Mortality statistics and road traffic accidents in the UK

An RAC Foundation Briefing Note for the UN Decade of Action for Road Safety

- In 2009 2,605 people died in road traffic accidents in the UK. While this made up only 0.5% of all deaths in the UK in that year, for those in the 15-19 age group road accidents account for 25% of all deaths. What's more, fatal accidents on the roads are largely preventable.

- The largest number of deaths in the UK result from conditions such as heart disease (33% of all deaths), cancer (28% of all deaths) and respiratory diseases (14% of all deaths).

- External causes of death[1], which tend to be less disease and medical focused, accounted for 3.8% of all fatalities in 2009. Road traffic accidents make up 13% of all external causes of death. For the 10-14 age group road accidents make up over 50% of all external causes of death.

- 15-19 years olds experience almost double the risk of death from road traffic accidents (82.5 deaths per million population) in comparison to the general population (42.2 deaths per million population). For males in this age group the risk is higher still at 127.3 deaths per million population.

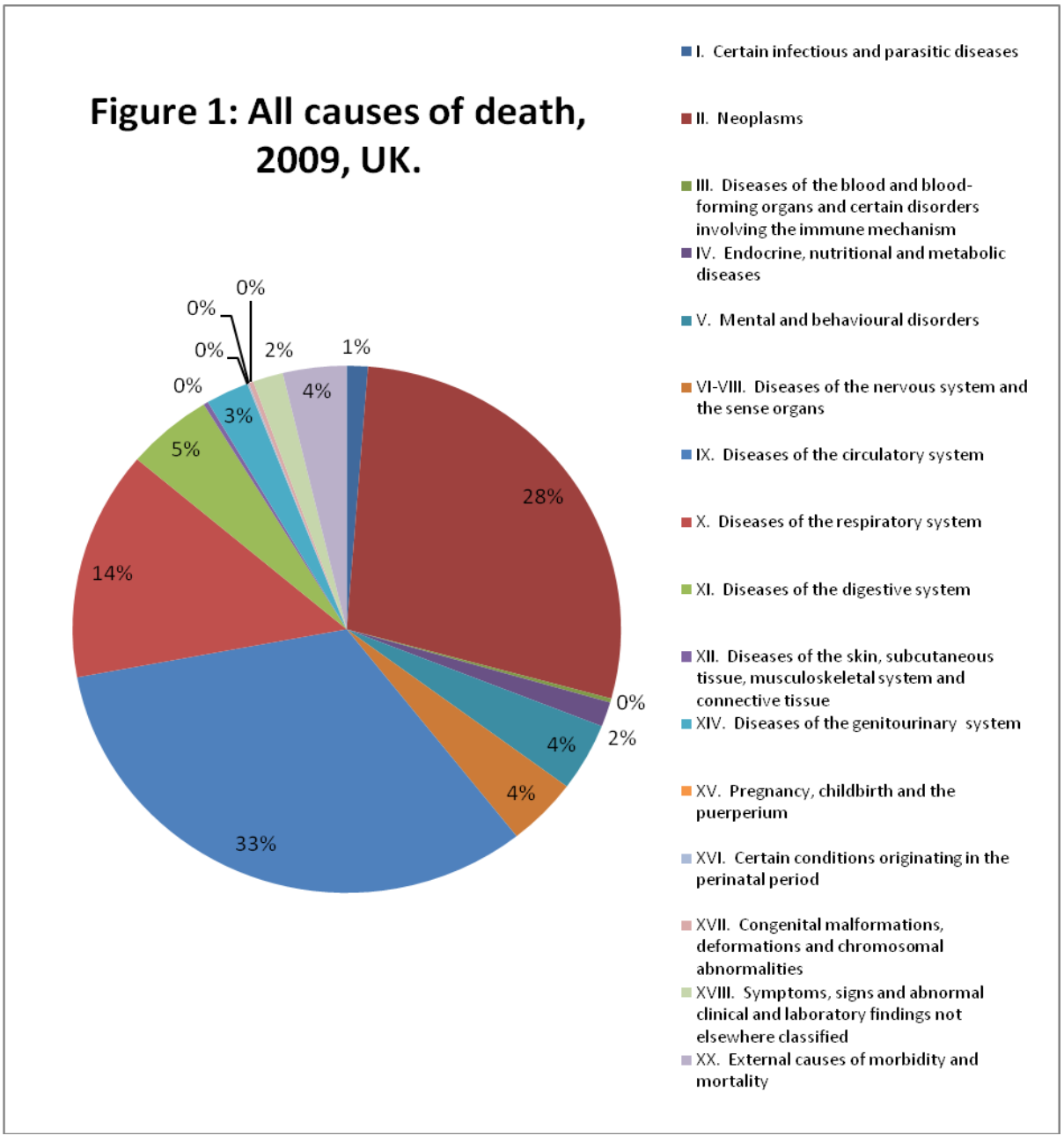
- There is also a significant and notable disparity between the deaths caused by road traffic accidents between men and women, with men being over three times as likely to die from a road accident.

- Deaths from road traffic accidents are much more prevalent amongst the under 25s than other causes of death often reported by the media such as hangings, shootings, stabbings, alcohol or drug abuse. Between the ages of 15-24 a young person is twice as likely to die from a road traffic accident than be fatally assaulted by firearms, a sharp/blunt object or intentional self-harm via hanging combined. Those in the 15-24 age category are also four times more likely to die from a road traffic accident than from drug, alcohol or other substance poisoning.

[1] Deaths from external causes are grouped into the following sub-categories; Injuries, burns & frostbite, Poisoning, toxicants & other unspecified, transport accidents, Falls & other accidental injury, Intentional self harm, Assault, Complications of care & other causes (NHS, 2011).

Data analysis

In 2009 there were just over 560,000 deaths in the UK. The largest proportion of deaths is attributable to disease of the circulatory system (e.g. heart disease), followed by Neoplasms (e.g. Cancer) and diseases of the respiratory system (e.g. diseases of the lung, pleural cavity, bronchial tubes, trachea, upper respiratory tract and of the nerves and muscles of breathing). 3.8% of all deaths were attributed to external causes, of which transport accidents plays a part.



