

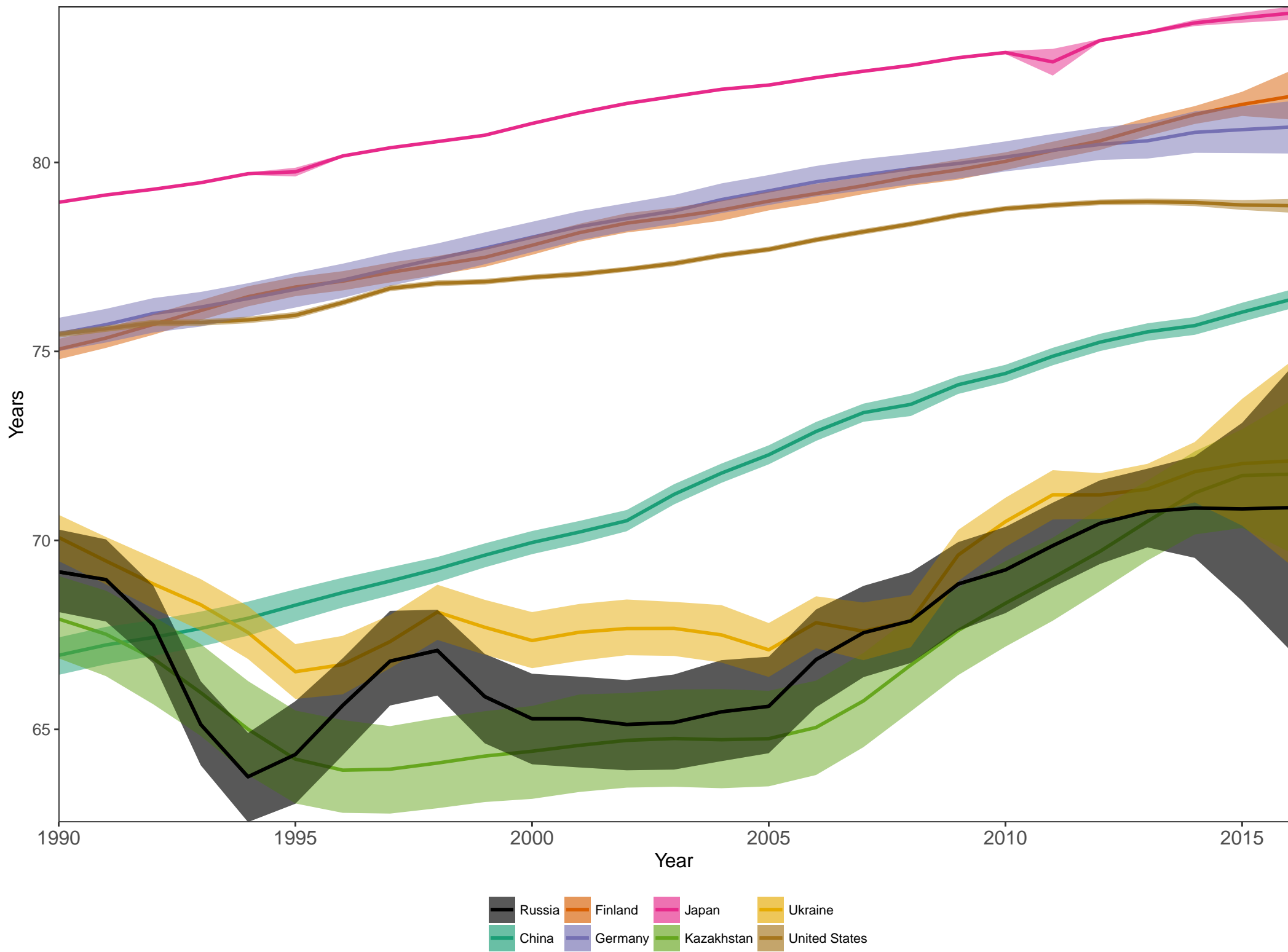
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Supplementary appendix

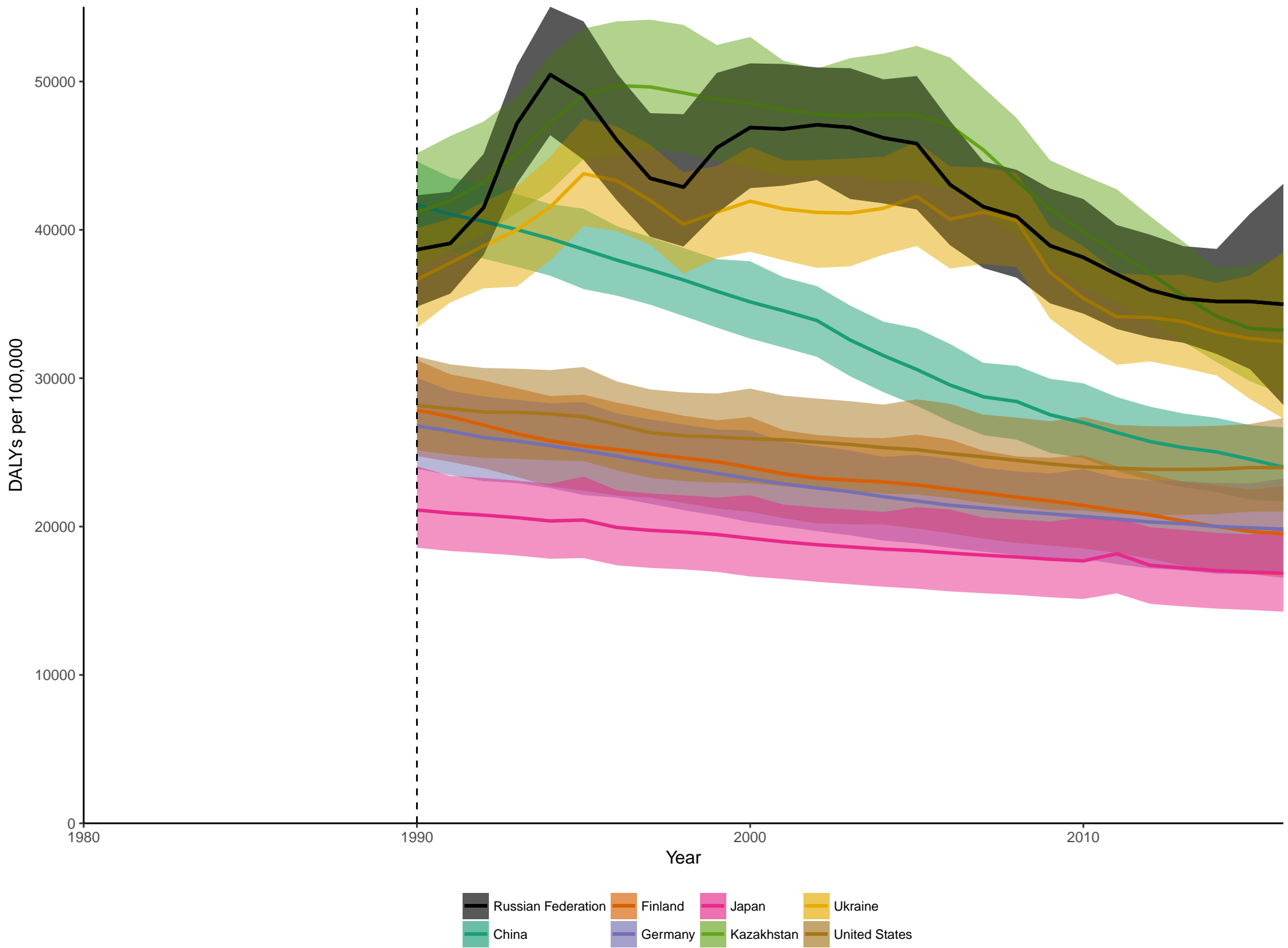
This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: GBD 2016 Russia Collaborators. The burden of disease in Russia from 1980 to 2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2018; published online Aug 30. [http://dx.doi.org/10.1016/S0140-6736\(18\)31485-5](http://dx.doi.org/10.1016/S0140-6736(18)31485-5).

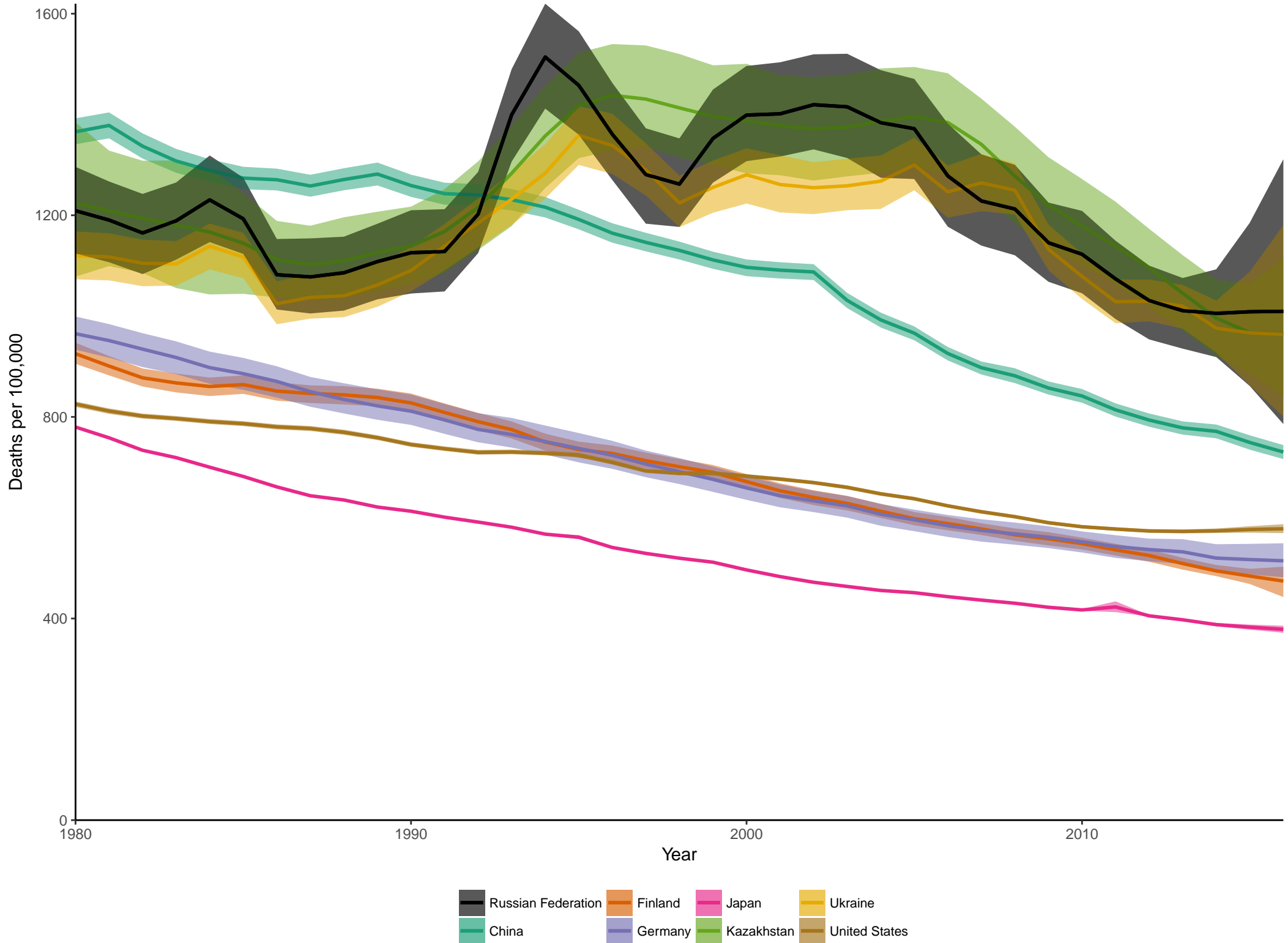
Trends in life expectancy at birth for Russia and comparator countries, both sexes combined, 1980–2016



