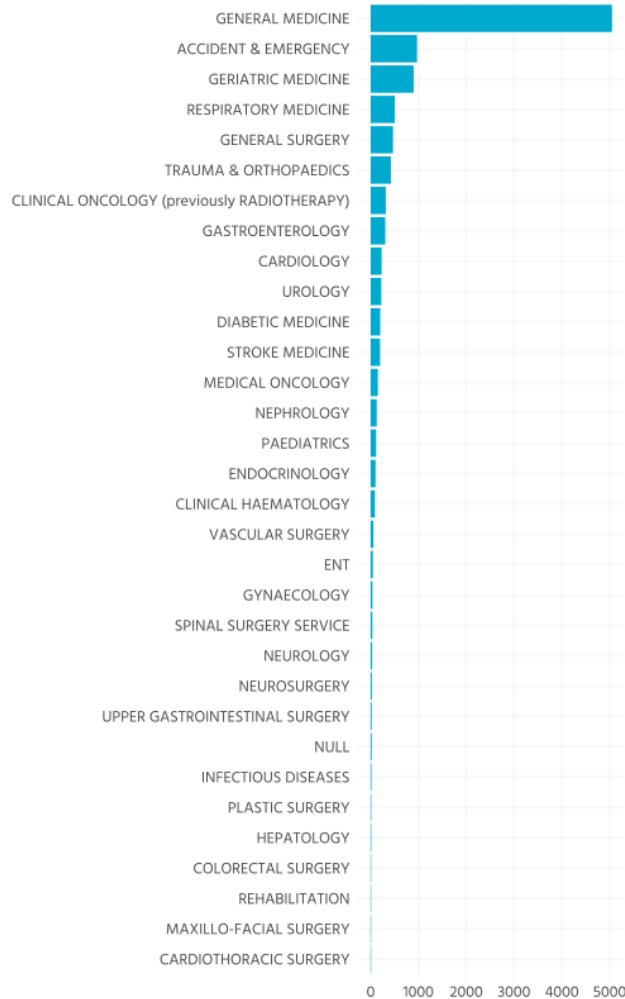
Source: Risk Stratification dataset (August 2024), MLCSU.

Reasons for secondary care activity of (PEOLC) patients

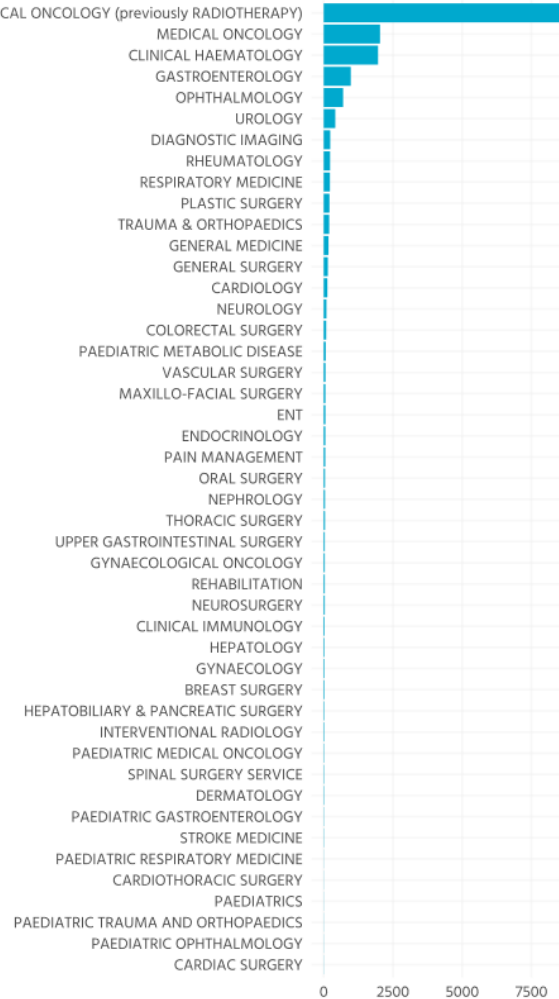
Secondary activity over the last 24 months for patients with a palliative care flag

Staffordshire and Stoke-on-Trent ICB

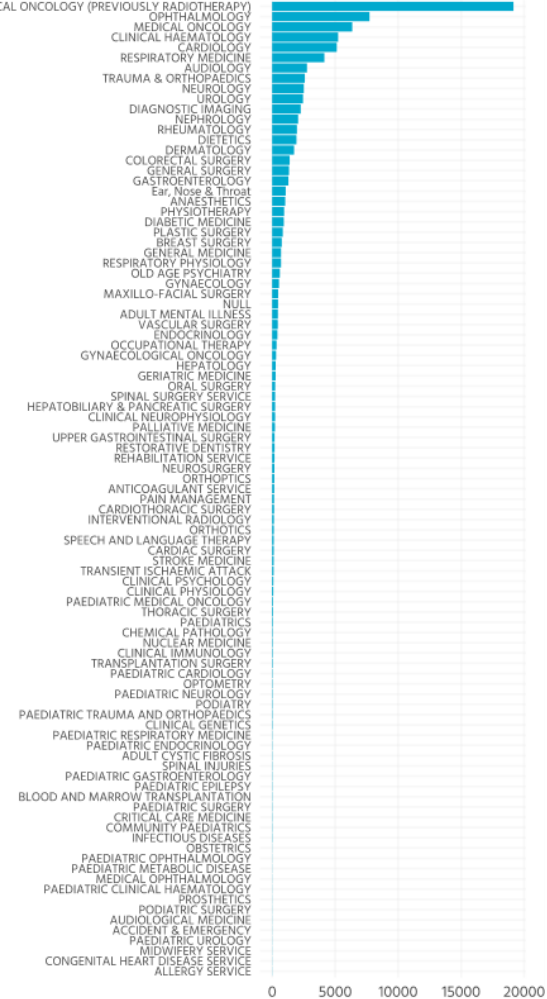
Number of non-elective inpatient admissions



Number of elective inpatient admissions by specialty



Number of outpatient appointments by specialty



- Admissions for **general medicine specialty** are the most common non-elective admission for PEOLC patients
- **Radiotherapy** is the most common specialty for elective admissions and outpatient appointments

Note that numbers less than 5 are not shown.