When all causes of death are analysed further by age and gender it is possible to see that there are some marked differences between the causes of death particularly at different life stages (Figure 2) with some differentiation also between the genders (See: Figures 3 – 4).

Figure 2 - Causes of death by age, 2009, UK.

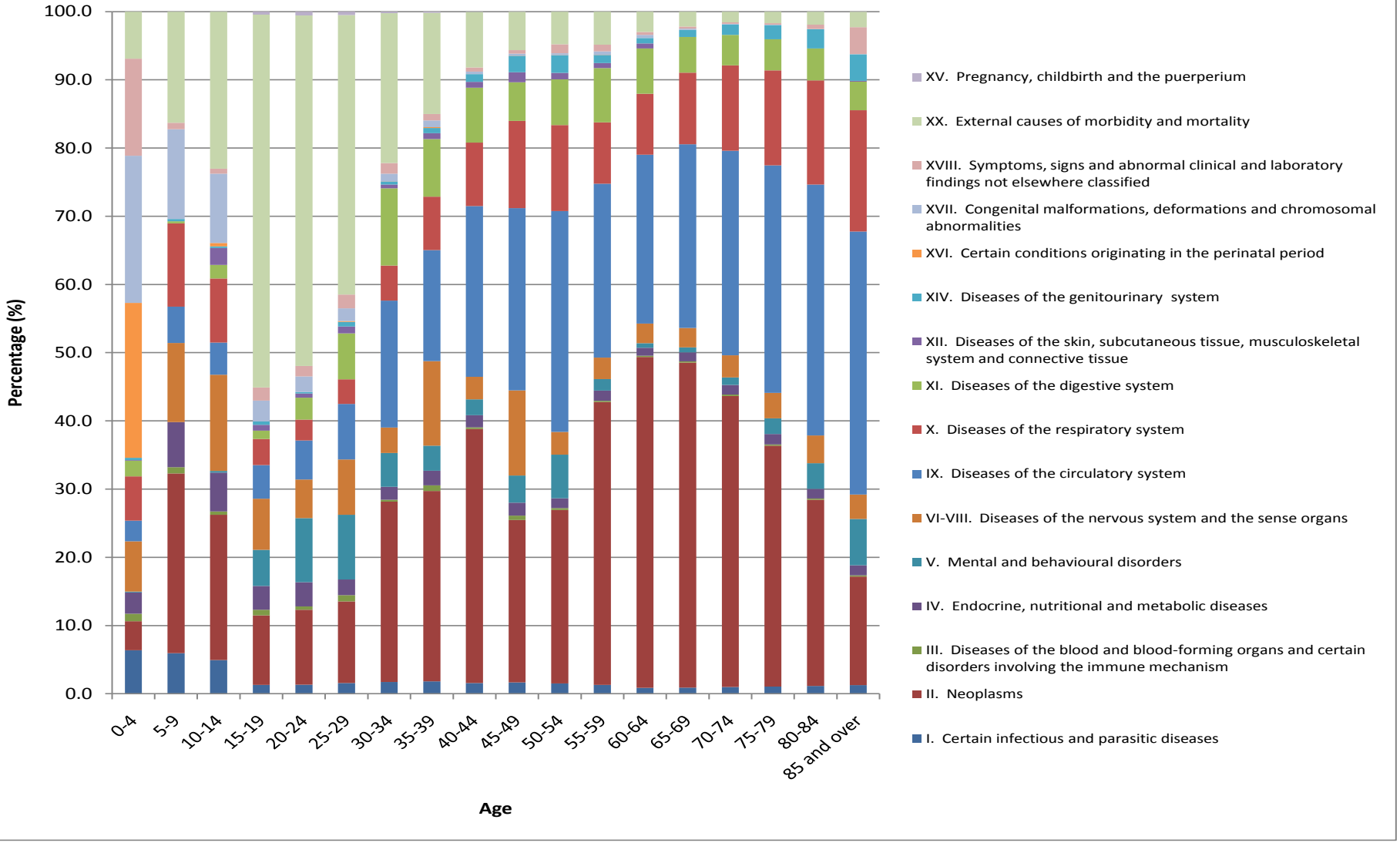


Figure 3 - Causes of death for males, 2009, UK.