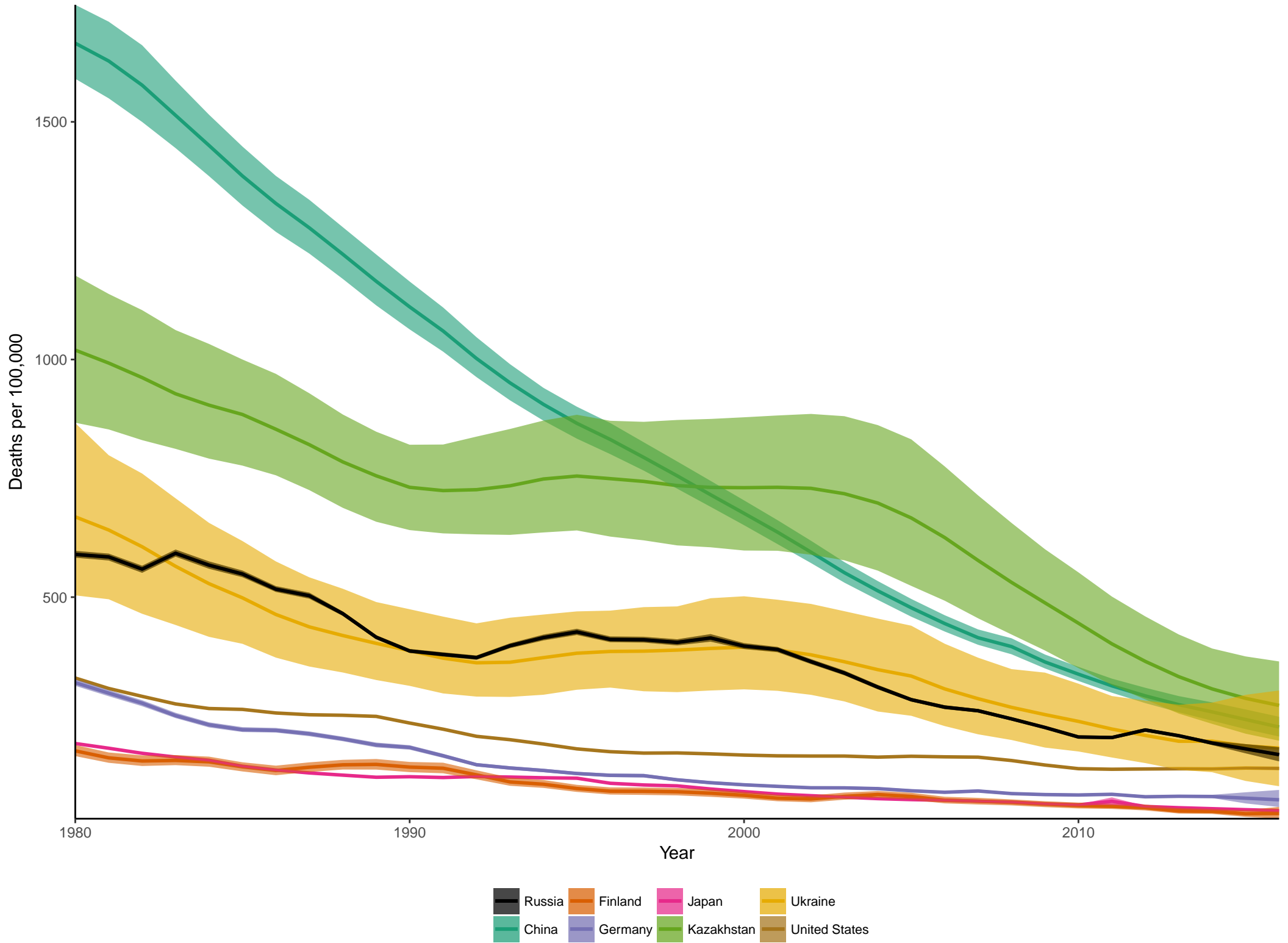
Trends in age-standardised all-cause rate of DALYs for Russia and comparator countries, both sexes combined 1980–2016



Trends in age-standardised all-cause rate of mortality for Russia and comparator countries, both sexes combined 1980–2016



Trends in under-5 mortality for Russia and comparator countries, both sexes combined, 1980–2016



Top 20 level 3 causes of YLDs for 1990 and 2016, Russia Both sexes

Leading causes 1990	Leading causes 2016	Mean % change number of YLDs 1990-2016	Mean % change all-age YLD rate 1990-2016	Mean % change age-standardized YLD rate 1990-2016
1 Low back & neck pain	1 Low back & neck pain	5.8% (1.1 to 10.3%)	6.9% (2.2 to 11.5%)	-8.2% (-11.9 to -4.5%)
2 Sense organ diseases	2 Sense organ diseases	20.0% (17.9 to 22.6%)	21.3% (19.2 to 23.9%)	-2.4% (-3.9 to -0.8%)
3 Migraine	3 Falls	10.8% (7.4 to 13.8%)	12.1% (8.6 to 15.1%)	-3.9% (-6.8 to -1.3%)
4 Falls	4 Migraine	3.8% (0.5 to 7.4%)	4.9% (1.6 to 8.5%)	0.2% (-2.8 to 3.3%)
5 Depressive disorders	5 Depressive disorders	5.7% (0.6 to 11.3%)	6.8% (1.7 to 12.5%)	-3.8% (-8.0 to 0.6%)
6 Skin diseases	6 Skin diseases	-4.9% (-7.1 to -2.8%)	-3.8% (-6.1 to -1.7%)	1.9% (-0.1 to 4.2%)
7 Stroke	7 Stroke	18.0% (8.0 to 27.3%)	19.3% (9.2 to 28.7%)	-10.6% (-18.0 to -3.7%)
8 Alcohol use disorders	8 Alcohol use disorders	4.3% (-4.5 to 13.8%)	5.5% (-3.5 to 15.0%)	-0.7% (-9.1 to 8.2%)
9 Drug use disorders	9 Oral disorders	18.3% (15.4 to 21.7%)	19.6% (16.7 to 23.0%)	0.2% (-1.6 to 2.2%)
10 Oral disorders	10 Osteoarthritis	35.7% (31.0 to 40.5%)	37.2% (32.4 to 42.0%)	8.1% (4.4 to 11.8%)
11 Diabetes	11 Diabetes	26.4% (13.7 to 39.6%)	27.8% (15.0 to 41.1%)	2.1% (-8.0 to 12.6%)
12 Osteoarthritis	12 Drug use disorders	-6.3% (-14.9 to 2.6%)	-5.3% (-14.0 to 3.7%)	-8.2% (-17.0 to 0.8%)
13 Anxiety disorders	13 Anxiety disorders	1.6% (-4.7 to 8.3%)	2.7% (-3.7 to 9.5%)	-0.2% (-6.4 to 6.2%)
14 Road injuries	14 Road injuries	12.1% (8.8 to 15.5%)	13.4% (9.9 to 16.7%)	-1.7% (-4.4 to 0.9%)
15 Asthma	15 Ischemic heart disease	29.7% (23.9 to 35.2%)	31.1% (25.2 to 36.6%)	-0.6% (-4.8 to 3.5%)
16 Gynecological diseases	16 Asthma	-9.7% (-14.6 to -4.9%)	-8.7% (-13.7 to -3.8%)	-9.4% (-14.4 to -4.8%)
17 Congenital defects	17 Gynecological diseases	0.2% (-3.7 to 4.0%)	1.3% (-2.6 to 5.1%)	-2.3% (-6.1 to 1.6%)
18 Mechanical forces	18 Other mental & substance	9.3% (4.2 to 14.2%)	10.5% (5.4 to 15.5%)	0.4% (-4.2 to 5.1%)
19 Upper respiratory infect	19 Upper respiratory infect	-6.6% (-10.9 to -2.4%)	-5.5% (-9.9 to -1.3%)	-0.1% (-3.9 to 3.9%)
20 Ischemic heart disease	20 Mechanical forces	-10.6% (-14.6 to -7.0%)	-9.6% (-13.7 to -6.0%)	-19.4% (-22.8 to -16.3%)
21 Other mental & substance	22 Congenital defects			

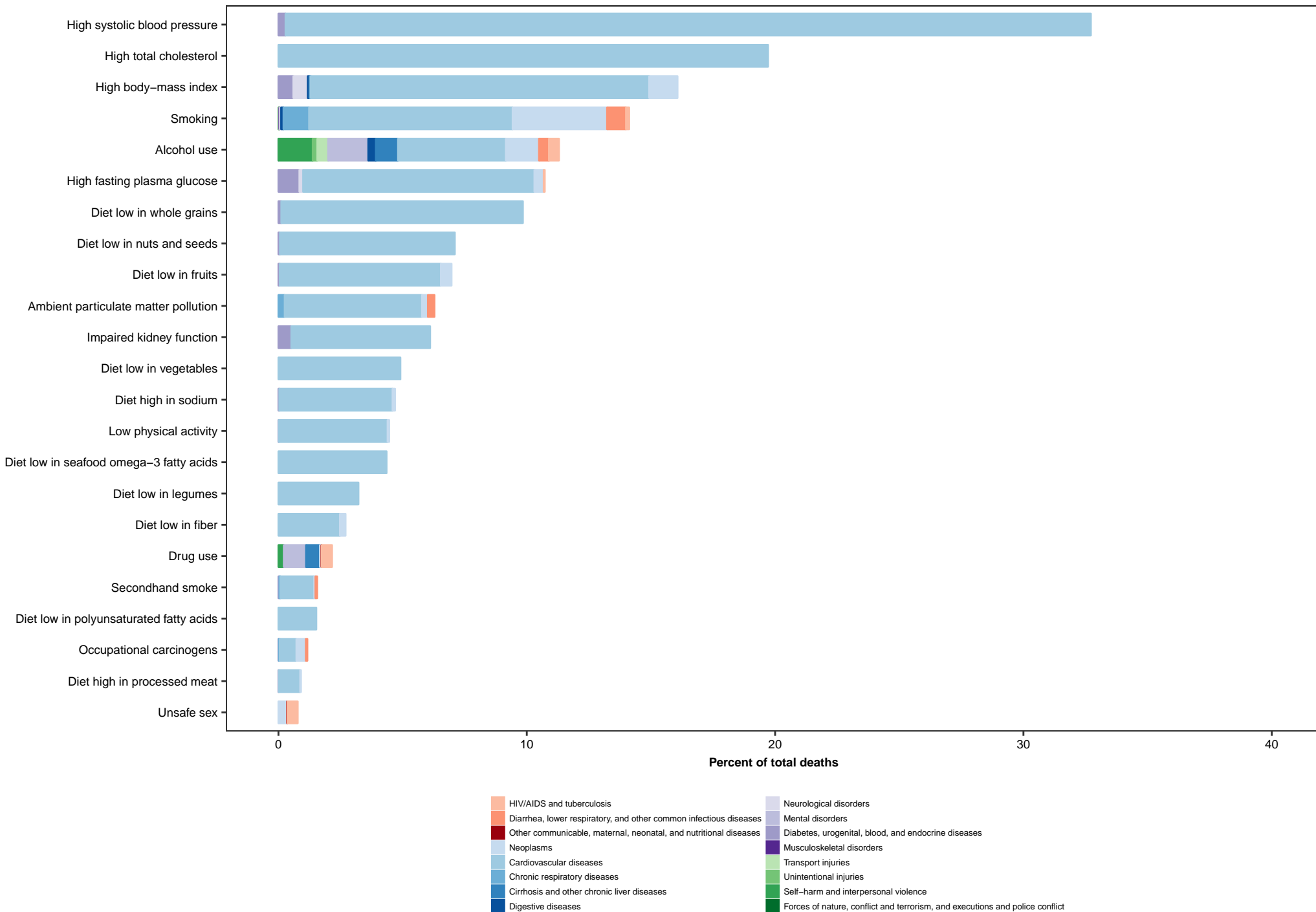
Legend:

Communicable, maternal, neonatal and nutritional

Non-communicable

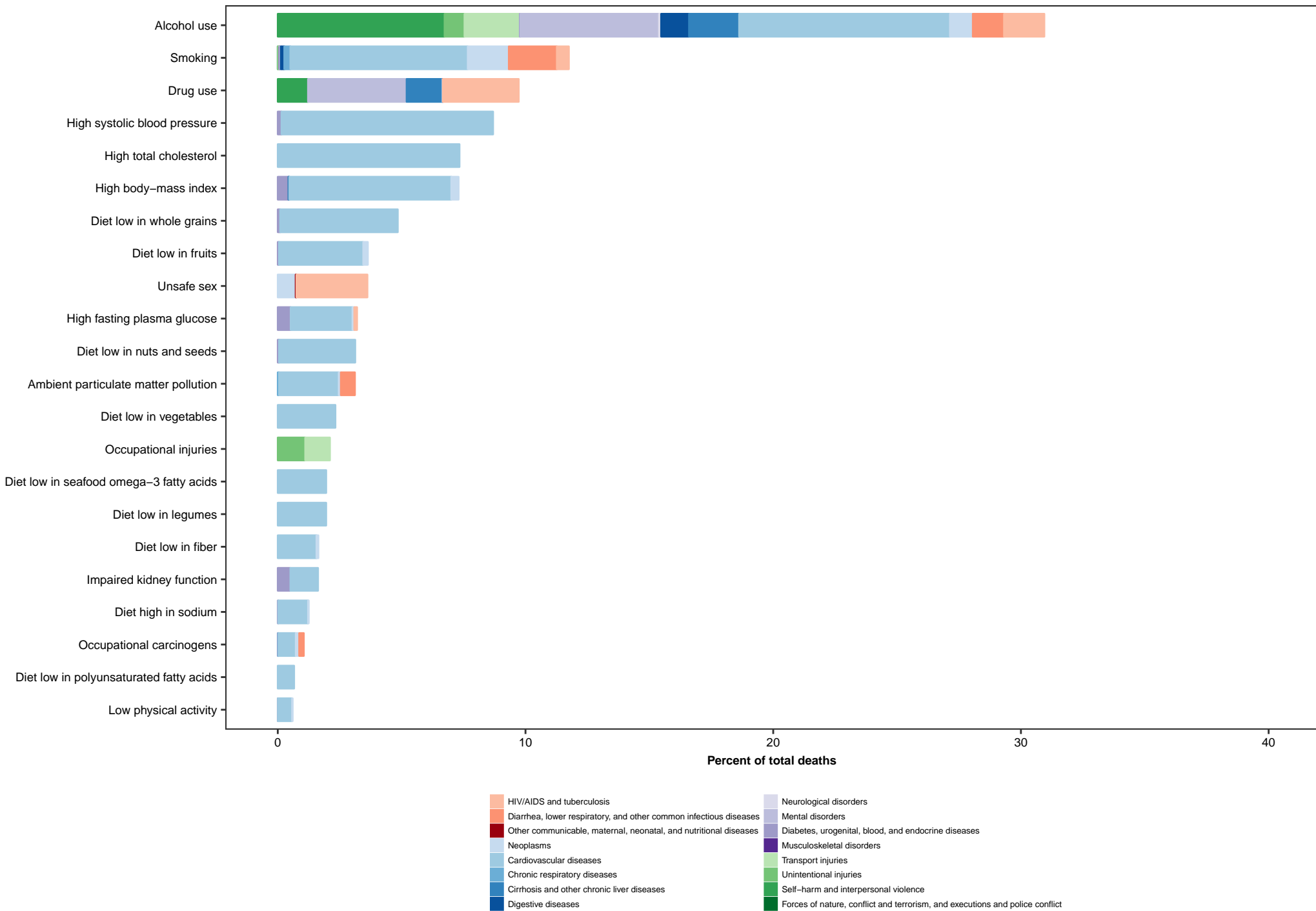
Injuries

**Percent of total deaths attributable to risks at level 3 of the GBD hierarchy
Both All Ages, Russia 2016**



Risks attributable to less than 1% of total deaths omitted

**Percent of total deaths attributable to risks at level 3 of the GBD hierarchy
Both 15–49 years, Russia 2016**



Risks attributable to less than 1% of total deaths omitted

Appendix Table 1. Number and age-standardised rate of deaths and DALYs, and the percent change from 1980 to 2016

	Deaths per 100,000	Number of deaths	DALYS per 100,000	Number of DALYs	percent change
All causes	1,009.4 785.9 to 1,311.1	1,997,038 1,541,907 to 2,591,653	34,980.8 28,197.5 to 43,102.1	62,885,482 50,354,314 to 77,786,870	-16.6 -33.8 to 9.4
Communicable, maternal, neonatal, and nutritional diseases	47.7 39.6 to 58.2	79,797 64,623 to 98,966	3,009.4 2,585.5 to 3,456.4	4,380,101 3,728,380 to 5,100,529	-25.5 -37.9 to -8.8
HIV/AIDS and tuberculosis	18.3 15.7 to 21.3	30,875 26,440 to 36,294	905.4 797.0 to 1,036.0	1,478,772 1,289,707 to 1,702,175	80.7 48.2 to 116.9
Tuberculosis	7.2 5.0 to 10.2	13,123 9,081 to 18,405	300.4 209.9 to 424.5	518,909 360,127 to 730,715	-31.1 -51.5 to -5.7
Drug-susceptible tuberculosis	4.5 3.0 to 6.5	8,079 5,386 to 11,778	187.0 127.6 to 272.1	322,780 219,777 to 469,814	-57.4 -70.2 to -38.3
Multidrug-resistant tuberculosis without extensive drug resistance	1.8 1.1 to 2.6	3,196 1,950 to 4,759	72.1 44.1 to 108.0	124,767 75,528 to 186,505	5,010.3 2,103.4 to 9,933.1
Extensively drug-resistant tuberculosis	1.0 0.6 to 1.5	1,848 1,131 to 2,743	41.2 25.0 to 62.2	71,362 43,033 to 106,795	- -
HIV/AIDS	11.0 10.1 to 12.1	17,752 16,233 to 19,578	605.0 548.3 to 672.5	959,863 869,606 to 1,072,136	- -
HIV/AIDS - Drug-susceptible Tuberculosis	0.4 0.2 to 0.7	653 352 to 1,137	21.4 11.8 to 37.0	33,994 18,690 to 58,658	- -
HIV/AIDS - Multidrug-resistant Tuberculosis without extensive drug resistance	0.2 0.1 to 0.3	329 174 to 559	10.6 5.7 to 18.0	16,858 8,961 to 28,507	- -
HIV/AIDS - Extensively drug-resistant Tuberculosis	0.1 0.1 to 0.2	190 99 to 324	6.1 3.2 to 10.4	9,692 5,070 to 16,478	- -
HIV/AIDS resulting in other diseases	10.3 9.3 to 11.4	16,580 14,896 to 18,431	566.8 506.7 to 635.8	899,319 802,363 to 1,011,861	- -
Diarrhea, lower respiratory, and other common infectious diseases	22.6 17.0 to 29.6	41,162 30,298 to 54,589	1,163.9 917.3 to 1,442.1	1,800,962 1,379,857 to 2,280,520	-29.2 -45.8 to -6.6
Diarrheal diseases	0.3 0.2 to 0.4	439 347 to 545	91.2 66.7 to 119.7	111,524 81,554 to 145,633	-89.7 -92.0 to -86.4
Intestinal infectious diseases	0.0 0.0 to 0.0	9 3 to 21	0.3 0.1 to 0.6	386 136 to 887	-67.8 -77.4 to -53.3
Typhoid fever	0.0 0.0 to 0.0	5 1 to 11	0.2 0.1 to 0.4	221 74 to 499	-81.7 -86.3 to -76.0
Paratyphoid fever	0.0 0.0 to 0.0	4 1 to 11	0.1 0.0 to 0.3	157 44 to 397	120.3 55.8 to 231.1
Other intestinal infectious diseases	0.0 0.0 to 0.0	0 0 to 1	0.0 0.0 to 0.0	8 3 to 16	-39.4 -66.4 to -4.3
Lower respiratory infections	20.4 15.1 to 26.9	37,613 27,719 to 50,026	742.5 557.3 to 974.6	1,238,472 903,679 to 1,641,732	-15.9 -37.5 to 12.4
Upper respiratory infections	0.0 0.0 to 0.0	27 13 to 47	172.9 104.9 to 268.8	233,662 141,869 to 359,796	-20.9 -68.3 to 79.5
Otitis media	0.0 0.0 to 0.0	3 2 to 5	32.6 20.1 to 49.0	39,707 24,885 to 58,956	-72.1 -84.2 to -53.6
Meningitis	1.0 0.7 to 1.2	1,534 1,160 to 2,019	61.4 49.5 to 74.2	85,083 67,234 to 104,629	-73.7 -80.4 to -65.4
Pneumococcal meningitis	0.1 0.0 to 0.1	117 85 to 159	7.5 5.7 to 9.4	11,194 8,525 to 14,110	-51.8 -63.3 to -37.4

	0.1	114	6.1	8,231	-67.8
H influenzae type B meningitis	0.1 to 0.1	87 to 147	5.0 to 7.4	6,637 to 9,958	-74.5 to -59.5
	0.5	731	30.5	39,195	-80.8
Meningococcal meningitis	0.4 to 0.6	564 to 939	24.8 to 36.9	31,564 to 48,020	-86.2 to -74.0
	0.3	572	17.2	26,464	-53.6
Other meningitis	0.2 to 0.4	407 to 770	13.2 to 21.6	19,923 to 34,008	-64.6 to -38.8
	0.9	1,485	56.5	83,072	-3.4
Encephalitis	0.7 to 1.4	1,052 to 2,248	44.1 to 79.3	64,375 to 116,079	-25.2 to 24.3
	0.0	5	0.2	230	-96.7
Diphtheria	0.0 to 0.0	3 to 8	0.1 to 0.3	144 to 360	-98.4 to -93.6
	0.0	9	1.9	1,938	-33.9
Whooping cough	0.0 to 0.0	4 to 30	1.1 to 3.5	1,133 to 3,625	-64.8 to 17.3
	0.0	4	0.1	124	-95.8
Tetanus	0.0 to 0.0	3 to 7	0.1 to 0.1	85 to 190	-96.9 to -94.0
	0.0	3	0.3	268	-92.5
Measles	0.0 to 0.0	2 to 5	0.2 to 0.4	186 to 376	-95.6 to -88.7
	0.0	29	4.3	6,494	-5.1
Varicella and herpes zoster	0.0 to 0.0	12 to 46	2.5 to 6.0	4,058 to 9,332	-32.2 to 23.2
	0.1	115	21.6	37,273	-4.7
Neglected tropical diseases and malaria	0.0 to 0.1	65 to 154	14.1 to 32.2	23,394 to 58,302	-26.0 to 29.6
	0.0	0	0.0	0	-
Malaria	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Chagas disease	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Leishmaniasis	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Visceral leishmaniasis	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
African trypanosomiasis	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Schistosomiasis	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	4	0.9	1,685	-65.9
Cysticercosis	0.0 to 0.0	3 to 5	0.1 to 2.4	114 to 4,410	-74.8 to -53.1
	0.0	35	1.5	2,568	-65.0
Cystic echinococcosis	0.0 to 0.0	25 to 47	0.7 to 4.0	1,195 to 6,834	-73.4 to -52.6
	0.0	0	0.0	0	-
Dengue	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Yellow fever	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	3	0.1	123	7.6
Rabies	0.0 to 0.0	2 to 4	0.1 to 0.1	86 to 173	-37.9 to 66.7
	0.0	0	0.0	0	-
Intestinal nematode infections	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Ascariasis	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-
	0.0	0	0.0	0	-
Ebola	0.0 to 0.0	0 to 0	0.0 to 0.0	0 to 0	-