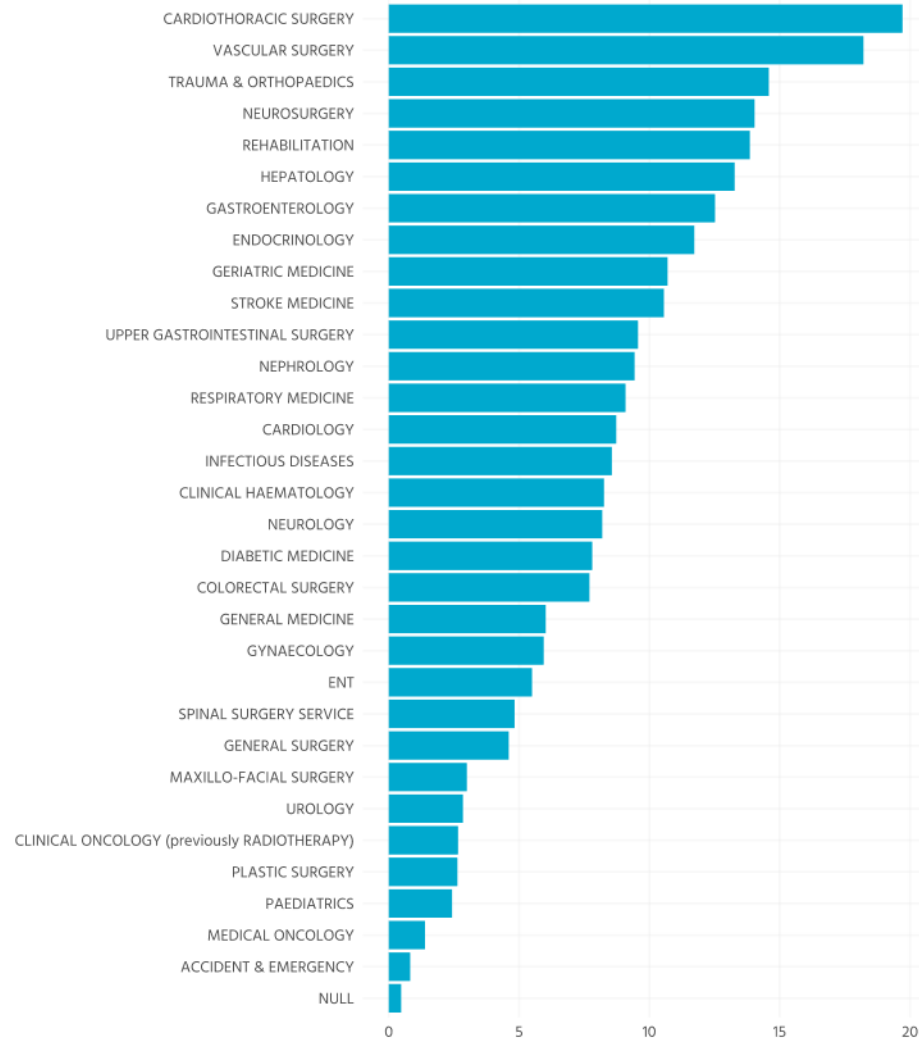
Source: Risk Stratification dataset (August 2024). MLCSU.

Reasons for secondary care activity of (PEOLC) patients

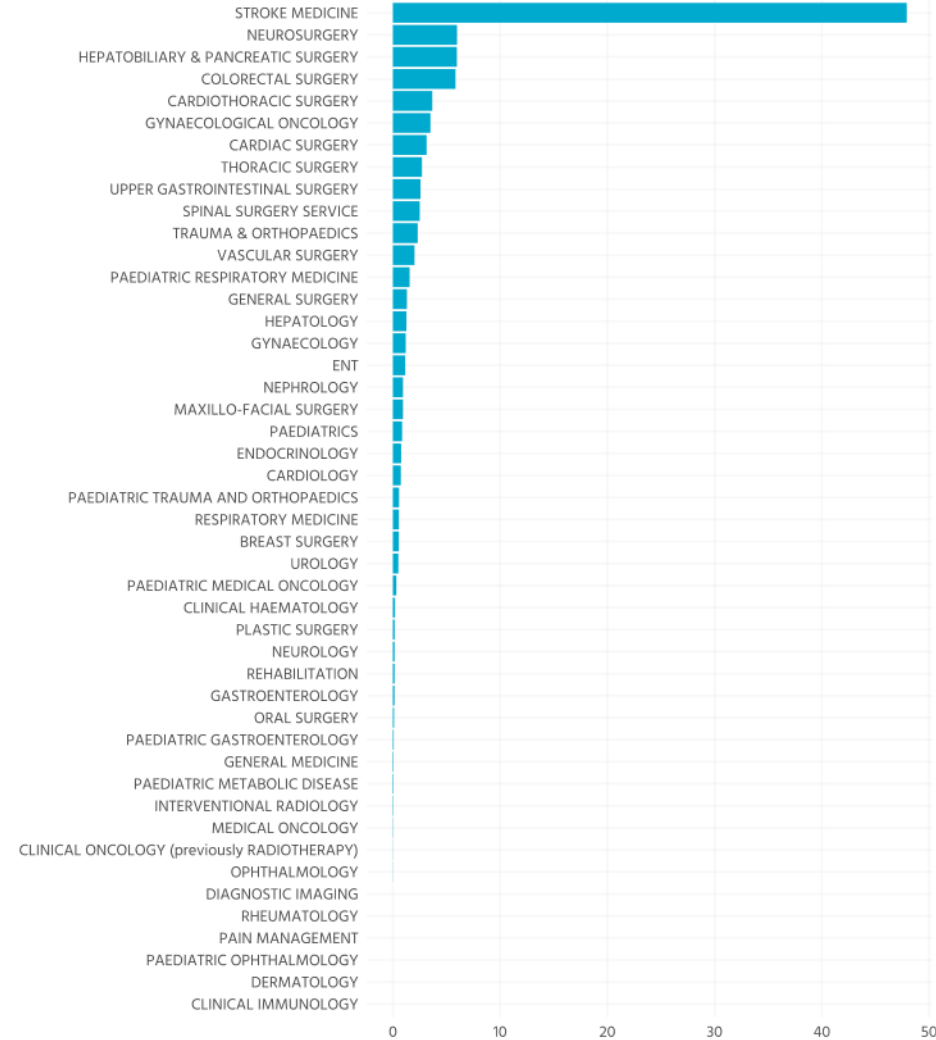
Secondary activity over the last 24 months for patients with a palliative care flag

Staffordshire and Stoke-on-Trent ICB

Average length of stay in days for non-elective inpatient admissions by specialty