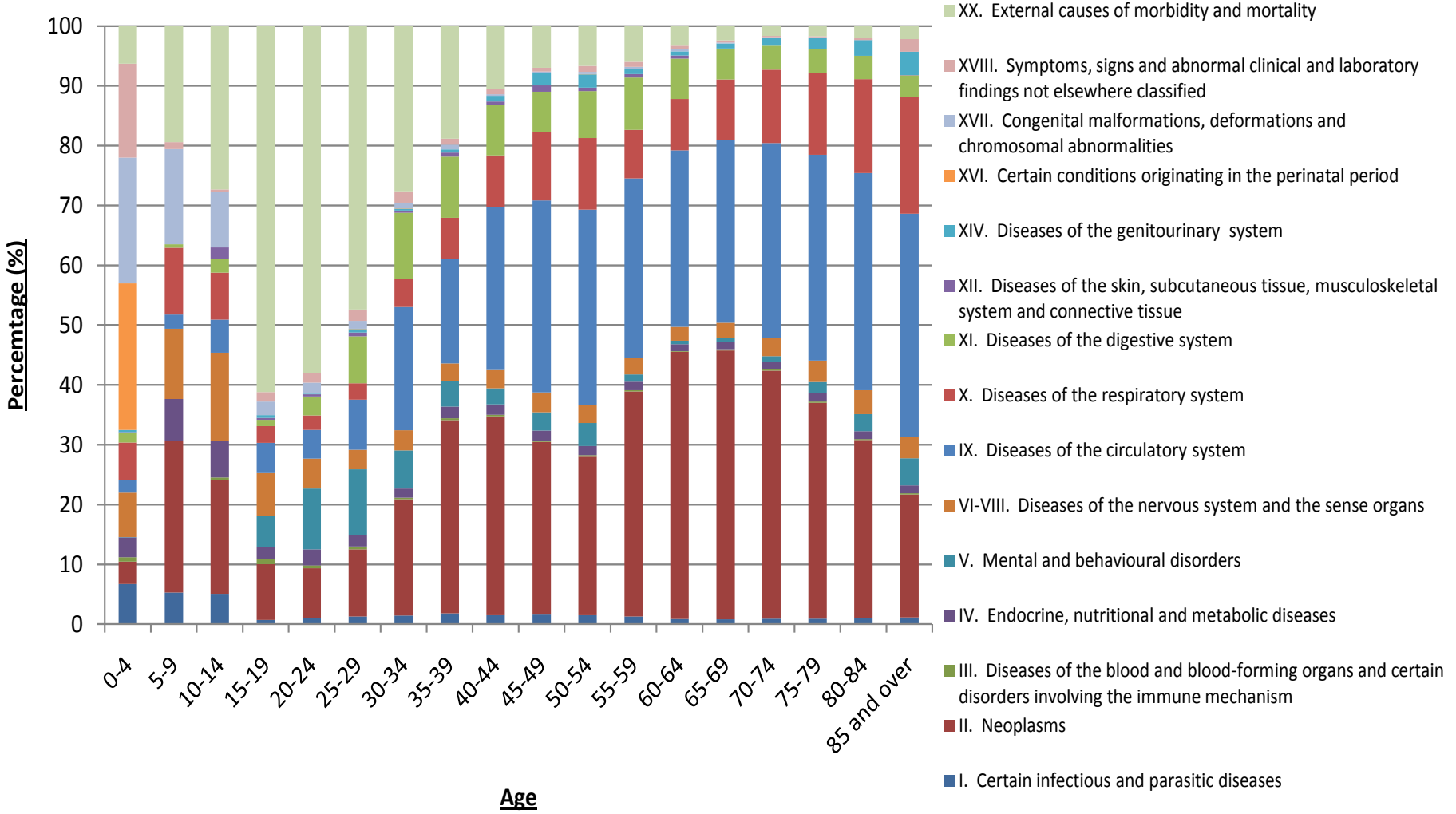


Figure 4 - Causes of death for females, 2009. UK

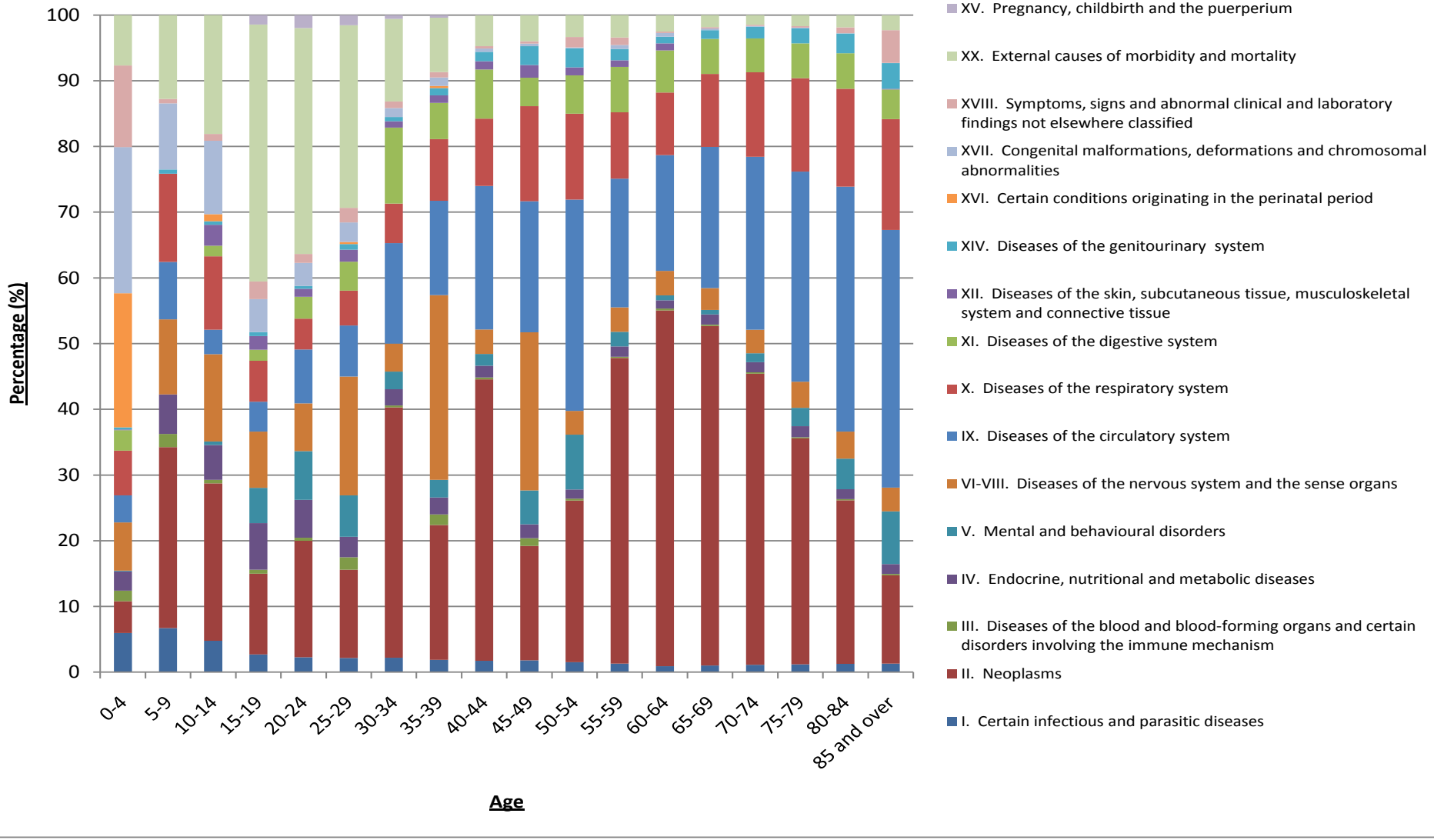


Table 1 - External causes of mortality as a percentage of all deaths, by age and gender, 2009. UK.