Zika virus	0.0 0.0 to 0.0	0 0 to 0	0.0 0.0 to 0.0	0 0 to 0	-
Other neglected tropical diseases	0.0 0.0 to 0.1	74 26 to 103	2.7 1.0 to 3.7	3,556 1,206 to 4,962	163.4 88.9 to 256.3
Maternal disorders	0.2 0.1 to 0.4	337 178 to 588	19.7 13.2 to 29.6	29,241 19,601 to 44,381	-80.7 -89.8 to -64.5
Maternal hemorrhage	0.0 0.0 to 0.1	63 31 to 113	4.4 2.9 to 6.5	6,698 4,347 to 9,969	-77.0 -87.8 to -53.3
Maternal sepsis and other maternal infections	0.0 0.0 to 0.0	24 12 to 43	1.9 1.2 to 3.0	2,762 1,687 to 4,332	-70.2 -83.4 to -42.9
Maternal hypertensive disorders	0.0 0.0 to 0.0	40 20 to 71	3.3 2.2 to 5.1	4,860 3,127 to 7,339	-80.3 -90.0 to -64.9
Maternal obstructed labor and uterine rupture	0.0 0.0 to 0.0	5 2 to 10	0.5 0.3 to 0.9	804 420 to 1,352	8.9 -47.0 to 126.7
Maternal abortion, miscarriage, and ectopic pregnancy	0.0 0.0 to 0.1	63 33 to 113	3.2 1.9 to 5.0	4,725 2,870 to 7,604	-89.6 -94.5 to -80.5
Indirect maternal deaths	0.0 0.0 to 0.1	70 36 to 127	2.7 1.4 to 4.8	3,965 2,061 to 7,221	-84.3 -92.5 to -70.8
Late maternal deaths	0.0 0.0 to 0.0	3 1 to 5	0.1 0.1 to 0.2	149 72 to 286	-88.6 -94.2 to -78.7
Maternal deaths aggravated by HIV/AIDS	0.0 0.0 to 0.0	1 0 to 1	0.0 0.0 to 0.0	34 12 to 76	-
Other maternal disorders	0.0 0.0 to 0.1	68 35 to 121	3.5 2.2 to 5.4	5,243 3,290 to 8,133	-29.0 -61.4 to 33.8
Neonatal disorders	5.5 4.7 to 6.2	5,599 4,792 to 6,318	681.9 582.2 to 790.3	750,777 636,852 to 884,474	-70.6 -74.6 to -65.2
Neonatal preterm birth complications	2.0 1.6 to 2.4	2,060 1,654 to 2,461	238.9 197.6 to 281.1	260,574 215,017 to 308,983	-75.4 -80.3 to -68.8
Neonatal encephalopathy due to birth asphyxia and trauma	1.4 1.1 to 1.7	1,452 1,137 to 1,765	203.8 155.8 to 260.7	231,521 172,861 to 305,751	-78.4 -82.8 to -72.5
Neonatal sepsis and other neonatal infections	0.9 0.6 to 1.4	890 653 to 1,414	120.9 83.8 to 184.7	135,380 91,195 to 217,576	-3.2 -34.0 to 30.7
Hemolytic disease and other neonatal jaundice	0.1 0.0 to 0.1	63 42 to 95	14.8 11.3 to 19.2	18,248 14,013 to 23,648	-84.8 -91.8 to -74.4
Other neonatal disorders	1.1 0.9 to 1.4	1,134 886 to 1,408	103.5 81.6 to 126.8	105,053 82,779 to 128,522	-55.3 -69.7 to -39.5
Nutritional deficiencies	0.4 0.3 to 0.5	751 564 to 991	130.3 84.4 to 193.2	166,755 111,166 to 248,655	-48.7 -60.0 to -27.8
Protein-energy malnutrition	0.1 0.1 to 0.2	213 122 to 372	19.4 12.7 to 28.1	22,612 15,341 to 32,197	-68.2 -75.9 to -53.5
Iodine deficiency	0.0 0.0 to 0.0	27 2 to 77	15.7 9.6 to 23.3	26,257 16,315 to 38,334	-54.3 -97.1 to 44.8
Iron-deficiency anemia	0.0 0.0 to 0.0	32 19 to 75	88.1 51.6 to 140.6	105,926 62,808 to 171,859	-89.0 -92.0 to -83.9
Other nutritional deficiencies	0.2 0.2 to 0.3	479 314 to 652	7.0 4.7 to 9.5	11,960 7,811 to 16,187	9.6 -20.9 to 61.7
Other communicable, maternal, neonatal, and nutritional diseases	0.7 0.5 to 0.9	959 720 to 1,212	85.9 63.2 to 115.4	115,275 85,937 to 157,258	-29.1 -45.1 to -9.1

	0.1	210	40.9	61,939	-58.5
Sexually transmitted diseases excluding HIV	0.1 to 0.2	130 to 323	26.9 to 62.4	41,079 to 93,684	-77.4 to -33.7
	0.1	89	9.2	13,863	-71.7
Syphilis	0.0 to 0.1	52 to 145	5.8 to 13.9	9,701 to 19,124	-86.4 to -54.0
	0.0	23	6.4	9,891	-9.4
Chlamydial infection	0.0 to 0.0	12 to 38	3.8 to 10.6	6,010 to 16,250	-43.7 to 52.1
	0.0	66	8.8	12,040	-25.0
Gonococcal infection	0.0 to 0.1	36 to 109	5.2 to 14.3	7,320 to 19,306	-53.3 to 23.0
	0.0	32	11.5	17,413	-24.6
Other sexually transmitted diseases	0.0 to 0.0	17 to 53	7.4 to 17.9	11,336 to 26,647	-53.5 to 25.4
	0.1	246	7.5	10,852	-69.4
Acute hepatitis	0.1 to 0.2	182 to 329	5.8 to 9.5	8,280 to 14,198	-76.4 to -56.5
	0.0	20	1.7	1,830	-85.9
Acute hepatitis A	0.0 to 0.0	15 to 27	1.2 to 2.2	1,364 to 2,377	-90.7 to -79.2
	0.1	201	5.0	7,975	-60.8
Acute hepatitis B	0.1 to 0.2	142 to 274	3.6 to 6.7	5,712 to 10,836	-71.2 to -43.1
	0.0	8	0.2	316	-57.5
Acute hepatitis C	0.0 to 0.0	5 to 12	0.1 to 0.3	216 to 443	-68.7 to -38.5
	0.0	17	0.6	730	-78.9
Acute hepatitis E	0.0 to 0.0	12 to 24	0.4 to 0.8	531 to 987	-84.7 to -70.9
	0.4	502	37.5	42,484	115.9
Other unspecified infectious diseases	0.3 to 0.5	333 to 638	23.5 to 48.9	27,857 to 55,007	68.1 to 171.7
	858.7	1,742,519	26,020.5	48,938,521	-14.5
Non-communicable diseases	663.0 to 1,107.3	1,339,352 to 2,250,680	20,835.1 to 31,997.4	39,218,978 to 60,458,684	-32.5 to 13.2
	147.5	305,543	3,585.1	7,151,792	-16.8
Neoplasms	111.6 to 195.4	231,764 to 403,970	2,703.2 to 4,798.4	5,383,879 to 9,555,005	-35.1 to 11.0
	2.9	6,005	76.6	155,928	9.1
Lip and oral cavity cancer	2.1 to 3.9	4,270 to 8,046	53.8 to 104.0	109,164 to 209,940	-16.8 to 44.7
	0.3	643	9.7	18,501	28.8
Nasopharynx cancer	0.2 to 0.4	461 to 863	6.9 to 13.1	13,086 to 24,956	-6.2 to 70.5
	1.8	3,691	49.3	101,830	31.2
Other pharynx cancer	1.2 to 2.4	2,542 to 5,049	33.8 to 67.9	69,675 to 139,804	-6.0 to 77.1
	3.7	7,916	88.5	185,337	-32.1
Esophageal cancer	2.7 to 4.9	5,673 to 10,463	61.9 to 119.3	129,088 to 249,422	-50.0 to -9.2
	17.0	35,534	376.5	770,711	-60.4
Stomach cancer	12.8 to 22.3	26,847 to 46,381	278.8 to 505.6	575,054 to 1,030,220	-69.5 to -47.5
	19.6	41,391	402.7	833,634	17.5
Colon and rectum cancer	14.8 to 25.7	30,944 to 54,140	297.7 to 531.8	617,041 to 1,101,547	-7.8 to 63.6
	5.1	10,640	116.4	236,911	15.5
Liver cancer	3.8 to 6.7	7,995 to 13,985	85.2 to 155.5	175,402 to 315,908	-10.3 to 52.9
	1.8	3,836	45.0	90,554	5.4
Liver cancer due to hepatitis B	1.3 to 2.5	2,692 to 5,234	30.9 to 62.2	62,380 to 125,732	-18.7 to 39.6
	0.6	1,316	12.2	25,625	14.6
Liver cancer due to hepatitis C	0.5 to 0.8	995 to 1,767	9.0 to 16.3	18,837 to 34,586	-12.8 to 55.0
	1.8	3,695	38.7	79,858	45.3
Liver cancer due to alcohol use	1.3 to 2.4	2,705 to 4,972	28.0 to 52.9	57,708 to 108,556	10.5 to 99.0
	0.9	1,793	20.5	40,874	-4.5
Liver cancer due to other causes	0.6 to 1.1	1,307 to 2,362	14.8 to 27.3	29,275 to 54,909	-25.8 to 28.2