Average length of stay in days for inpatient elective admissions by specialty



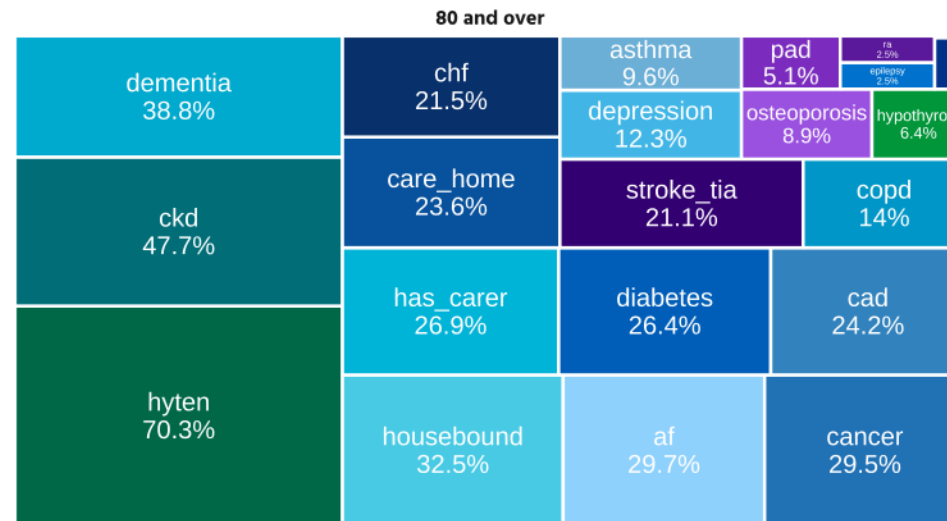
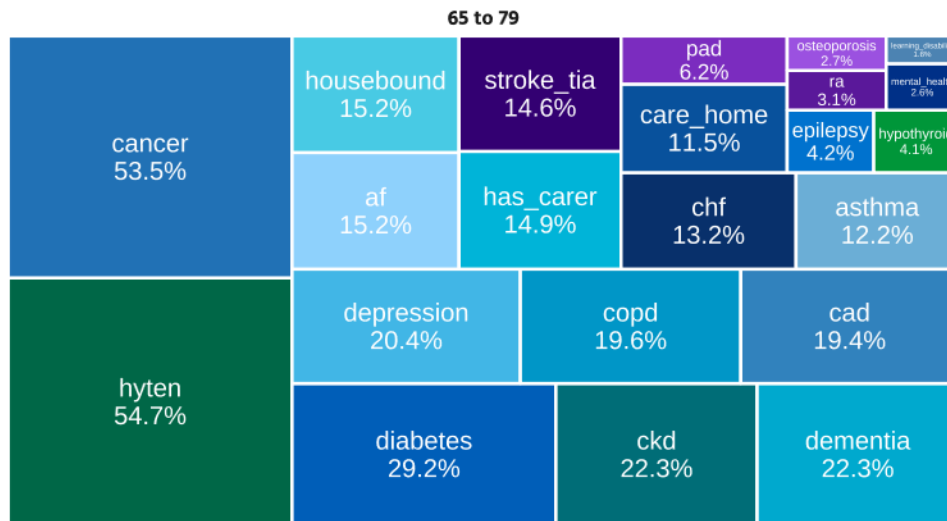
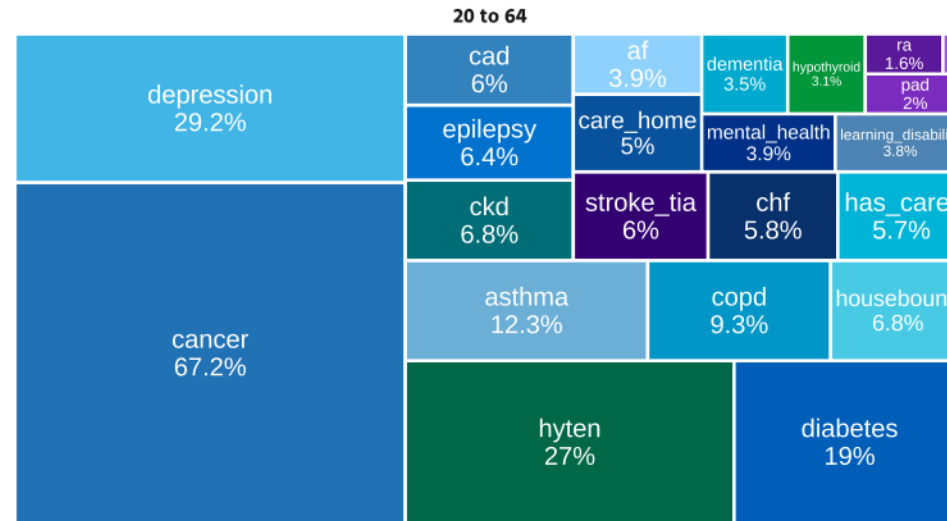
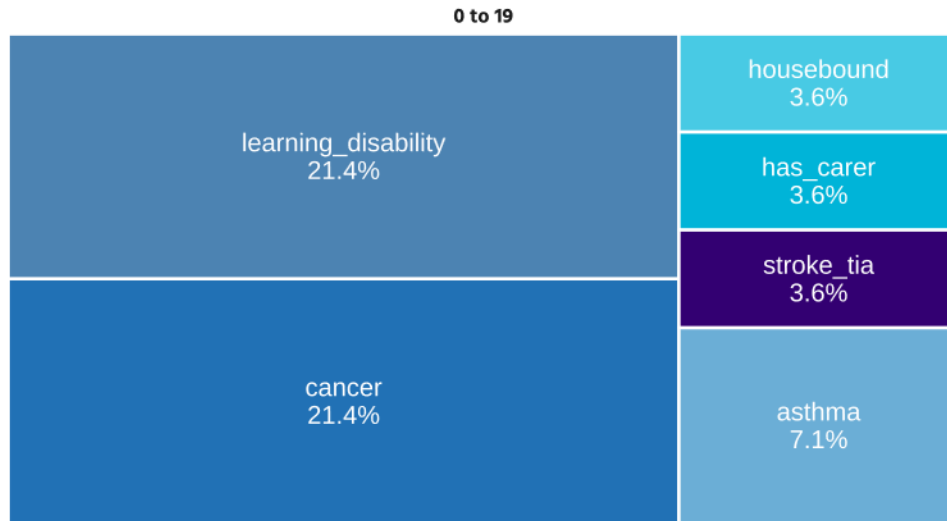
- Cardiothoracic and vascular surgery tend to have the highest length of stay for PEOLC patients' non-elective admissions
- For elective admissions, the stroke medicine has the highest average length of stay amongst PEOLC patients

Source: Risk Stratification dataset (August 2024). MLCSU.

What is the clinical complexity profile of (PEOLC) patients

Comorbidities and recorded status in primary care for palliative care patients

Staffordshire and Stoke-on-Trent ICB



Note that patients are likely to be within more than one group.

Source: Risk Stratification dataset. MLCSU.

- For CYP PEOLC patients, cancer and learning disability are the most common comorbidities
- Amongst the working age population (20 to 64), two thirds of PEOLC patients have cancer. Other common comorbidities includes depression, hypertension and diabetes
- In the 65-79 year PEOLC population, cancer and hypertension are the most common comorbidities a range of LTCs are common comorbidities too
- In the 80+ group, hypertension is the biggest comorbidity affecting 70% of the PEOLC population. CKD and dementia are other common comorbidities

What is the clinical complexity profile of (PEOLC) patients

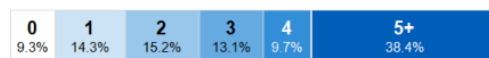
Incurable cancer patients

% of people with given # of conditions for All Segments

Select a segment above to view a single segment

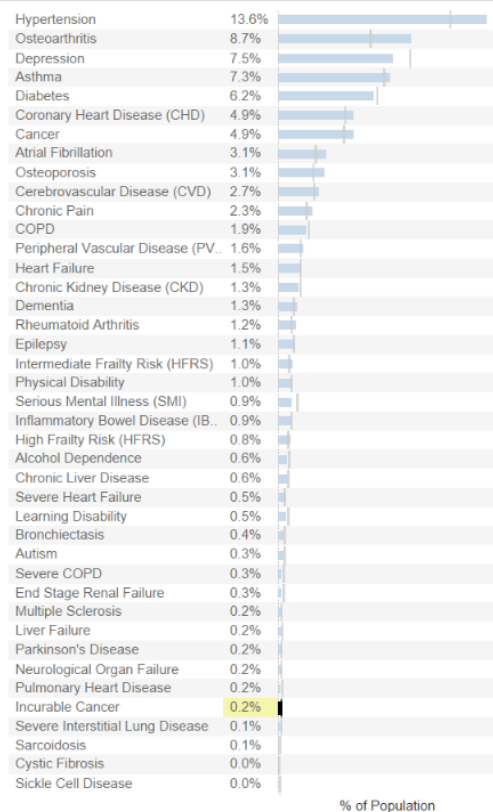


% of people with given # of comorbidities for Incurable Cancer



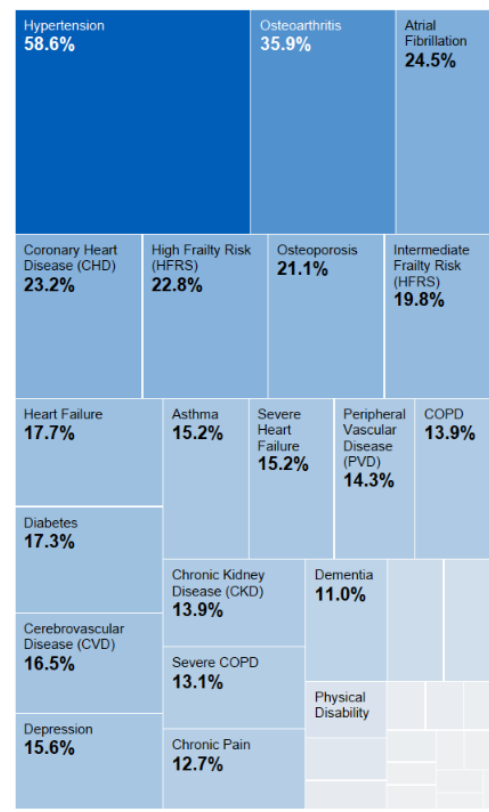
Subsegment Prevalence vs England

Select a subsegment to show the prevalence on the map and to display comorbidities on the right



Comorbidities Prevalence % for Incurable Cancer

Percentages total more than 100% as some people have more than one condition



- About 0.2% of the ICB population have incurable cancer
- For patients that have incurable cancer, nearly half (48.1%) have four or more other long-term conditions
- The most common comorbidities associated with incurable cancer patients are hypertension (58.6%), osteoarthritis (36%) and atrial fibrillation (25%)

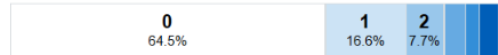
Source: Population and Person Insight (PaPI) Dashboard, NHS England.
Data is based on a snapshot as of 30th September 2022.