Age	Male	Female	All
0 – 4	6.3%	7.7%	6.9%
5 – 9	19.4%	12.8%	16.3%
10 – 14	27.3%	18.1%	23.0%
15 – 19	61.2%	39.1%	54.7%
20 – 24	58.0%	34.4%	51.4%
25 – 29	47.4%	27.8%	41.0%

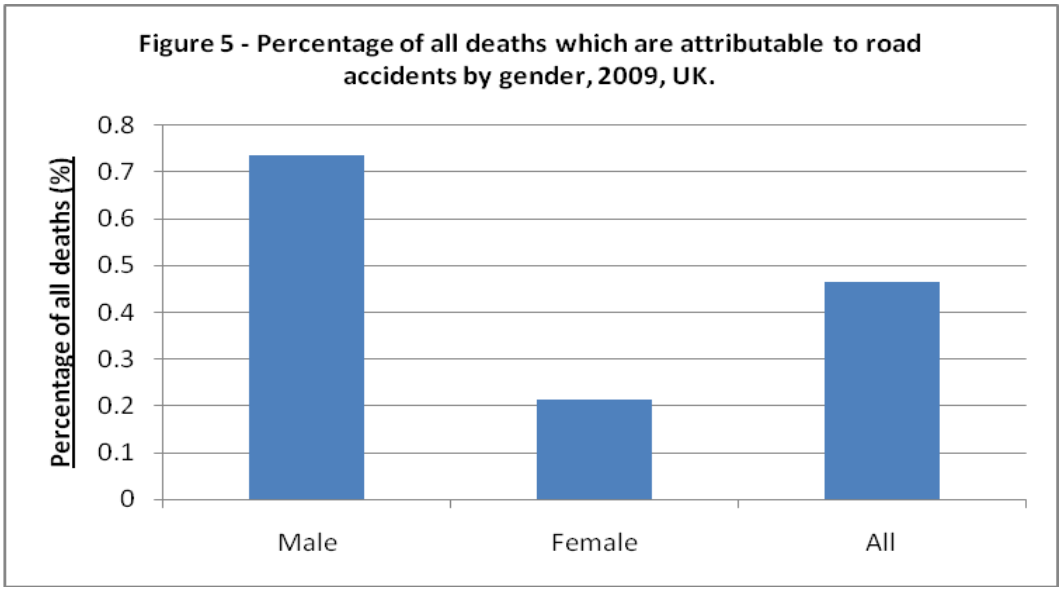
Corresponding numbers of deaths from external causes, 2009. UK

Age	Male	Female	All
0 – 4	72	71	143
5 – 9	33	19	52
10 – 14	59	34	93
15 – 19	549	160	709
20 – 24	853	193	1046
25 – 29	952	240	1192

Although external causes of mortality account for only 3.8% of all deaths they account for a much larger proportion of deaths amongst the young (See: Table 1 and Figures 2-4). For the 15-19 age group external causes of death account for over 50% of all deaths, and for males of this age group external causes of death account for over 60% of all death. Tables 1 illustrates that men between the ages of 15-24 are almost 5 times as likely than women to die from external causes.

Road traffic accidents only account for 0.5% of all deaths (See – Figure 5), but they amount to 25% of the deaths in the 15-19 age group (See – Figures 5 and 6). Overall men are over three times as likely to die from a road accident in comparison to women.

15-19 years olds experience almost double the risk of death from road traffic accidents (82.5 deaths per million population) in comparison to the general population (42.2 deaths per million population). For males in this age group the risk is higher still at 127.3 deaths per million population (See: Annex A).