Gallbladder and biliary tract cancer	1.7 1.2 to 2.3	3,546 2,609 to 4,812	33.3 24.4 to 45.6	69,222 50,881 to 94,895	-54.9 -66.1 to -35.2
Pancreatic cancer	8.4 6.3 to 11.3	17,645 13,259 to 23,575	187.8 139.4 to 253.5	385,950 287,502 to 520,887	30.2 -1.7 to 71.5
Larynx cancer	2.4 1.6 to 3.3	4,959 3,439 to 6,825	61.1 41.7 to 84.9	127,361 87,068 to 177,078	-28.6 -50.8 to -0.8
Tracheal, bronchus, and lung cancer	24.7 17.7 to 32.2	52,152 37,268 to 67,758	581.2 409.2 to 780.5	1,216,078 856,245 to 1,631,400	-28.4 -47.2 to -4.9
Malignant skin melanoma	2.2 1.5 to 3.0	4,390 3,004 to 6,044	61.0 42.0 to 83.9	116,733 80,735 to 159,565	30.4 -1.8 to 90.9
Non-melanoma skin cancer	1.1 0.8 to 1.4	2,225 1,717 to 2,868	20.1 15.1 to 26.9	40,737 30,526 to 54,297	20.8 -3.8 to 54.5
Non-melanoma skin cancer (squamous-cell carcinoma)	1.1 0.8 to 1.4	2,225 1,717 to 2,868	20.1 15.0 to 26.9	40,709 30,518 to 54,262	20.8 -3.8 to 54.5
Breast cancer	11.6 7.3 to 17.8	23,791 15,140 to 36,677	297.8 190.5 to 465.4	595,322 381,822 to 926,220	18.3 -24.2 to 89.1
Cervical cancer	3.5 2.1 to 5.6	6,916 4,210 to 10,891	111.7 66.4 to 182.2	207,109 123,606 to 333,103	-46.9 -66.7 to -14.9
Uterine cancer	3.2 2.0 to 4.9	6,658 4,197 to 10,170	77.5 49.3 to 115.4	159,062 102,073 to 238,066	68.4 0.7 to 171.5
Ovarian cancer	4.3 2.6 to 6.6	8,822 5,319 to 13,615	112.6 68.0 to 175.0	223,712 135,432 to 345,816	-16.4 -50.6 to 34.8
Prostate cancer	5.6 3.8 to 7.5	11,836 8,062 to 16,085	104.1 71.5 to 140.8	220,902 151,847 to 298,986	157.7 89.1 to 246.9
Testicular cancer	0.2 0.1 to 0.3	340 217 to 480	8.9 5.6 to 12.9	14,530 9,088 to 20,985	-35.9 -58.2 to -2.7
Kidney cancer	4.6 3.4 to 6.0	9,617 7,125 to 12,565	112.8 83.3 to 148.5	228,686 168,656 to 301,242	75.4 38.3 to 134.6
Bladder cancer	3.6 2.7 to 4.6	7,563 5,714 to 9,829	69.3 51.8 to 91.6	145,353 108,729 to 192,113	-7.1 -28.8 to 19.2
Brain and nervous system cancer	4.0 2.9 to 5.4	7,469 5,421 to 10,134	144.3 108.2 to 192.0	243,185 179,921 to 325,252	-7.8 -31.5 to 27.0
Thyroid cancer	0.6 0.4 to 0.8	1,263 900 to 1,733	14.5 10.8 to 19.4	29,243 21,677 to 39,338	-11.6 -34.2 to 26.7
Mesothelioma	0.3 0.2 to 0.4	691 507 to 922	8.6 6.1 to 11.6	16,950 12,191 to 22,916	-9.7 -32.1 to 28.6
Hodgkin lymphoma	0.6 0.4 to 0.8	1,066 767 to 1,466	24.5 17.8 to 33.6	40,357 29,094 to 55,308	-52.2 -64.4 to -32.7
Non-Hodgkin lymphoma	2.4 1.8 to 3.3	4,752 3,480 to 6,410	71.9 52.5 to 95.5	129,565 94,728 to 172,747	1.2 -22.8 to 33.3
Multiple myeloma	1.3 0.9 to 1.8	2,662 1,916 to 3,652	31.0 22.1 to 42.7	63,391 45,414 to 86,642	17.6 -16.0 to 70.1
Leukemia	4.4 3.3 to 5.7	8,324 6,250 to 10,936	139.9 108.6 to 182.5	233,844 178,222 to 305,292	-19.9 -38.1 to 4.7
Acute lymphoid leukemia	0.8 0.6 to 1.1	1,350 1,009 to 1,770	38.9 30.9 to 48.8	52,487 40,655 to 67,725	-36.5 -49.8 to -15.1
Chronic lymphoid leukemia	0.9 0.7 to 1.2	1,959 1,446 to 2,619	19.9 14.7 to 26.7	41,555 30,610 to 55,777	24.6 -6.3 to 62.1

	1.3	2,480	45.3	75,630	5.8
Acute myeloid leukemia	1.0 to 1.8	1,820 to 3,350	33.1 to 60.5	55,067 to 101,405	-20.3 to 40.4
	0.3	691	9.1	17,331	-41.9
Chronic myeloid leukemia	0.2 to 0.5	501 to 937	6.5 to 12.5	12,412 to 23,869	-59.5 to -21.2
	0.9	1,843	26.7	46,841	-38.8
Other leukemia	0.7 to 1.2	1,359 to 2,429	20.2 to 34.9	34,797 to 61,845	-53.4 to -15.4
	6.6	13,036	191.5	341,646	7.4
Other neoplasms	4.9 to 8.9	9,758 to 17,584	142.8 to 254.6	252,011 to 459,118	-16.6 to 46.9
	562.8	1,150,431	9,998.2	20,348,866	-13.6
Cardiovascular diseases	438.3 to 721.3	892,130 to 1,479,670	7,675.5 to 12,985.0	15,677,148 to 26,401,671	-31.4 to 14.8
	2.1	4,301	55.7	109,043	-72.8
Rheumatic heart disease	1.5 to 2.9	3,076 to 5,889	39.8 to 76.1	77,819 to 149,391	-80.0 to -62.4
	327.1	670,801	5,240.0	10,823,042	-13.7
Ischemic heart disease	255.1 to 416.6	521,602 to 857,942	3,985.9 to 6,825.7	8,238,153 to 14,113,901	-30.7 to 13.2
	168.0	345,861	2,939.5	6,082,727	-25.1
Stroke	131.5 to 215.3	267,315 to 444,861	2,300.8 to 3,732.5	4,773,920 to 7,736,480	-41.5 to 0.7
	124.9	258,005	2,009.7	4,228,949	-26.8
Ischemic stroke	97.0 to 159.3	199,821 to 330,603	1,588.8 to 2,514.7	3,338,120 to 5,297,810	-42.5 to -1.5
	43.1	87,856	929.8	1,853,779	-19.7
Intracerebral hemorrhage	32.4 to 56.5	66,274 to 115,435	695.8 to 1,233.7	1,393,393 to 2,447,712	-39.8 to 10.0
	11.1	22,894	197.5	408,998	100.9
Hypertensive heart disease	7.5 to 18.6	15,465 to 38,505	137.7 to 317.0	284,009 to 656,535	51.7 to 181.6
	34.0	64,720	1,100.3	1,998,050	46.1
Cardiomyopathy and myocarditis	23.0 to 46.1	44,327 to 88,101	762.2 to 1,520.1	1,397,323 to 2,743,864	9.9 to 99.1
	0.6	1,138	16.7	26,848	7.8
Myocarditis	0.3 to 0.9	514 to 1,700	11.7 to 24.5	18,080 to 38,354	-23.4 to 53.8
	24.9	47,550	855.8	1,567,584	21.8
Alcoholic cardiomyopathy	17.3 to 34.4	33,110 to 65,686	581.3 to 1,199.2	1,071,435 to 2,200,284	-9.4 to 66.7
	8.4	16,032	227.8	403,618	231.1
Other cardiomyopathy	3.8 to 12.1	7,358 to 23,173	122.9 to 331.5	218,225 to 585,699	146.1 to 348.5
	4.0	8,153	92.1	193,043	11.9
Atrial fibrillation and flutter	2.8 to 5.6	5,608 to 11,461	69.5 to 119.3	145,142 to 249,660	-16.3 to 51.0
	3.7	7,684	78.1	158,078	285.9
Aortic aneurysm	2.8 to 4.8	5,793 to 9,970	57.6 to 104.1	116,488 to 209,248	203.1 to 404.1
	4.6	9,499	70.7	149,180	36.3
Peripheral artery disease	3.1 to 7.8	6,388 to 15,825	49.6 to 104.8	105,118 to 220,905	6.9 to 80.5
	1.2	2,211	39.0	69,111	-37.7
Endocarditis	0.8 to 1.9	1,479 to 3,622	26.4 to 60.2	46,406 to 108,352	-53.6 to -10.1
	7.1	14,307	185.3	357,593	285.3
Other cardiovascular and circulatory diseases	5.4 to 9.2	10,800 to 18,825	139.8 to 243.5	269,950 to 470,970	188.0 to 435.8
	18.0	37,624	586.7	1,091,075	-69.6
Chronic respiratory diseases	13.7 to 22.8	28,675 to 47,654	467.9 to 725.4	873,206 to 1,349,157	-76.3 to -59.5
	16.0	33,573	341.4	703,194	-66.3
Chronic obstructive pulmonary disease	12.3 to 20.2	25,645 to 42,469	265.5 to 428.5	545,570 to 883,291	-74.1 to -54.5
	0.1	221	3.1	6,445	-59.1
Pneumoconiosis	0.1 to 0.1	164 to 288	2.4 to 3.9	4,959 to 8,088	-70.3 to -45.4
	0.0	28	0.4	840	-71.6
Silicosis	0.0 to 0.0	17 to 44	0.3 to 0.6	606 to 1,174	-80.8 to -61.2

	0.0	29	0.7	1,332	-68.7
Asbestosis	0.0 to 0.0	15 to 43	0.5 to 0.9	962 to 1,764	-77.7 to -57.9
	0.0	28	0.4	755	148.5
Coal workers pneumoconiosis	0.0 to 0.0	6 to 44	0.2 to 0.5	346 to 1,083	55.9 to 254.0
	0.1	136	1.7	3,518	-60.0
Other pneumoconiosis	0.0 to 0.1	97 to 188	1.3 to 2.1	2,637 to 4,456	-72.7 to -45.3
	1.2	2,377	209.8	324,927	-87.8
Asthma	0.8 to 1.9	1,685 to 3,817	144.9 to 291.1	228,163 to 447,734	-91.2 to -82.3
	0.4	773	18.2	33,215	9.2
Interstitial lung disease and pulmonary sarcoidosis	0.2 to 0.5	475 to 1,079	12.8 to 24.0	23,100 to 43,613	-17.0 to 57.8
	0.3	680	14.2	23,294	-77.9
Other chronic respiratory diseases	0.2 to 0.6	441 to 1,194	10.3 to 22.2	16,521 to 37,157	-83.7 to -70.5
	25.9	49,991	916.4	1,682,255	126.9
Cirrhosis and other chronic liver diseases	18.7 to 35.1	36,353 to 67,356	661.1 to 1,250.7	1,217,503 to 2,285,151	67.4 to 196.6
	5.1	9,706	180.7	331,010	119.8
Cirrhosis and other chronic liver diseases due to hepatitis B	3.5 to 7.0	6,826 to 13,330	123.6 to 253.8	228,902 to 460,502	61.5 to 189.8
	6.3	12,185	225.1	415,086	131.9
Cirrhosis and other chronic liver diseases due to hepatitis C	4.5 to 8.7	8,666 to 16,668	156.1 to 311.8	289,618 to 570,824	71.2 to 206.2
	9.2	17,852	310.4	579,685	133.3
Cirrhosis and other chronic liver diseases due to alcohol use	6.6 to 12.6	12,805 to 24,322	221.4 to 427.6	415,125 to 795,671	73.4 to 202.3
	5.4	10,247	200.2	356,474	118.1
Cirrhosis and other chronic liver diseases due to other causes	3.8 to 7.5	7,166 to 14,430	142.2 to 279.5	252,391 to 498,760	59.5 to 211.5
	20.2	40,466	663.8	1,228,472	22.3
Digestive diseases	14.5 to 26.9	29,239 to 53,721	494.6 to 866.3	920,190 to 1,606,379	-6.1 to 62.2
	4.0	8,130	127.8	245,450	5.1
Peptic ulcer disease	2.8 to 5.3	5,612 to 10,856	92.6 to 166.8	177,480 to 320,483	-19.6 to 37.7
	0.2	439	36.4	59,655	26.6
Gastritis and duodenitis	0.1 to 0.3	294 to 669	25.0 to 51.8	41,689 to 84,667	-7.9 to 73.1
	0.3	514	11.3	17,852	-75.2
Appendicitis	0.2 to 0.4	358 to 852	8.3 to 17.1	13,104 to 27,752	-81.1 to -67.4
	1.6	3,060	39.5	70,665	-9.7
Paralytic ileus and intestinal obstruction	1.1 to 2.1	2,154 to 4,203	28.1 to 54.9	49,514 to 98,221	-29.1 to 18.7
	0.6	1,221	57.0	101,883	-56.6
Inguinal, femoral, and abdominal hernia	0.4 to 1.0	802 to 2,162	40.7 to 75.0	74,059 to 133,071	-66.2 to -39.6
	0.6	1,121	29.9	55,679	9.6
Inflammatory bowel disease	0.3 to 0.8	650 to 1,562	22.5 to 38.2	41,925 to 71,195	-17.1 to 52.0
	4.5	9,422	76.4	158,680	70.7
Vascular intestinal disorders	3.3 to 5.9	6,928 to 12,464	55.6 to 104.7	115,682 to 215,803	30.2 to 126.0
	1.5	3,201	32.8	66,544	-32.0
Gallbladder and biliary diseases	1.1 to 2.1	2,274 to 4,363	24.9 to 43.1	50,425 to 87,453	-47.1 to -9.1
	5.9	11,129	209.7	374,528	105.2
Pancreatitis	3.9 to 8.3	7,330 to 15,646	135.8 to 298.3	243,034 to 532,074	51.2 to 174.1
	1.1	2,228	42.9	77,538	110.8
Other digestive diseases	0.7 to 1.6	1,311 to 3,172	28.7 to 59.1	51,524 to 106,446	57.6 to 191.3
	34.0	67,556	1,380.5	2,393,339	-0.8
Neurological disorders	25.1 to 44.9	49,355 to 90,385	1,028.0 to 1,757.3	1,791,253 to 3,024,991	-22.0 to 28.8
	28.0	55,562	325.1	685,106	1.9
Alzheimer disease and other dementias	20.5 to 37.4	39,767 to 75,905	243.2 to 429.3	508,315 to 920,093	-19.9 to 31.2