What is the clinical complexity profile of (PEOLC) patients

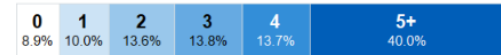
Dementia patients

% of people with given # of conditions for All Segments

Select a segment above to view a single segment

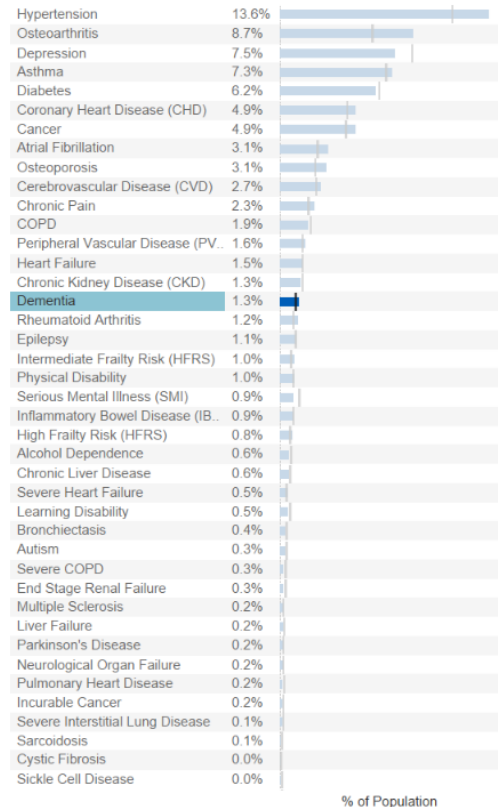


% of people with given # of comorbidities for Dementia



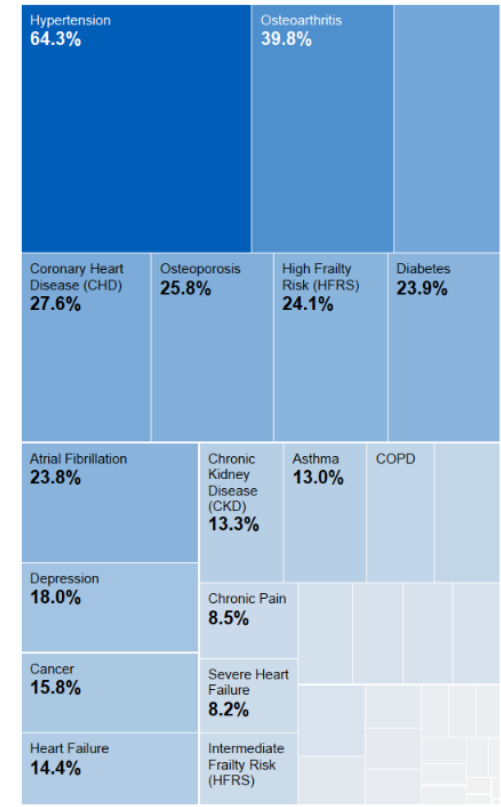
Subsegment Prevalence vs England

Select a subsegment to show the prevalence on the map and to display comorbidities on the right



Comorbidities Prevalence % for Dementia

Percentages total more than 100% as some people have more than one condition



- About 1.3% of the ICB population have dementia
- For patients that have dementia, more than half (54%) have four or more other long-term conditions
- The most common comorbidities associated with dementia patients are hypertension (64%), osteoarthritis (40%) and CHD (28%)

Source: Population and Person Insight (PaPI) Dashboard, NHS England.
Data is based on a snapshot as of 30th September 2022.

What is the clinical complexity profile of (PEOLC) patients

High frailty risk patients

% of people with given # of conditions for All Segments

Select a segment above to view a single segment

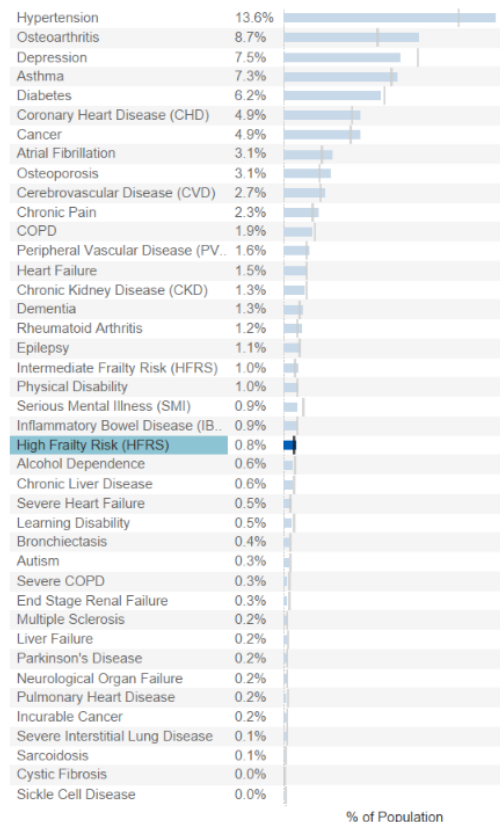


% of people with given # of comorbidities for High Frailty Risk (HFRS)



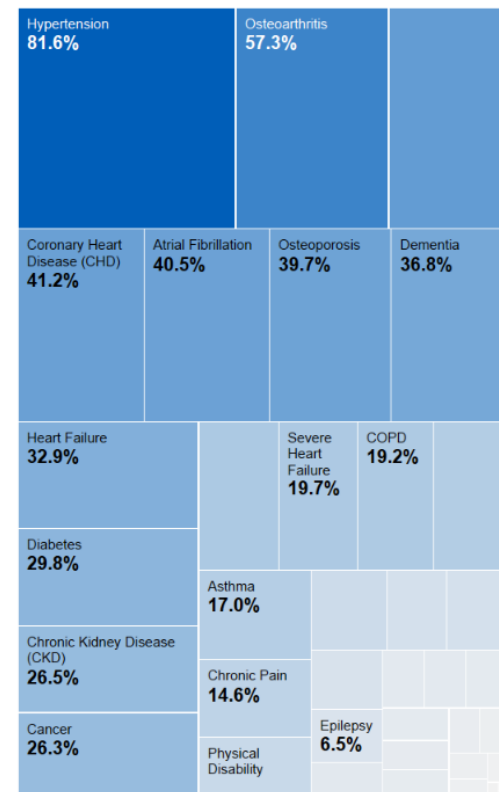
Subsegment Prevalence vs England

Select a subsegment to show the prevalence on the map and to display comorbidities on the right



Comorbidities Prevalence % for High Frailty Risk (HFRS)

Percentages total more than 100% as some people have more than one condition



- About 1.3% of the ICB population are of high frailty risk
- For patients of high frailty risk, the vast majority (85%) have four or more other long-term conditions
- The most common comorbidities associated with dementia patients are hypertension (82%), osteoarthritis (57%) and CHD (41%)

Source: Population and Person Insight (PaPI) Dashboard, NHS England.
Data is based on a snapshot as of 30th September 2022.