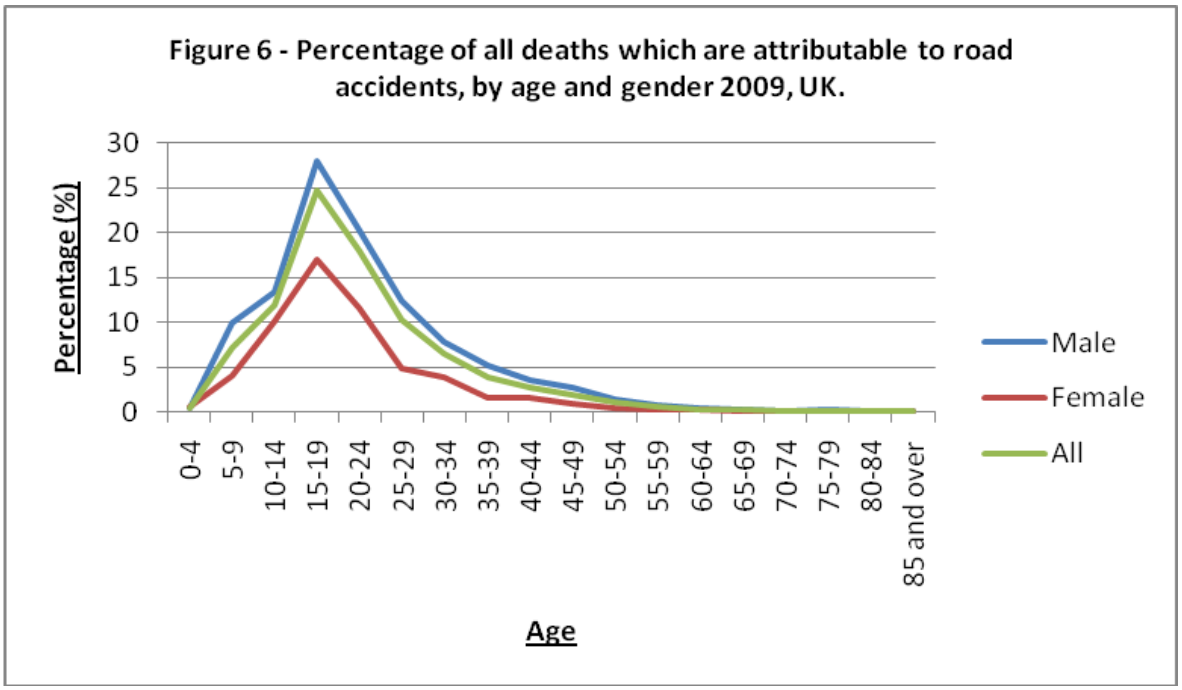


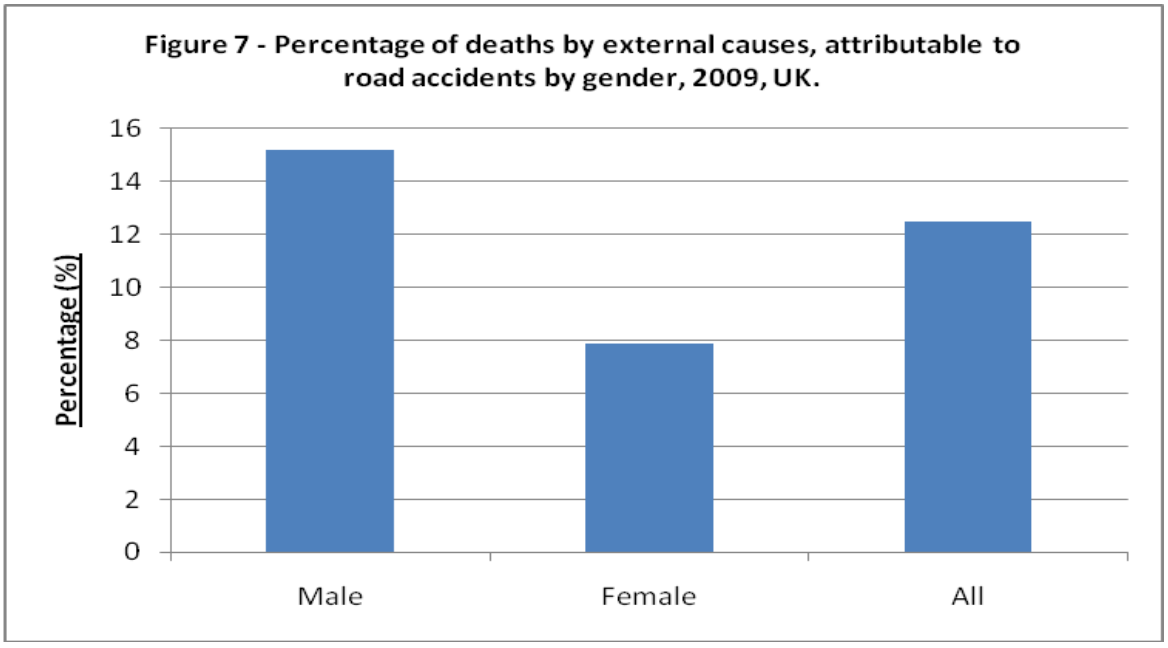
Table 2 – Percentage of all deaths which are attributable to road traffic accidents, by age and gender, 2009. UK

Age	Male	Female	All
0 - 4	0.4%	0.6%	0.5%
5 – 9	10%	4%	7.2%
10 – 14	13.4%	10.1%	11.9%
15 – 19	28%	17%	24.7%
20 - 24	20.4%	11.6%	17.9%
25-29	12.5%	4.8%	10.2%

Corresponding numbers of deaths from road traffic accidents, 2009. UK

Age	Male	Female	All
0 - 4	10	11	21
5 – 9	17	6	23
10 – 14	29	19	48
15 – 19	259	68	327
20 - 24	273	59	332
25-29	207	34	241

Road accidents deaths account for 13% of all external causes of death. For males road accidents account for 15% of all external causes of death. For women road traffic accidents account for around 8% of all external causes of death (See – Figure 7).



Differences can also be seen throughout the age groups. Figure 8 below shows how amongst the young, road accidents are one of the main causes of potentially preventable death, with road death accounting for between 30-50% of all external death between the ages of 10 and 24 (See Figure 8 and Table 3).