	4.0	8,516	61.8	131,691	9.5
Parkinson disease	2.8 to 5.6	5,836 to 12,064	43.1 to 85.4	91,670 to 180,532	-14.0 to 44.3
	0.6	882	83.2	120,960	-69.3
Epilepsy	0.4 to 0.7	636 to 1,209	35.3 to 162.5	51,274 to 236,133	-76.7 to -59.5
	0.4	754	29.2	51,657	-10.3
Multiple sclerosis	0.3 to 0.7	480 to 1,259	21.6 to 40.6	38,194 to 71,187	-37.1 to 32.8
	0.2	486	8.3	15,218	20.0
Motor neuron disease	0.2 to 0.3	357 to 655	6.3 to 11.0	11,485 to 20,363	-10.4 to 63.8
	0.8	1,356	51.4	72,296	18.5
Other neurological disorders	0.6 to 1.1	1,011 to 1,790	38.1 to 69.8	53,819 to 96,703	-4.6 to 59.3
	27.6	49,717	3,429.5	5,609,614	-8.5
Mental and substance use disorders	19.2 to 38.4	34,643 to 69,025	2,658.3 to 4,264.2	4,372,293 to 6,939,344	-34.6 to 26.9
	17.3	31,849	1,119.2	1,930,474	8.2
Alcohol use disorders	11.8 to 24.2	21,704 to 44,511	831.6 to 1,444.9	1,439,473 to 2,497,401	-23.1 to 54.8
	10.3	17,860	750.8	1,213,222	-28.3
Drug use disorders	7.0 to 14.1	12,338 to 24,473	562.1 to 957.7	910,380 to 1,543,198	-48.1 to -1.9
	7.0	12,014	541.9	883,082	-41.4
Opioid use disorders	4.7 to 10.1	8,171 to 17,340	406.6 to 700.8	662,505 to 1,138,336	-57.3 to -19.1
	0.6	1,092	42.8	68,965	112.7
Cocaine use disorders	0.2 to 0.9	375 to 1,626	23.8 to 60.0	37,287 to 96,464	24.5 to 224.5
	0.3	586	32.4	48,266	397.3
Amphetamine use disorders	0.1 to 0.5	191 to 942	20.4 to 46.2	29,701 to 68,696	216.5 to 687.9
	2.3	4,168	125.2	202,063	11.9
Other drug use disorders	1.1 to 3.4	1,920 to 6,063	71.0 to 172.6	113,597 to 278,086	-21.9 to 59.8
	0.0	7	27.4	36,401	136.8
Eating disorders	0.0 to 0.0	4 to 12	17.3 to 39.4	22,172 to 52,923	31.4 to 322.2
	0.0	6	6.6	7,759	191.0
Anorexia nervosa	0.0 to 0.0	3 to 10	3.9 to 10.1	4,679 to 11,941	49.3 to 413.1
	0.0	1	20.8	28,642	3.4
Bulimia nervosa	0.0 to 0.0	1 to 1	12.3 to 31.5	16,735 to 43,874	-43.4 to 65.6
	16.0	32,307	1,102.9	2,043,512	21.5
Diabetes, urogenital, blood, and endocrine diseases	12.2 to 21.2	24,364 to 43,003	862.7 to 1,391.6	1,597,143 to 2,552,904	-6.2 to 68.8
	5.6	11,608	390.3	778,090	42.9
Diabetes mellitus	4.1 to 7.7	8,457 to 15,916	299.2 to 506.7	594,419 to 1,007,933	5.1 to 106.6
	0.1	154	3.2	5,438	-84.3
Acute glomerulonephritis	0.1 to 0.1	113 to 212	2.4 to 4.4	3,946 to 7,456	-89.5 to -77.8
	5.2	10,369	228.3	437,645	17.9
Chronic kidney disease	4.0 to 6.8	7,834 to 13,595	184.3 to 279.7	353,049 to 536,102	-7.4 to 58.7
	1.3	2,557	52.2	104,046	44.1
Chronic kidney disease due to diabetes mellitus	0.9 to 1.7	1,918 to 3,381	41.3 to 64.3	82,728 to 128,062	10.6 to 101.8
	0.4	699	11.4	23,120	45.0
Chronic kidney disease due to hypertension	0.3 to 0.5	528 to 933	8.9 to 14.3	18,047 to 29,108	13.0 to 93.9
	2.0	3,920	95.8	177,759	-7.1
Chronic kidney disease due to glomerulonephritis	1.5 to 2.7	2,898 to 5,238	77.0 to 117.7	143,158 to 218,513	-28.4 to 27.4
	1.6	3,193	69.0	132,721	39.7
Chronic kidney disease due to other causes	1.2 to 2.1	2,412 to 4,184	56.0 to 84.2	107,550 to 162,810	7.7 to 88.2
	4.0	8,230	161.2	317,433	10.4
Urinary diseases and male infertility	3.0 to 5.2	6,145 to 10,699	124.1 to 204.1	243,430 to 402,485	-15.8 to 50.0

	3.2	6,487	75.4	143,900	10.4
Urinary tract infections	2.3 to 4.2	4,826 to 8,610	56.2 to 100.1	106,436 to 190,628	-15.8 to 51.9
	0.7	1,376	18.4	36,633	-4.7
Urolithiasis	0.4 to 0.9	879 to 1,961	13.2 to 24.3	26,024 to 48,669	-28.8 to 36.5
	0.2	367	8.1	14,336	134.5
Other urinary diseases	0.1 to 0.3	153 to 557	5.2 to 11.0	8,949 to 19,581	57.7 to 241.6
	0.1	96	170.8	269,082	431.2
Gynecological diseases	0.0 to 0.1	28 to 167	117.6 to 242.3	184,721 to 383,211	212.4 to 776.6
	0.0	55	12.3	21,651	611.1
Uterine fibroids	0.0 to 0.1	15 to 98	7.0 to 21.3	12,141 to 37,651	290.7 to 1,318.8
	0.0	1	0.9	1,392	242.5
Polycystic ovarian syndrome	0.0 to 0.0	0 to 2	0.4 to 1.7	627 to 2,612	11.8 to 750.1
	0.0	4	7.6	10,945	776.8
Endometriosis	0.0 to 0.0	1 to 9	4.9 to 11.2	6,990 to 16,294	113.4 to 2,069.6
	0.0	7	10.1	20,286	23.7
Genital prolapse	0.0 to 0.0	2 to 12	5.0 to 18.4	9,997 to 36,997	-33.4 to 116.2
	0.0	29	86.6	136,643	639.8
Other gynecological diseases	0.0 to 0.0	9 to 51	57.2 to 125.3	89,920 to 196,333	308.4 to 1,134.6
	0.3	568	45.6	67,534	65.1
Hemoglobinopathies and hemolytic anemias	0.2 to 0.4	371 to 784	31.4 to 64.3	46,956 to 94,758	30.6 to 127.2
	0.0	20	1.7	1,680	173.3
Thalassemias	0.0 to 0.0	17 to 24	1.4 to 2.0	1,384 to 1,955	118.1 to 257.2
	0.0	59	2.5	3,255	380.0
Sickle cell disorders	0.0 to 0.1	35 to 86	1.6 to 3.5	2,007 to 4,656	256.6 to 586.9
	0.0	74	2.1	3,235	372.3
G6PD deficiency	0.0 to 0.1	42 to 105	1.3 to 2.8	1,990 to 4,413	253.5 to 536.4
	0.2	414	9.1	15,051	25.6
Other hemoglobinopathies and hemolytic anemias	0.1 to 0.3	271 to 583	6.4 to 12.4	10,719 to 20,202	-4.3 to 78.1
	0.8	1,282	103.4	168,291	51.8
Endocrine, metabolic, blood, and immune disorders	0.6 to 1.0	930 to 1,781	77.6 to 133.6	125,059 to 220,072	18.1 to 109.9
	0.9	1,712	1,841.5	3,436,410	-12.5
Musculoskeletal disorders	0.6 to 1.3	1,154 to 2,473	1,340.1 to 2,387.9	2,505,473 to 4,448,011	-40.0 to 34.8
	0.3	704	77.6	149,755	-4.7
Rheumatoid arthritis	0.2 to 0.6	439 to 1,179	55.4 to 101.1	107,111 to 195,311	-39.2 to 51.6
	0.5	1,007	96.1	166,406	-16.3
Other musculoskeletal disorders	0.3 to 0.8	592 to 1,493	66.6 to 139.1	116,464 to 238,168	-40.5 to 26.6
	5.9	7,172	2,515.9	3,953,186	-44.7
Other non-communicable diseases	4.7 to 7.0	5,370 to 8,885	1,869.6 to 3,376.9	2,874,026 to 5,391,549	-53.0 to -34.5
	4.5	4,930	521.3	597,951	-56.5
Congenital birth defects	3.8 to 5.8	4,174 to 6,440	447.5 to 631.9	512,868 to 718,121	-62.6 to -49.5
	0.1	80	24.0	32,167	-92.3
Neural tube defects	0.1 to 0.1	62 to 107	18.5 to 30.5	24,453 to 41,397	-94.3 to -89.4
	2.2	2,462	181.9	195,637	-67.9
Congenital heart anomalies	1.8 to 3.2	1,989 to 3,581	147.8 to 259.5	159,996 to 278,112	-73.3 to -61.0
	0.0	6	0.9	1,044	-82.0
Orofacial clefts	0.0 to 0.0	4 to 13	0.6 to 1.4	728 to 1,570	-92.9 to -56.4
	0.2	191	20.6	25,488	118.1
Down syndrome	0.1 to 0.2	135 to 248	15.3 to 25.9	19,523 to 32,039	70.0 to 166.3