Secondary care activity of (PEOLC) patients



- Incurable cancer patients have the highest secondary costs and activity out of all health segments (*as based on Bridges to Health Population Segmentation model*)
- Secondary care costs and activity are also high for frailty/dementia patients

Source: Population and Person Insight (PaPI) Dashboard, NHS England.
Data is based on a snapshot as of 30th September 2022.

Secondary care activity of palliative care patients

10 Year Age Bands	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+	Whole Population
Overall Population Measures ^											
Population	7	11	8	35	95	208	368	582	512	232	2,058
Age	3	16	25	36	45	55	65	75	84	93	73
Male %	71.4%	63.6%	25.0%	31.4%	41.1%	48.1%	50.8%	53.1%	48.0%	34.5%	47.9%
Deprivation	6.8	4.0	5.9	3.8	5.4	5.6	4.7	5.5	5.8	6.1	5.4
Minority Ethnic	16.7%	20.0%	0.0%	8.6%	7.9%	7.6%	3.7%	2.5%	2.2%	0.5%	3.4%
Avg. Multimorbidities	0.7	1.5	1.9	2.4	2.2	2.8	3.4	3.9	4.5	4.3	3.8
Utilisation & Outcomes ^											
Finance - Total	£59.6K	£410.4K	£57K	£311.7K	£1.1M	£2.3M	£3.7M	£5.7M	£5M	£1.6M	£20.3M
Finance PPPY - Total	£8.5K	£373K	£71K	£8.9K	£11.7K	£10.9K	£10.2K	£9.8K	£9.8K	£7K	£9.9K
Acute Outpatients	11.0	54.2	26.8	11.2	13.1	10.2	7.9	6.1	4.2	1.7	6.6
Acute Elective	0.6	1.9	4.6	3.9	3.9	4.1	2.0	1.6	0.6	0.1	1.7
Acute AE	0.7	1.5	0.9	1.3	1.5	2.0	1.4	1.4	1.4	1.2	1.4
Acute Emergency	1.7	2.2	0.6	1.5	1.7	1.7	1.5	1.4	1.4	1.2	1.4
Acute Non-Elective	0.1	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General Practice (Appointments)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General Practice (Prescriptions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Community	6.9	7.5	4.4	1.4	2.0	3.2	4.4	3.4	4.2	2.7	3.6
Mental Health	0.0	0.1	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1
Social Care	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.3	0.4	0.4	0.3

The information above is based on secondary data for any living patient who had a diagnosis/reason for admission related to palliative care:

- Acute spend per person tended to be higher amongst children and young people, and lower for older patients
- Community care spend was also higher for children

Source: Optum PHM Pathfinder Tool. Based on secondary care activity July 2023 to June 2024.

Secondary care activity of end of life patients

10 Year Age Bands	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+	Whole Population
Overall Population Measures											
Population	17	25	51	155	255	536	697	945	827	198	3,706
Age	5	16	25	35	45	55	65	75	84	92	68
Male %	41.2%	52.0%	54.9%	45.8%	57.3%	55.8%	55.8%	62.1%	56.1%	46.0%	56.5%
Deprivation	4.9	4.4	4.1	4.6	4.8	5.0	5.2	5.7	5.9	5.7	5.4
Minority Ethnic	18.8%	28.0%	9.8%	17.1%	11.2%	6.5%	4.4%	3.3%	2.2%	1.0%	5.1%
Avg. Multimorbidities	1.1	2.5	2.5	2.7	2.8	3.1	3.6	3.9	4.5	4.5	3.7
Utilisation & Outcomes											
Finance - Total	£172.6K	£530.3K	£268.2K	£1.7M	£2M	£4M	£5.7M	£7.2M	£6.4M	£1.6M	£29.6M
Finance PPPY - Total	£10.2K	£21.2K	£5.3K	£10.8K	£79K	£74K	£8.2K	£7.6K	£7.8K	£8.2K	£8K
Acute Outpatients	24.8	43.3	14.1	13.0	10.4	10.2	10.7	9.5	7.5	3.2	9.6
Acute Elective	3.6	2.3	1.1	1.4	0.9	1.1	1.4	1.0	0.9	0.1	1.0
Acute AE	1.5	1.2	1.8	1.8	1.4	1.1	1.2	1.1	1.3	1.4	1.3
Acute Emergency	2.5	1.4	1.0	1.3	1.0	0.9	1.0	0.9	1.1	1.2	1.0
Acute Non-Elective	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General Practice (Appointments)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General Practice (Prescriptions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Community	2.2	1.6	0.5	2.2	3.0	3.7	3.7	3.9	5.3	7.0	4.1
Mental Health	0.0	1.1	3.0	0.5	0.8	0.3	0.2	0.1	0.1	0.2	0.3
Social Care	0.0	0.4	0.6	0.2	0.4	0.4	0.4	0.5	0.6	1.1	0.5

The information above is based on secondary data for any living patient who had a diagnosis/reason for admission related to end of life¹ disease:

- Acute spend per person tended to be higher amongst children and young people, and lower for older patients
- Community care spend per person tended to be higher for older patients

¹ End Stage COPD, End Stage Heart Disease, End Stage Liver Disease, End Stage Lung Disease, End Stage Renal Disease

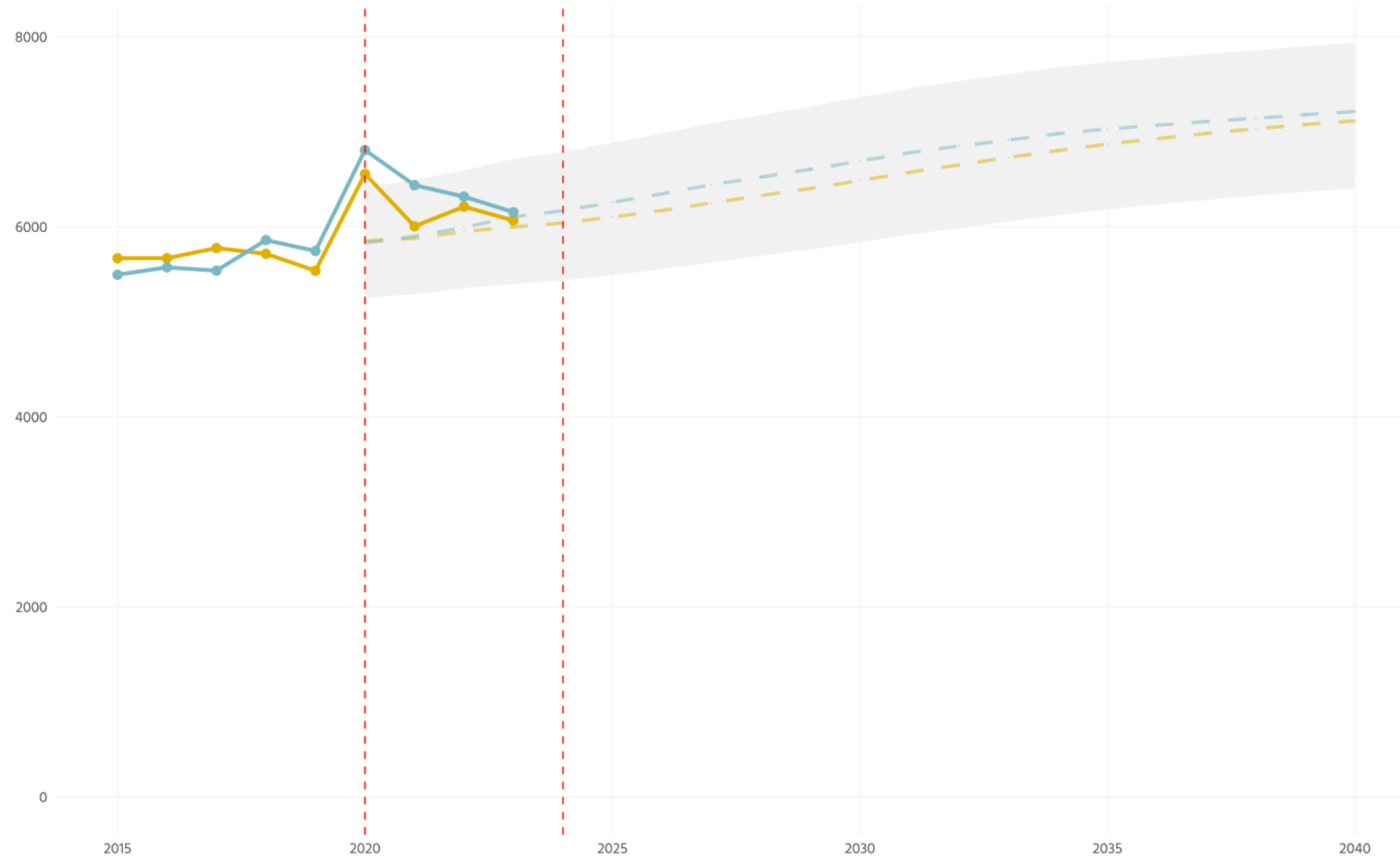
Source: Optum PHM Pathfinder Tool. Based on secondary care activity July 2023 to June 2024.