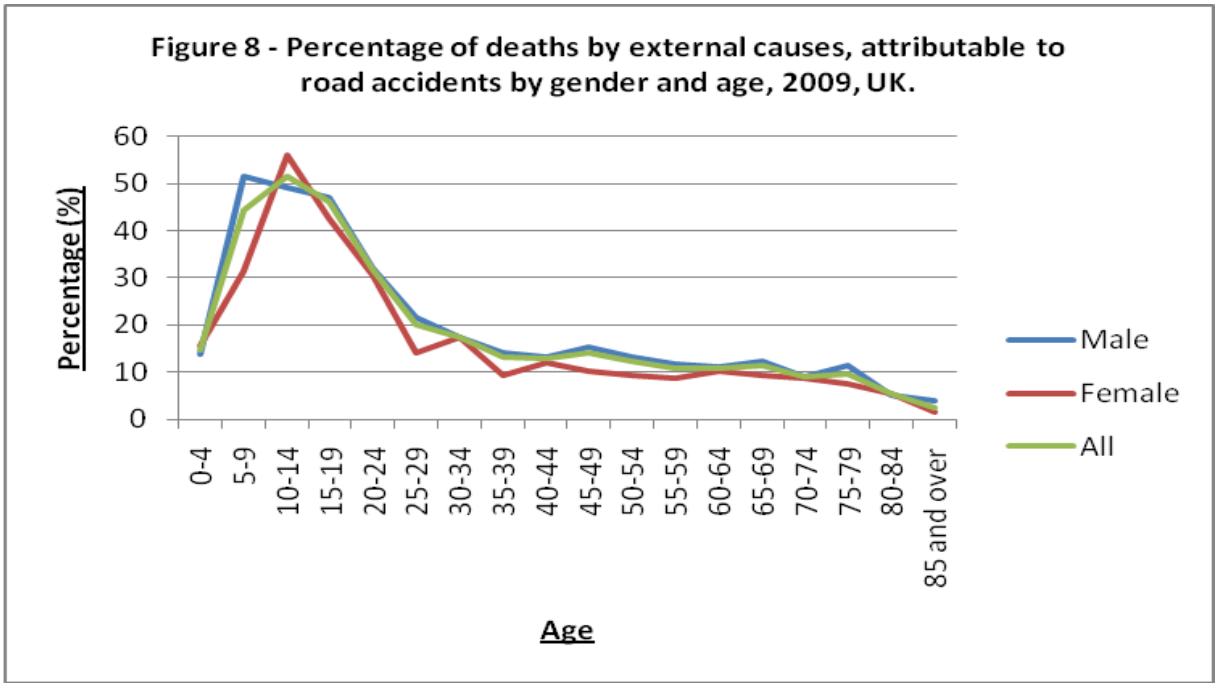


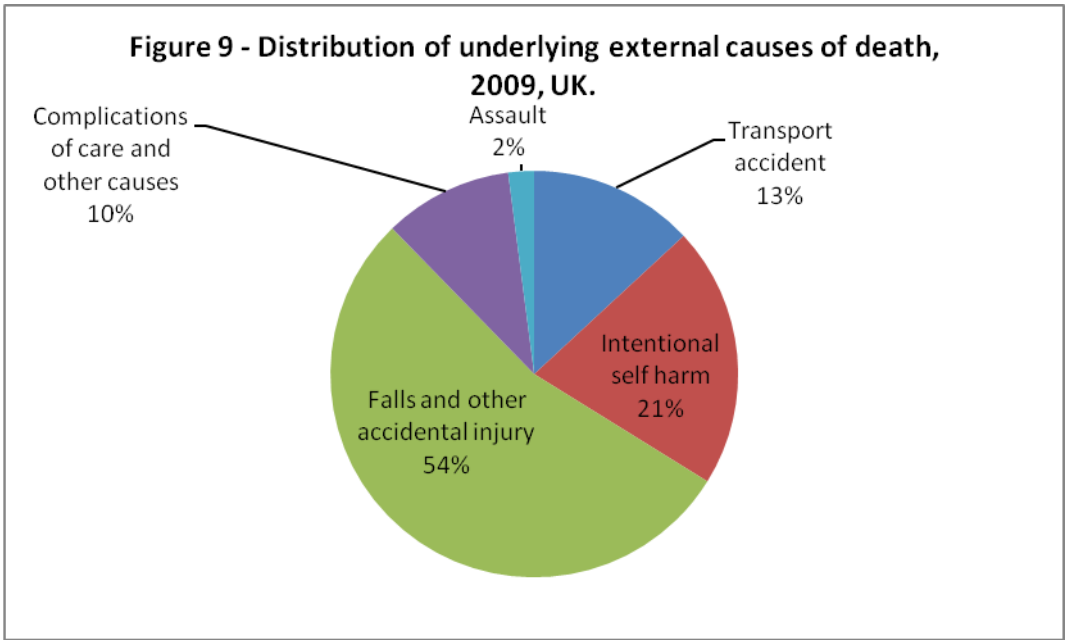
Table 3 - Road traffic accidents as a percentage of all external causes of death, by age and gender, 2009. UK.

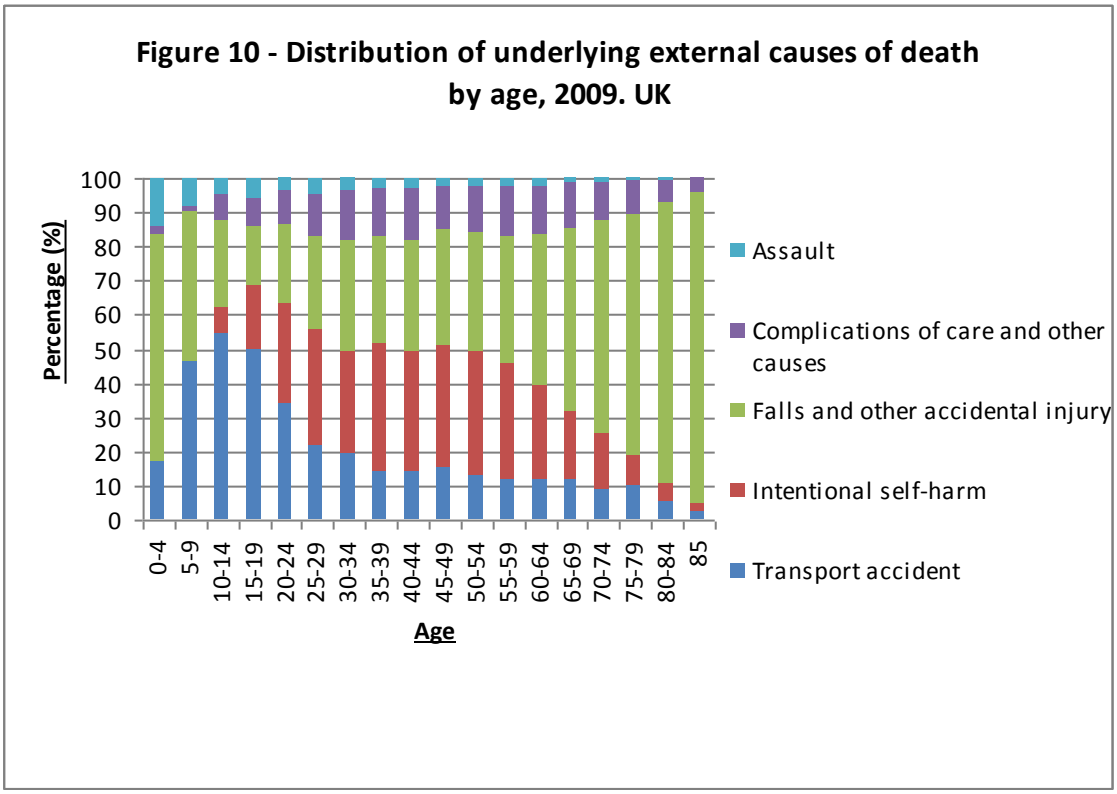
Age	Male	Female	All
0 – 4	13.9%	15.5%	14.7%
5 – 9	51.5%	31.6%	44.2%
10 – 14	49.2%	55.9%	51.6%
15 – 19	47.2%	42.5%	46.1%
20 – 24	32.0%	30.6%	31.7%
25 – 29	21.7%	14.2%	20.2%

Corresponding numbers of deaths from road traffic injuries, 2009. UK.