	0.2	218	34.5	34,466	398.0
Other chromosomal abnormalities	0.1 to 0.3	124 to 293	26.3 to 43.6	25,673 to 43,444	216.0 to 584.3
	0.1	80	57.8	82,961	-51.9
Congenital musculoskeletal and limb anomalies	0.1 to 0.2	54 to 201	40.7 to 78.1	58,426 to 112,211	-63.8 to -38.0
	0.1	81	10.4	11,184	-23.8
Urogenital congenital anomalies	0.0 to 0.1	54 to 142	7.4 to 15.2	8,009 to 16,322	-43.3 to -1.3
	0.4	442	42.8	47,047	-50.0
Digestive congenital anomalies	0.3 to 0.7	310 to 705	31.8 to 64.0	35,263 to 68,921	-65.1 to -34.2
	1.3	1,369	146.4	165,533	-10.7
Other congenital birth defects	0.9 to 1.6	989 to 1,648	114.8 to 175.8	129,935 to 201,382	-22.3 to 7.5
	0.9	1,828	737.5	1,000,465	2,977.4
Skin and subcutaneous diseases	0.2 to 1.6	361 to 3,164	505.4 to 1,059.6	683,909 to 1,435,187	2,237.6 to 4,171.5
	0.7	1,286	23.4	42,265	2,683.3
Cellulitis	0.1 to 1.1	270 to 2,161	7.2 to 37.7	12,297 to 68,371	2,026.6 to 3,768.5
	0.2	437	8.5	15,340	5,780.7
Pyoderma	0.0 to 0.4	63 to 839	2.5 to 14.7	4,304 to 26,728	4,276.5 to 8,683.5
	0.0	67	5.9	10,784	1,581.2
Decubitus ulcer	0.0 to 0.1	14 to 115	4.1 to 8.0	7,530 to 14,837	1,109.2 to 2,248.2
	0.0	38	41.9	72,438	1,634.2
Other skin and subcutaneous diseases	0.0 to 0.0	8 to 69	20.4 to 76.1	35,403 to 131,068	1,193.4 to 2,355.2
	0.4	414	34.7	35,646	-33.8
Sudden infant death syndrome	0.3 to 0.5	297 to 565	24.9 to 47.4	25,612 to 48,712	-58.3 to 4.2
	103.0	174,721	5,950.9	9,566,861	-27.5
Injuries	72.6 to 139.7	123,196 to 237,982	4,494.5 to 7,748.4	7,199,469 to 12,563,169	-44.9 to -4.9
	19.8	31,576	1,187.9	1,810,217	-25.1
Transport injuries	14.1 to 27.0	22,355 to 43,035	879.1 to 1,544.9	1,339,060 to 2,345,458	-44.3 to -0.5
	17.8	28,198	1,078.5	1,644,223	-25.2
Road injuries	12.7 to 24.2	19,946 to 38,155	804.5 to 1,397.8	1,225,271 to 2,120,945	-44.6 to -1.6
	5.7	9,632	297.1	464,853	-49.2
Pedestrian road injuries	4.0 to 7.9	6,837 to 13,296	219.2 to 402.3	341,588 to 627,684	-66.2 to -25.1
	0.4	730	53.7	89,329	-26.5
Cyclist road injuries	0.3 to 0.6	500 to 1,034	39.9 to 69.5	65,752 to 116,834	-47.7 to -0.7
	1.2	1,787	86.4	125,785	-16.0
Motorcyclist road injuries	0.8 to 1.7	1,180 to 2,523	62.5 to 115.9	91,604 to 167,470	-44.8 to 29.8
	10.3	15,906	628.6	942,893	-0.6
Motor vehicle road injuries	7.2 to 14.2	10,882 to 22,036	461.1 to 837.3	689,477 to 1,252,947	-28.0 to 39.7
	0.1	144	12.6	21,361	-43.4
Other road injuries	0.1 to 0.1	96 to 220	9.1 to 17.0	15,372 to 29,077	-60.3 to -17.2
	2.1	3,378	109.5	165,995	-24.2
Other transport injuries	1.4 to 2.9	2,343 to 4,767	77.7 to 150.2	117,799 to 227,566	-44.7 to 6.4
	37.8	66,483	2,642.9	4,394,584	-46.6
Unintentional injuries	27.4 to 52.5	47,724 to 93,400	2,062.3 to 3,384.9	3,409,972 to 5,670,803	-59.1 to -31.1
	7.4	13,622	903.7	1,591,635	-18.3
Falls	5.3 to 10.0	9,803 to 18,232	677.9 to 1,173.5	1,197,314 to 2,067,549	-38.8 to 5.7
	6.4	10,083	319.0	460,939	-65.9
Drowning	4.5 to 8.5	7,063 to 13,606	233.3 to 421.5	328,292 to 613,051	-75.2 to -55.3
	4.7	8,429	251.8	415,319	-32.9
Fire, heat, and hot substances	3.3 to 6.3	5,972 to 11,391	194.0 to 322.6	315,189 to 537,251	-50.1 to -8.4

Poisonings	1.5	2,351	84.0	118,267	-47.1
	1.1 to 2.2	1,639 to 3,593	62.8 to 112.0	86,918 to 166,260	-61.5 to -29.4
Exposure to mechanical forces	3.0	4,875	273.4	440,327	-47.7
	2.1 to 4.2	3,375 to 6,905	208.3 to 359.8	334,627 to 577,452	-63.4 to -24.7
Unintentional firearm injuries	0.5	785	23.5	37,080	-46.1
	0.3 to 0.7	542 to 1,107	16.7 to 33.0	26,374 to 51,339	-59.8 to -23.2
Unintentional suffocation	0.6	775	43.2	56,766	-25.0
	0.4 to 0.9	550 to 1,205	31.4 to 68.7	41,757 to 85,727	-43.0 to 2.5
Other exposure to mechanical forces	1.9	3,315	206.7	346,480	-51.6
	1.3 to 2.9	2,221 to 4,909	154.9 to 276.4	259,110 to 463,095	-68.0 to -26.3
Adverse effects of medical treatment	1.2	2,193	45.5	74,917	13.0
	0.8 to 1.7	1,515 to 3,112	32.1 to 62.2	52,477 to 103,314	-11.9 to 54.4
Animal contact	0.2	406	25.9	41,337	-24.5
	0.2 to 0.4	270 to 703	19.0 to 34.8	30,084 to 55,918	-43.9 to -1.5
Venomous animal contact	0.1	241	17.8	28,029	-26.3
	0.1 to 0.2	152 to 435	12.6 to 24.2	19,693 to 38,158	-46.4 to -1.9
Non-venomous animal contact	0.1	165	8.1	13,308	-21.6
	0.1 to 0.2	99 to 290	5.7 to 11.4	9,307 to 18,687	-39.1 to 5.6
Foreign body	4.3	7,534	228.2	364,526	-31.6
	3.0 to 6.6	5,224 to 11,800	169.6 to 331.4	267,385 to 536,118	-49.2 to -9.4
Pulmonary aspiration and foreign body in airway	4.0	7,140	204.4	326,227	-30.9
	2.8 to 6.3	4,945 to 11,258	151.9 to 303.5	238,313 to 490,925	-48.8 to -8.8
Foreign body in other body part	0.2	394	21.2	34,170	-40.6
	0.2 to 0.4	269 to 674	15.3 to 29.6	24,677 to 48,094	-56.8 to -13.6
Environmental heat and cold exposure	7.2	13,648	337.9	608,816	-56.7
	4.5 to 13.7	8,568 to 26,341	229.6 to 585.3	412,402 to 1,064,979	-68.6 to -40.1
Other unintentional injuries	2.0	3,343	173.5	278,501	-45.1
	1.4 to 2.7	2,341 to 4,515	131.0 to 223.3	209,355 to 359,674	-66.9 to -21.2
Self-harm and interpersonal violence	45.3	76,597	2,110.5	3,346,754	0.5
	30.9 to 64.5	52,506 to 108,524	1,452.7 to 3,006.9	2,304,954 to 4,762,368	-27.2 to 34.2
Self-harm	30.6	52,001	1,363.4	2,160,200	-1.9
	20.6 to 43.6	35,189 to 75,088	904.8 to 1,934.0	1,447,926 to 3,076,816	-30.7 to 32.4
Self-harm by firearm	1.1	1,923	47.8	77,446	-9.2
	0.6 to 1.8	1,104 to 3,106	26.8 to 75.6	43,926 to 123,440	-39.9 to 28.9
Self-harm by other specified means	29.5	50,078	1,315.6	2,082,754	-1.6
	19.9 to 42.2	33,911 to 72,349	874.4 to 1,870.2	1,400,016 to 2,996,503	-30.4 to 32.5
Interpersonal violence	14.7	24,596	747.1	1,186,550	6.4
	8.4 to 23.5	14,019 to 39,655	464.8 to 1,154.9	730,943 to 1,847,659	-22.5 to 41.8
Physical violence by firearm	1.1	1,673	54.5	83,049	-9.9
	0.4 to 3.0	708 to 4,760	23.4 to 158.6	35,089 to 241,588	-43.2 to 46.1
Physical violence by sharp object	5.1	8,462	252.9	397,101	-7.1
	2.7 to 8.8	4,522 to 14,450	139.0 to 427.7	217,899 to 676,978	-36.3 to 25.6
Physical violence by other means	8.5	14,462	428.7	691,042	20.2
	4.8 to 13.5	8,120 to 22,970	264.1 to 650.4	422,799 to 1,046,558	-14.4 to 64.9
Forces of nature, conflict and terrorism, and executions and police conflict	0.0	65	9.6	15,327	13.7
	0.0 to 0.1	39 to 99	3.7 to 23.6	5,799 to 37,856	-32.9 to 80.0
Exposure to forces of nature	0.0	0	1.6	2,732	-
	0.0 to 0.0	0 to 0	0.4 to 4.3	617 to 7,358	-

Conflict and terrorism	0.0 0.0 to 0.0	0 0 to 0	5.6 1.3 to 16.4	8,910 2,072 to 26,044	-
Executions and police conflict	0.0 0.0 to 0.1	65 39 to 99	2.5 1.5 to 3.7	3,685 2,225 to 5,580	13.7 -32.9 to 80.0

Appendix Table 2A. Percent of total deaths attributable to risks at Level 3 of the GBD hierarchy in 2016, for males age 15 to 49 years in Russia, China, Finland, Germany, Japan, Kazakhstan, Ukraine, and United States. Risks attributable to less than 1% of total deaths in Russia are not shown