Future trends

How many deaths are there likely to be in the next 3, 5 and 10 years?

Actual numbers of male and female deaths compared to ONS-forecast deaths

Staffordshire and Stoke-on-Trent



Sources: Number of deaths based on Local Deaths Register, MSLCU and NHS Digital. Forecast data based on ONS 2018-based projections.

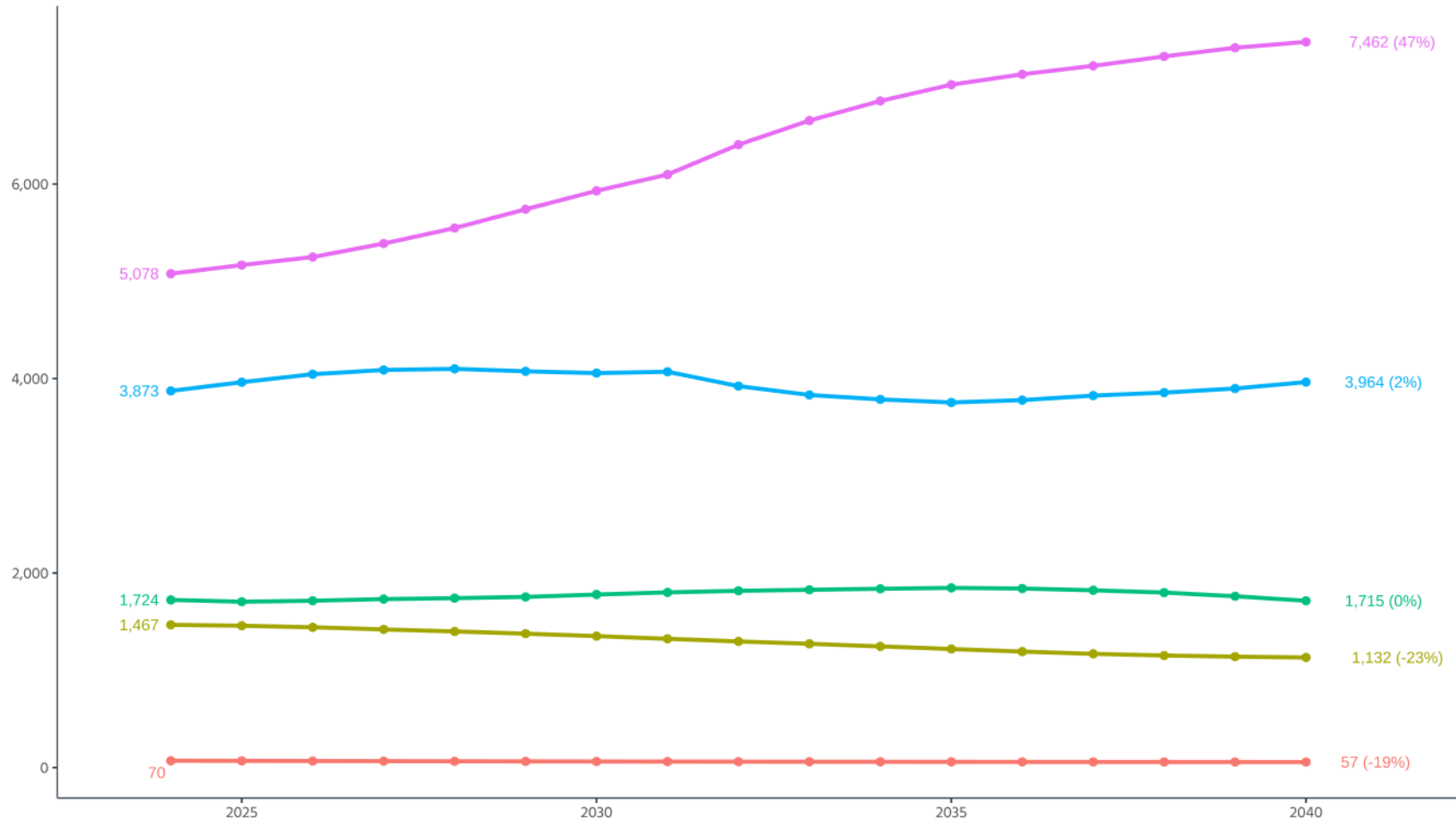
- The number of deaths per year during 2020 (calendar year) exceeded the 2018-based ONS projections
- This will primarily be due to COVID
- Numbers have since returned to the forecasted levels

How many deaths are there likely to be in the next 3, 5 and 10 years?