Age	Male	Female	All
0 – 4	10	11	21
5 – 9	17	6	23
10 – 14	29	19	48
15 – 19	259	68	327
20 – 24	273	59	332
25 – 29	207	34	241

To put road traffic accidents in perspective figures 9 and 10 below show how road traffic accidents compare to other external causes of death, and how incidence differs with age.





From figures 9 and 10 it is clear to see that although other underlying causes such as intentional self-harm, falls and other accidental injury make up a large part of all external injuries particularly beyond the age of 30, before this point road accident deaths are the highest cause of death amongst the young, particularly the under 15s. Figure 11 further puts this into context by comparing road accident death by age, to some of the death categories that are often reported in the printed press, particular issues such as assault by a sharp or blunt object as well as intentional self-harm by hanging.

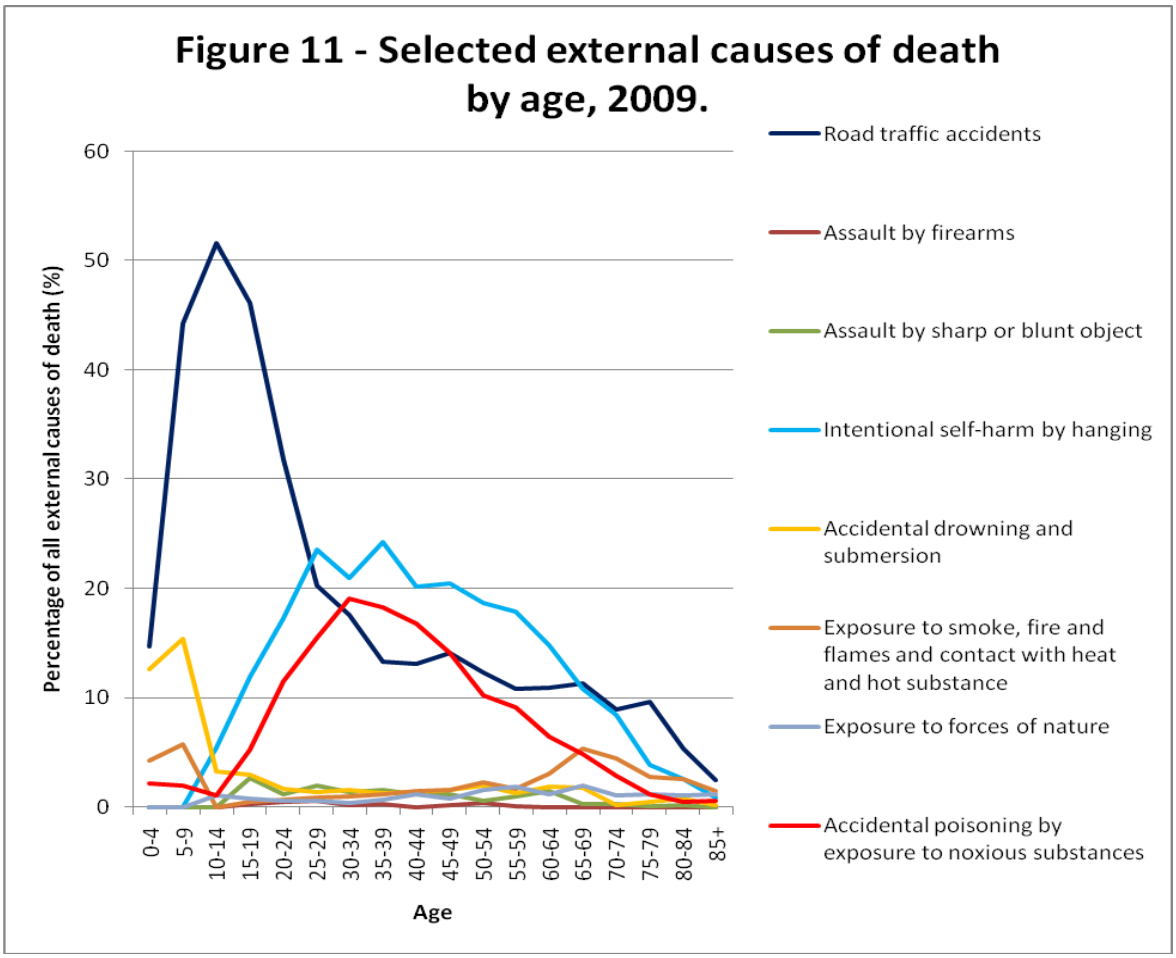


Table 4a. Number of 15-24 year old deaths for selected external causes, 2009. UK

	No. deaths 15-24
Assault by firearms	7
Assault by sharp or blunt object	31
Intentional self-harm by hanging	265
Accidental drowning and submersion	38
Exposure to smoke, fire and flames and contact with heat and hot substance	10
Exposure to forces of nature	11
Accidental poisoning by exposure to noxious substances	157
Road traffic accidents	659
Number of deaths from all external causes	1755

Table 4b – Likelihood of death by select external causes in comparison to road traffic accidents for 15-24 year olds, 2009. UK

	No. RTA deaths/no. of other deaths
Assault by firearms	94.1
Assault by sharp or blunt object	21.3
Intentional self-harm by hanging	2.5
Accidental drowning and submersion	17.3
Exposure to smoke, fire and flames and contact with heat and hot substance	65.9
Exposure to forces of nature	59.9
Accidental poisoning by exposure to noxious substances	4.2

Table 4c – Summary of likelihood of death by external causes in comparison to road traffic accident for 15-24 year olds, 2009. UK

	No. RTA deaths/no. other deaths
Violent assault (Firearms and weapons)	17.3
Suicide by hanging	2.5
Poisoning from alcohol and drugs	4.2
Violent assault and suicide by hanging combined	2.1

Between the ages of 15-24 a young person is twice as likely to die from a road traffic accident than be fatally assault by firearms, a sharp/blunt object or intentional self-harm by hanging combined (See: Table 4c). Accidental poisoning by exposure to noxious substances (i.e. alcohol or drug poisoning amongst others) only becomes more of an issue than death by road traffic accidents over the age of 35.