Level 3 Risk Factor	Russian Federation		China		Finland		Germany		Japan		Kazakhstan		Ukraine		United States	
	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI
Alcohol use	34.4%	(29.5-38.6)	14.9%	(12.5-17.7)	30.9%	(25.5-35.8)	20.0%	(15.2-24.9)	10.3%	(4.3-15.4)	25.4%	(19.6-31.2)	33.1%	(28.5-37.9)	18.2%	(14.1-22.4)
Smoking	13.0%	(11.4-14.6)	15.4%	(11.7-20.3)	4.7%	(3.6-5.8)	14.0%	(11.6-16.0)	11.0%	(9.2-12.9)	15.3%	(13.4-17.1)	15.3%	(13.2-17.3)	8.1%	(7.0-9.0)
Drug use	10.6%	(9.0-12.3)	3.0%	(2.6-3.8)	14.5%	(11.4-17.3)	7.4%	(6.2-8.6)	5.2%	(4.5-6.2)	6.1%	(5.4-6.9)	9.9%	(8.5-11.6)	15.9%	(14.7-17.3)
High systolic blood pressure	9.0%	(7.2-10.7)	12.5%	(10.5-14.4)	7.3%	(5.9-8.8)	8.9%	(7.1-10.6)	10.7%	(8.8-12.5)	12.4%	(10.3-14.4)	13.3%	(11.1-15.2)	7.5%	(6.1-8.8)
High total cholesterol	7.9%	(6.7-9.0)	7.7%	(6.8-8.6)	5.0%	(4.0-6.2)	8.2%	(6.8-9.5)	6.8%	(6.0-7.6)	10.1%	(8.7-11.7)	10.4%	(8.9-12.0)	7.2%	(6.5-8.0)
High body-mass index	7.0%	(4.5-9.3)	8.3%	(4.2-12.9)	6.3%	(4.0-8.5)	8.7%	(5.4-11.6)	6.5%	(3.5-9.6)	7.9%	(4.5-11.3)	7.7%	(4.6-10.8)	11.7%	(8.9-14.0)
Diet low in whole grains	4.9%	(3.4-6.6)	6.4%	(4.5-8.7)	3.2%	(2.1-4.4)	4.2%	(2.8-5.9)	5.5%	(3.8-7.2)	6.6%	(4.6-8.6)	6.2%	(4.3-8.4)	4.6%	(3.2-6.0)
Diet low in fruits	3.7%	(2.2-5.3)	6.3%	(4.1-8.7)	2.4%	(1.4-3.5)	3.7%	(2.2-5.4)	5.8%	(3.8-7.8)	5.3%	(3.2-7.6)	5.2%	(3.1-7.4)	3.0%	(1.8-4.5)
Diet low in nuts and seeds	3.4%	(2.1-4.6)	3.8%	(2.5-5.1)	2.4%	(1.6-3.4)	3.2%	(1.9-4.6)	3.1%	(2.0-4.3)	4.6%	(2.9-6.4)	3.2%	(2.2-3.3)	2.0%	(1.2-3.3)
High fasting plasma glucose	3.3%	(2.1-4.8)	5.1%	(3.7-6.9)	2.7%	(2.0-3.6)	3.0%	(2.3-4.1)	3.5%	(2.5-4.9)	3.0%	(1.9-4.5)	2.4%	(1.4-3.7)	4.7%	(3.9-5.9)
Ambient particulate matter pollution	3.2%	(2.5-4.0)	7.2%	(6.1-8.3)	1.0%	(0.6-1.5)	2.8%	(2.0-3.8)	3.2%	(2.4-3.9)	4.4%	(3.5-5.4)	4.4%	(3.4-5.4)	2.1%	(1.5-2.7)
Unsafe sex	2.9%	(1.7-4.5)	1.5%	(1.3-1.6)	0.1%	(0.1-0.1)	0.7%	(0.6-0.9)	0.1%	(0.1-0.1)	0.4%	(0.3-0.6)	4.3%	(2.9-6.2)	1.5%	(1.5-1.6)
Diet low in vegetables	2.4%	(1.1-4.0)	2.1%	(0.8-3.7)	1.8%	(0.9-2.9)	2.6%	(1.2-4.2)	1.2%	(0.3-2.5)	0.9%	(0.0-2.7)	1.6%	(0.3-3.4)	2.3%	(1.0-3.7)
Diet low in legumes	2.1%	(0.9-3.3)	2.0%	(0.9-3.2)	1.4%	(0.6-2.2)	2.3%	(1.0-3.5)	0.4%	(0.1-0.9)	3.3%	(1.5-5.1)	2.8%	(1.3-4.5)	1.8%	(0.8-2.8)
Diet low in seafood omega-3 fatty acids	2.1%	(0.9-3.5)	2.9%	(1.3-4.5)	1.4%	(0.6-2.4)	2.3%	(1.0-3.8)	0.0%	(0.0-0.1)	3.0%	(1.2-5.0)	3.4%	(1.4-5.5)	1.8%	(0.7-3.0)
Diet low in fiber	1.7%	(0.9-2.7)	2.0%	(1.2-2.9)	1.2%	(0.7-1.9)	2.0%	(1.1-3.0)	1.6%	(0.9-2.5)	2.4%	(1.3-3.7)	2.3%	(1.2-3.5)	1.4%	(0.7-2.2)
Impaired kidney function	1.5%	(1.2-1.9)	3.0%	(2.6-3.5)	0.6%	(0.5-0.8)	1.0%	(0.8-1.2)	1.8%	(1.6-2.1)	2.5%	(2.1-3.0)	1.9%	(1.5-2.4)	1.9%	(1.7-2.1)
Diet high in sodium	1.4%	(0.0-3.3)	5.8%	(2.9-9.1)	1.2%	(0.0-2.7)	1.6%	(0.0-3.8)	3.4%	(1.2-6.3)	3.1%	(0.3-6.7)	2.0%	(0.1-4.6)	2.3%	(0.5-4.5)
Occupational carcinogens	1.0%	(0.7-1.4)	2.3%	(1.8-2.9)	0.8%	(0.6-1.1)	1.9%	(1.4-2.5)	2.1%	(1.6-2.6)	1.8%	(1.4-2.4)	1.1%	(0.7-1.4)	1.3%	(0.9-1.6)

Appendix Table 2b. Percent of total deaths attributable to risks at Level 3 of the GBD hierarchy in 2016, for females age 15 to 49 years in Russia, China, Finland, Germany, Japan, Kazakhstan, Ukraine, and United States. Risks attributable to less than 1% of total deaths in Russia are not shown

Level 3 Risk Factor	Russian Federation		China		Finland		Germany		Japan		Kazakhstan		Ukraine		United States	
	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI	Percent	95% UI
Alcohol use	20.1%	(17.1-23.4)	2.2%	(1.6-2.9)	17.2%	(13.7-20.7)	14.3%	(11.3-17.4)	10.9%	(6.4-14.9)	17.9%	(13.9-22.3)	21.9%	(17.7-26.1)	10.1%	(7.8-12.6)
High body-mass index	8.1%	(6.1-10.0)	8.2%	(4.2-12.7)	5.5%	(4.1-6.9)	6.1%	(4.5-7.7)	2.9%	(1.3-4.9)	11.5%	(8.4-14.5)	8.9%	(6.3-11.4)	10.9%	(9.0-12.5)
Smoking	7.8%	(6.5-9.3)	4.0%	(1.8-7.8)	4.7%	(3.5-6.0)	12.8%	(10.8-15.0)	4.5%	(3.8-5.4)	6.3%	(4.8-7.9)	8.1%	(6.3-9.9)	9.8%	(8.9-10.9)
Drug use	7.7%	(6.3-9.8)	2.1%	(1.8-2.7)	7.0%	(5.7-8.5)	3.7%	(3.1-4.4)	2.9%	(2.6-3.3)	3.9%	(3.5-4.3)	9.1%	(7.3-11.3)	12.4%	(11.8-13.1)
High systolic blood pressure	7.6%	(6.1-9.1)	9.9%	(8.0-11.6)	5.2%	(4.1-6.5)	4.9%	(3.5-6.2)	5.0%	(3.9-6.1)	10.1%	(8.1-12.1)	10.0%	(8.2-11.6)	5.3%	(4.3-6.5)
Unsafe sex	6.3%	(4.9-8.7)	4.5%	(3.1-5.0)	1.1%	(1.0-1.3)	3.4%	(3.0-3.9)	4.2%	(3.9-4.5)	4.2%	(3.8-4.8)	8.9%	(6.7-12.2)	3.3%	(3.1-3.4)
High total cholesterol	5.7%	(4.9-6.6)	5.9%	(5.1-6.8)	2.2%	(1.7-2.7)	3.6%	(3.0-4.4)	2.9%	(2.6-3.2)	7.2%	(6.1-8.3)	7.4%	(6.3-8.6)	4.9%	(4.4-5.5)
Diet low in whole grains	4.7%	(3.5-6.1)	5.9%	(4.1-7.9)	3.0%	(2.2-3.9)	3.1%	(2.2-4.2)	3.4%	(2.4-4.5)	6.4%	(4.8-8.2)	5.6%	(4.1-7.3)	4.2%	(3.1-5.5)
Diet low in fruits	3.5%	(2.3-5.0)	5.5%	(3.4-7.6)	2.3%	(1.5-3.4)	3.0%	(1.8-4.2)	3.9%	(2.6-5.2)	5.4%	(3.5-7.3)	4.7%	(2.9-6.5)	3.0%	(1.9-4.2)
High fasting plasma glucose	2.8%	(1.9-4.1)	5.2%	(4.0-6.7)	2.6%	(1.9-3.5)	2.5%	(1.8-3.4)	2.6%	(1.8-3.7)	3.4%	(2.5-4.8)	2.8%	(1.9-3.8)	5.7%	(4.6-6.9)
Ambient particulate matter pollution	2.7%	(2.2-3.4)	6.9%	(5.8-8.0)	0.7%	(0.5-1.1)	2.2%	(1.6-2.7)	2.1%	(1.6-2.6)	3.8%	(3.1-4.6)	3.5%	(2.8-4.3)	1.9%	(1.4-2.4)
Diet low in nuts and seeds	2.4%	(1.5-3.2)	3.1%	(2.1-4.2)	1.2%	(0.8-1.6)	1.5%	(0.9-2.1)	1.3%	(0.9-1.8)	3.2%	(2.1-4.3)	3.6%	(2.4-4.8)	1.8%	(1.0-2.6)
Diet low in vegetables	2.2%	(1.0-3.5)	2.1%	(0.8-3.6)	1.4%	(0.7-2.3)	1.8%	(0.9-2.8)	0.9%	(0.3-1.8)	1.0%	(0.0-2.6)	1.5%	(0.3-2.9)	1.9%	(0.9-3.0)
Impaired kidney function	1.9%	(1.6-2.2)	4.0%	(3.5-4.6)	0.8%	(0.6-1.0)	1.0%	(0.9-1.2)	1.6%	(1.4-1.9)	3.5%	(3.1-4.0)	2.2%	(1.8-2.6)	2.5%	(2.3-2.7)
Diet low in seafood omega-3 fatty acids	1.5%	(0.6-2.5)	2.3%	(1.0-3.6)	0.6%	(0.3-1.1)	1.1%	(0.5-1.7)	0.0%	(0.0-0.1)	2.1%	(0.9-3.5)	2.4%	(1.0-3.8)	1.3%	(0.5-2.2)
Diet low in legumes	1.5%	(0.7-2.3)	1.7%	(0.8-2.7)	0.6%	(0.3-1.0)	1.0%	(0.5-1.6)	0.2%	(0.1-0.5)	2.3%	(1.0-3.5)	2.1%	(0.9-3.3)	1.3%	(0.6-2.1)
Diet low in fiber	1.5%	(0.9-2.2)	1.9%	(1.2-2.7)	0.9%	(0.5-1.3)	1.3%	(0.8-1.9)	1.3%	(0.6-1.6)	2.0%	(1.2-2.9)	1.1%	(0.6-1.8)	1.2%	(0.6-1.8)
Occupational carcinogens	1.2%	(0.8-1.5)	1.9%	(1.5-2.3)	1.0%	(0.7-1.2)	1.9%	(1.5-2.4)	1.7%	(1.3-2.1)	1.8%	(1.4-2.3)	1.2%	(0.9-1.5)	1.7%	(1.3-2.1)
Secondhand smoke	1.1%	(0.8-1.5)	3.8%	(2.9-4.7)	0.5%	(0.3-0.7)	0.6%	(0.4-0.8)	1.2%	(0.9-1.5)	2.7%	(2.1-3.4)	1.4%	(1.0-1.8)	0.6%	(0.4-0.7)