Forecast deaths by age group

Staffordshire and Stoke-on-Trent ICB

Age group (years): 0-17 18-64 65-74 75-85 85+



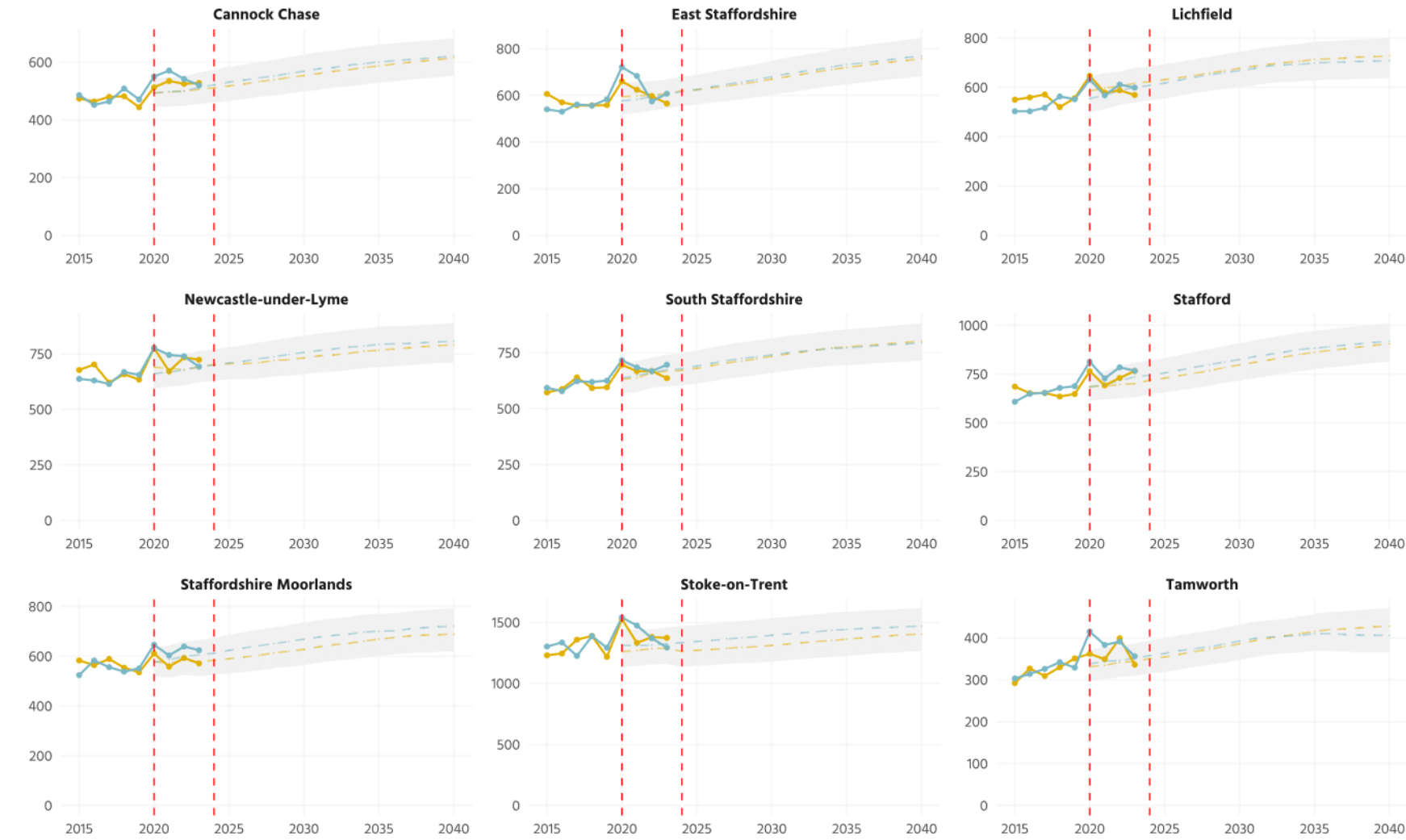
- This data is based on forecasted data
- The 85+ year old age group are forecast to see the biggest increase in deaths

Sources: ONS 2018-based projections.

How many deaths are there likely to be in the next 3, 5 and 10 years?

Actual numbers of male and female deaths compared to ONS-forecast deaths

Staffordshire and Stoke-on-Trent LTLAs



Sources: Number of deaths based on Local Deaths Register, MSLCU and NHS Digital. Forecast data based on ONS 2018-based projections.

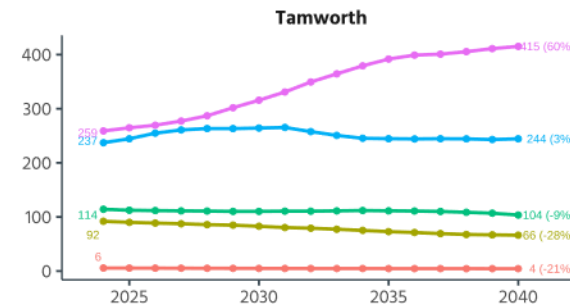
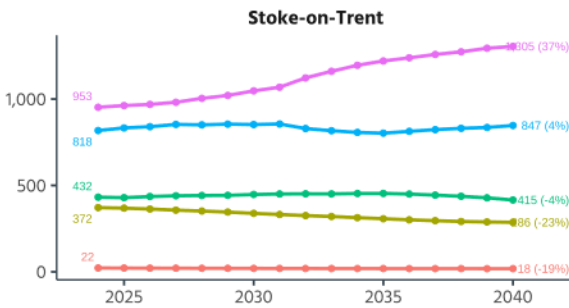
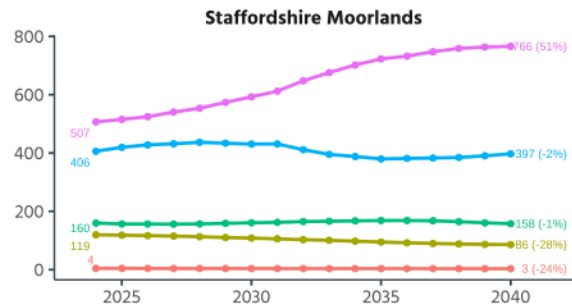
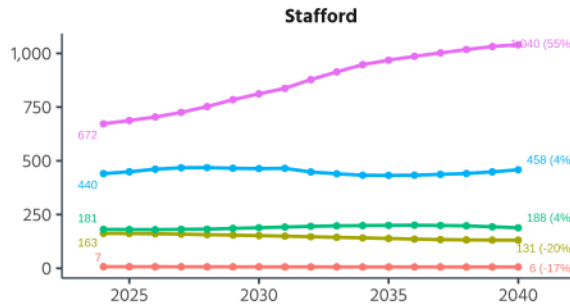
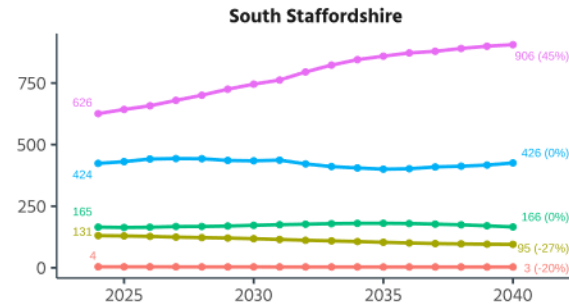
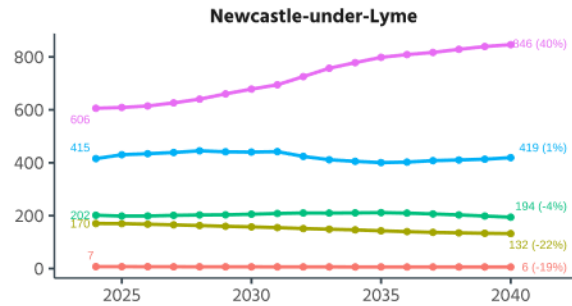
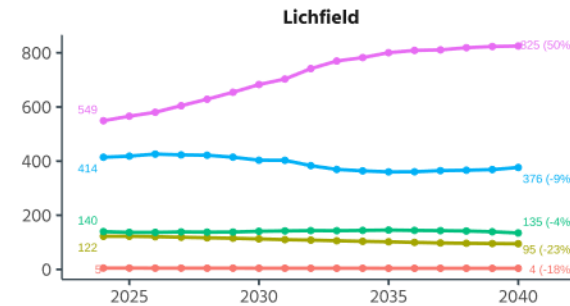
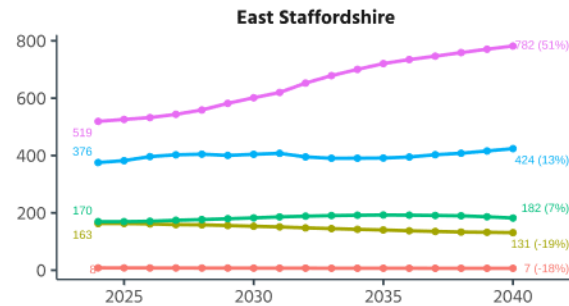
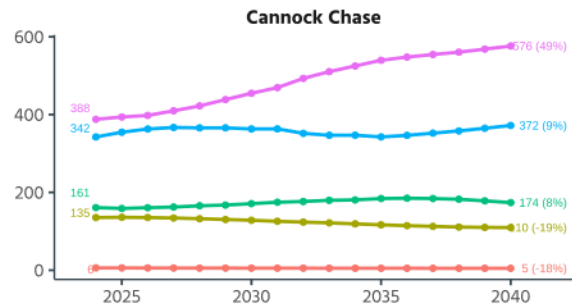
- The number of deaths per year during 2020 (calendar year) exceeded the 2018-based ONS projections
- This will primarily be due to COVID
- Numbers have since returned to the forecasted levels

How many deaths are there likely to be in the next 3, 5 and 10 years?