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Contact:

Elizabeth Box - Head of Research
RAC Foundation

Annex A: Deaths from land traffic injuries (VO1 - V89), number, percentage of deaths from all causes and rates by age and sex, UK, 2009

Value	Sex	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Number of deaths from all causes	M	2343	170	216	925	1341	1659	1888	3010	4574	5978	8061
	F	1883	150	188	401	509	704	922	1571	2717	3932	5475
	M+F	4226	320	404	1326	1850	2363	2810	4581	7291	9910	13536
Number of deaths from external causes	M	72	33	59	549	853	952	849	1103	1199	1046	862
	F	71	19	34	160	193	240	206	257	342	350	290
	M+F	143	52	93	709	1046	1192	1055	1360	1541	1396	1152
Number of deaths from road traffic injuries	M	10	17	29	259	273	207	149	156	160	160	115
	F	11	6	19	68	59	34	36	24	41	36	27
	M+F	21	23	48	327	332	241	185	180	201	196	142
Percentage of deaths from road traffic injuries in comparison to all causes	M	0.43	10.00	13.43	28.00	20.36	12.48	7.89	5.18	3.50	2.68	1.43
	F	0.58	4.00	10.11	16.96	11.59	4.83	3.90	1.53	1.51	0.92	0.49
	M+F	0.50	7.19	11.88	24.66	17.95	10.20	6.58	3.93	2.76	1.98	1.05
Percentage of deaths from road traffic injuries as a proportion of external causes	M	13.89	51.52	49.15	47.18	32.00	21.74	17.55	14.14	13.34	15.30	13.34
	F	15.49	31.58	55.88	42.50	30.57	14.17	17.48	9.34	11.99	10.29	9.31
	M+F	14.69	44.23	51.61	46.12	31.74	20.22	17.54	13.24	13.04	14.04	12.33
Population	M	1934295	1741900	1849374	2035405	2175496	2115461	1931624	2137153	2328512	2194671	1922259
	F	1844115	1663134	1762768	1928996	2080581	2041985	1904151	2180738	2365428	2265881	1966780
	M+F	3778410	3405034	3612142	3964401	4256077	4157446	3835775	4317891	4693940	4460552	3889039
Population (rates for factoring per million people rates)	M	0.52	0.57	0.54	0.49	0.46	0.47	0.52	0.47	0.43	0.46	0.52
	F	0.54	0.60	0.57	0.52	0.48	0.49	0.53	0.46	0.42	0.44	0.51
	M+F	0.26	0.29	0.28	0.25	0.23	0.24	0.26	0.23	0.21	0.22	0.26
Number of deaths from road traffic injuries per million people	M	5.17	9.76	15.68	127.25	125.49	97.85	77.14	72.99	68.71	72.90	59.83
	F	5.96	3.61	10.78	35.25	28.36	16.65	18.91	11.01	17.33	15.89	13.73
	M+F	5.56	6.75	13.29	82.48	78.01	57.97	48.23	41.69	42.82	43.94	36.51

Cont...Deaths from land traffic injuries (VO1 - V89), number, percentage of deaths from all causes and rates by age and sex, UK, 2009

Value	Sex	55-59	60-64	65-69	70-74	75-79	80-84	85 and over	All ages
Number of deaths from all causes	M	12042	18710	22911	31062	40270	47058	68586	270804
	F	7958	12605	15449	22813	34192	49517	127827	288813
	M+F	20000	31315	38360	53875	74462	96575	196413	559617
Number of deaths from external causes	M	750	635	559	502	681	920	1469	13093
	F	291	313	283	342	575	908	2914	7788
	M+F	1041	948	842	844	1256	1828	4383	20881
Number of deaths from road traffic injuries	M	87	71	69	45	77	48	59	1991
	F	25	32	26	30	43	49	48	614
	M+F	112	103	95	75	120	97	107	2605
Percentage of deaths from road traffic injuries in comparison to all causes	M	0.72	0.38	0.30	0.14	0.19	0.10	0.09	0.74
	F	0.31	0.25	0.17	0.13	0.13	0.10	0.04	0.21
	M+F	0.56	0.33	0.25	0.14	0.16	0.10	0.05	0.47
Percentage of deaths from road traffic injuries as a proportion of external causes	M	11.60	11.18	12.34	8.96	11.31	5.22	4.02	15.21
	F	8.59	10.22	9.19	8.77	7.48	5.40	1.65	7.88
	M+F	10.76	10.86	11.28	8.89	9.55	5.31	2.44	12.48
Population	M	1767325	1818027	1364447	1146581	880816	591297	439154	30373797
	F	1828725	1901120	1402560	1295004	1108506	877184	930043	31347699
	M+F	3596050	3719147	2767007	2441585	1989322	1468481	1369197	61721496
Population (rates for factoring per million people rates)	M	0.57	0.55	0.73	0.87	1.14	1.69	2.28	0.03
	F	0.55	0.53	0.71	0.77	0.90	1.14	1.08	0.03
	M+F	0.28	0.27	0.36	0.41	0.50	0.68	0.73	0.02
Number of deaths from road traffic injuries per million people	M	49.23	39.05	50.57	39.25	87.42	81.18	134.35	65.55
	F	13.67	16.83	18.54	23.17	38.79	55.86	51.61	19.59
	M+F	31.15	27.69	34.33	30.72	60.32	66.05	78.15	42.21