Forecast deaths by age group

Staffordshire and Stoke-on-Trent ICB

Age group (years): 0-17 18-64 65-74 75-85 85+



Sources: ONS 2018-based projections.

- This data is based on forecasted data before COVID (data has not been adjusted for post-COVID numbers)
- The 85+ year old age group are forecast to see the biggest increase in deaths
- Tamworth is expected to see the biggest increase in deaths amongst those aged 85+ (↑60%)
- Stoke-on-Trent is expected to see the smallest increase in deaths amongst those aged 85+ (↑37%)

Appendices

SQL query logic and clinical codes used for broad cause of death classification

```
case
when d.[DEC_AGE_C] between 65 and 74 and RAND(CAST(NEWID() AS varbinary)) > 0.9 then 'Frailty'
when d.[DEC_AGE_C] between 75 and 84 and RAND(CAST(NEWID() AS varbinary)) > 0.7 then 'Frailty'
when d.[DEC_AGE_C] between 85 and 120 and RAND(CAST(NEWID() AS varbinary)) > 0.2 then 'Frailty'
when d.S_UNDERLYING_COD_ICD10 like 'A0%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'A39%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'A4[01]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'B2[0-4]%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'D[0-3]%' then 'Cancer'
when d.S_UNDERLYING_COD_ICD10 like 'D4[0-8]%' then 'Cancer'
when d.S_UNDERLYING_COD_ICD10 like 'F0[13]%' then 'Frailty'
when d.S_UNDERLYING_COD_ICD10 like 'G0[0-3]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'G30%' then 'Frailty'
when d.S_UNDERLYING_COD_ICD10 like 'H[0-5]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'H[6-9]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'I2[12]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'I63%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'I64%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'I6[0-2]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'I71%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'J1[2-8]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'K2[5-7]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'K4[0-6]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'K57%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'K7[0-6]%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'L%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'O%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'P%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'Q[2-8]%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'R54%' then 'Frailty'
when d.S_UNDERLYING_COD_ICD10 like 'R%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'R99%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'U509%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'W6[5-9]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'W7[0-4]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'W[01]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X0%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X41%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X42%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X44%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X59%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X8[0-4]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X8[5-9]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X9%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'X[67]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'Y0%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'Y3[0-4]%' then 'Sudden Death'
when d.S_UNDERLYING_COD_ICD10 like 'Y[12]%' then 'Sudden Death'
--Catch all
when d.S_UNDERLYING_COD_ICD10 like 'A%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'B%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'C%' then 'Cancer'
when d.S_UNDERLYING_COD_ICD10 like 'D[5-8]%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'E%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'F%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'G%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'I%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'J%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'K%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'M%' then 'Frailty'
when d.S_UNDERLYING_COD_ICD10 like 'N%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'O%' then 'Other Terminal Illness'
when d.S_UNDERLYING_COD_ICD10 like 'V%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'W%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'X%' then 'Organ Failure'
when d.S_UNDERLYING_COD_ICD10 like 'Y%' then 'Organ Failure'
when (d.S_UNDERLYING_COD_ICD10 = 'U071' or d.S_UNDERLYING_COD_ICD10 = 'U072') then 'COVID-19'
when ( d.S_UNDERLYING_COD_ICD10 = '' OR d.S_UNDERLYING_COD_ICD10 IS null ) then 'Uncoded'
else null end as 'Broad Cause of Death',
```

Clinical codes used for broad cause of death classification

ICD-10 codes	Cause of death groups
A00–A09	Intestinal infectious diseases
A15–A19, B90	Tuberculosis
A20, A44, A75–A79, A82–A84, A85.2, A90–A98, B50–B57	Vector-borne diseases and rabies
A33–A37, A49.2, A80, B01, B02, B05, B06, B15, B16, B17.0, B18.0, B18.1, B26, B91, G14	Vaccine-preventable diseases ¹
A39, A87, G00–G03	Meningitis and meningococcal infection
A40–A41	Septicaemia
B20–B24	Human immunodeficiency virus [HIV] disease
C00–C97	Malignant neoplasms
C15	Malignant neoplasm of oesophagus
C16	Malignant neoplasm of stomach
C18–C21	Malignant neoplasm of colon, sigmoid, rectum and anus
C22	Malignant neoplasm of liver and intrahepatic bile ducts
C23–C24	Malignant neoplasm of gallbladder and other parts of biliary tract
C25	Malignant neoplasm of pancreas
C32	Malignant neoplasm of larynx
C33–C34	Malignant neoplasm of trachea, bronchus and lung
C40–C41	Malignant neoplasms of bone and articular cartilage
C43–C44	Melanoma and other malignant neoplasms of skin
C50	Malignant neoplasm of breast
C53–C55	Malignant neoplasm of uterus
C56	Malignant neoplasm of ovary
C61	Malignant neoplasm of prostate
C64	Malignant neoplasm of kidney, except renal pelvis
C67	Malignant neoplasm of bladder
C71	Malignant neoplasm of brain
C81–C96	Malignant neoplasms, stated or presumed to be primary of lymphoid, haematopoietic and related tissue
D00–D48	In situ and benign neoplasms, and neoplasms of uncertain or unknown behaviour
E10–E14	Diabetes
D50–D53, E40–E64	Malnutrition, nutritional anaemias and other nutritional deficiencies
E86–E87	Disorders of fluid, electrolyte and acid–base balance (incl. dehydration)
F01, F03, G30	Dementia and Alzheimer disease
F10–F19	Mental and behavioural disorders due to psychoactive substance use
G10–G12	Systemic atrophies primarily affecting the central nervous system
G20	Parkinson disease
G40–G41	Epilepsy and status epilepticus
G80–G83	Cerebral palsy and other paralytic syndromes

ICD-10 codes	Cause of death groups
I05–I09	Chronic rheumatic heart diseases
I10–I15	Hypertensive diseases
I20–I25	Ischaemic heart diseases
I26–I28	Pulmonary heart disease and diseases of pulmonary circulation
I34–I38	Nonrheumatic valve disorders and endocarditis
I42	Cardiomyopathy
I46	Cardiac arrest
I47–I49	Cardiac arrhythmias
I50–I51	Heart failure and complications and ill-defined heart disease
I60–I69	Cerebrovascular diseases
I70	Atherosclerosis
I71	Aortic aneurysm and dissection
J00–J06, J20–J22	Acute respiratory infections other than influenza and pneumonia
J09–J18	Influenza and pneumonia
J40–J47	Chronic lower respiratory diseases
J80–J84	Pulmonary oedema and other interstitial pulmonary diseases
J96	Respiratory failure
K35–K46, K56	Appendicitis, hernia and intestinal obstruction
K70–K76	Cirrhosis and other diseases of liver
M00–M99	Diseases of the musculoskeletal system and connective tissue
N00–N39	Diseases of the urinary system
O00–O99	Pregnancy, childbirth and the puerperium
P00–P96	Certain conditions originating in the perinatal period
Q00–Q99	Congenital malformations, deformations and chromosomal abnormalities
V01–X59	Accidents
V01–V89	Land transport accidents
W00–W19	Accidental falls
W32–W34	Non-intentional firearm discharge
W65–W74	Accidental drowning and submersion
W75–W84	Accidental threats to breathing
X40–X49	Accidental poisoning
X60–X84, Y10–Y34	Suicide and injury/poisoning of undetermined intent ²
U50.9, X85–Y09, Y87.1	Homicide and probable homicide
R00–R99	Symptoms, signs and ill-defined conditions

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/userguidetomortalitystatistics/leadingcausesofdeathinenglandandwalesrevised2016>

Source: Office for National Statistics