

Supplementary file

Table S1: Death registration/reporting and cause of death data sources used

Argentina	3	Lebanon	3
Albania	1, 2	Lesotho	6
Algeria	1, 2	Libya	3
Armenia	1, 3	Lithuania	3
Australia	3	Luxembourg	1, 3
Austria	3	Malaysia	1
Azerbaijan	1, 2	Malta	1, 3
Bahrain	4	Mauritius	3
Belarus	1, 3	Mexico	1, 3
Belgium	1, 3	Mongolia	1, 3
Bolivia (Plurinational State of)	5	Montenegro	1, 2
Bosnia and Herzegovina	3	Morocco	3
Botswana	1, 2	Myanmar	12
Brazil	7, 2	Nepal	13
Bulgaria	1, 3	Netherlands	1, 3
Cabo Verde	1	New Zealand	1, 3
Canada	1, 3	Nicaragua	1, 3
Chile	1, 3	North Macedonia	1
China	8	Norway	1, 3
Colombia	1, 3	Oman	4
Costa Rica	3	Panama	1, 3
Croatia	1, 3	Paraguay	3
Cuba	3	Peru	14
Cyprus	3	Philippines	2
Czechia	3	Poland	1, 3
Denmark	1, 3	Portugal	3
Dominican Republic	1	Qatar	4, 3
Ecuador	2	Republic of Korea	1, 3
Egypt	3	Republic of Moldova	1, 3
El Salvador	2	Romania	1, 3
Estonia	1, 3	Russian Federation	3
Fiji	9	Rwanda	15
Finland	1, 3	Serbia	1, 3
France	2	Singapore	3
Georgia	3	Slovakia	1, 3
Germany	1, 3	Slovenia	3
Greece	2	South Africa	2
Guatemala	2	Spain	1, 3
Guyana	1	Sri Lanka	1
Hungary	1, 3	Suriname	1

Iceland	3	Sweden	3
India	10	Switzerland	1, 3
Iran (Islamic Republic of)	1, 3	Tajikistan	16, 3
Iraq	1	Thailand	3
Ireland	1, 3	Trinidad and Tobago	1
Israel	1, 3	Tunisia	1
Italy	1, 3	Turkey	3
Jamaica	1, 3	Turkmenistan	3
Japan	1, 3	Ukraine	3
Jordan	1, 3	United Arab Emirates	4
Kazakhstan	1, 3	United Kingdom	1, 3
Kenya	1, 2	United States of America	2
Kuwait	3	Uruguay	3
Kyrgyzstan	2	Uzbekistan	1, 3
Lao People's Democratic Republic	11	Venezuela (Bolivarian Republic of)	1
Latvia	1, 3	Zambia	17

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Table S2 Year of data used for completeness of death registration and quality of cause of death analyses

Country	Registration	Cause of death
Albania	2019	-
Algeria	2017	-
Argentina	2018	2018
Armenia	2019	2018
Australia	2018	2018
Austria	2019	2019
Azerbaijan	2019	-
Bahrain	2015-18	-
Belarus	2019	2018
Belgium	2019	-
Bolivia (Plurinational State of)	2019	-
Bosnia and Herzegovina	2016	-
Botswana	2018	-
Brazil	2016	2018
Bulgaria	2019	2018
Cabo Verde	2018	-
Canada	2018	2017
Chile	2018	2018
China	2019	-
Colombia	2019	2017
Costa Rica	2019	2019
Croatia	2019	2017
Cuba	2017	2017
Cyprus	2018	2018
Czechia	2019	-
Denmark	2019	2018
Dominican Republic	2019	-
Ecuador	2018	2017
Egypt	2019	2019
El Salvador	2016	-
Estonia	2019	2019
Fiji	2017	-
Finland	2019	-
France	2018	-
Georgia	2019	2019
Germany	2019	2018
Greece	2018	2017
Guatemala	2018	2017
Guyana	2019	-
Hong Kong SAR	-	2017
Hungary	2019	2019

Iceland	2019	2019
India	2018	-
Iran (Islamic Republic of)	2019	-
Iraq	2017	-
Ireland	2019	-
Israel	2019	2018
Italy	2019	2017
Jamaica	2019	-
Japan	2019	2018
Jordan	2017	-
Kazakhstan	2019	2017
Kenya	2019	-
Kuwait	2017	2017
Kyrgyzstan	2017	-
Lao People's Democratic Republic	2019	-
Latvia	2019	2018
Lebanon	2019	2019
Lesotho	2019	-
Libya	2017	2017
Lithuania	2019	2019
Luxembourg	2019	2017
Malaysia	2018	-
Malta	2019	2017
Mauritius	2019	2019
Mexico	2019	2017
Mongolia	2019	-
Montenegro	2019	-
Morocco	2016	-
Myanmar	2017	-
Nepal	2017	-
Netherlands	2019	2018
New Zealand	2019	-
Nicaragua	2018	2018
North Macedonia	2019	-
Norway	2019	-
Oman	2015-18	2017
Panama	2019	2017
Paraguay	2018	2017
Peru	2019	2017
Philippines	2017	-
Poland	2019	2018
Portugal	2018	2018
Puerto Rico	-	2017
Qatar	2015-18	-
Republic of Korea	2018	2019

Republic of Moldova	2019	-
Romania	2019	2018
Russian Federation	2019	-
Rwanda	2019	-
Serbia	2019	2017
Singapore	2019	2019
Slovakia	2019	-
Slovenia	2019	2019
South Africa	2016	-
Spain	2019	2017
Sri Lanka	2019	-
Suriname	2018	-
Sweden	2018	2018
Switzerland	2019	2017
Tajikistan	2018	-
Thailand	2019	2019
Trinidad and Tobago	2019	-
Tunisia	2017	-
Turkey	2019	2019
Turkmenistan	2015	-
Ukraine	2019	-
United Arab Emirates	2019	2019
United Kingdom	2019	2019 (Scotland only)
United States of America	2018	2017
Uruguay	2017	2017
Uzbekistan	2019	-
Venezuela (Bolivarian Republic of)	2017	-
Zambia	2018	-

Table S3: ANACONDA typologies of garbage causes

Error type	Unusable codes
Type 1	Symptoms, signs and ill-defined conditions: predominantly R codes (R00-R99) in ICD-10
Type 2	Impossible as underlying causes of death: includes conditions such as such as essential hypertension and atherosclerosis
Type 3	Intermediate causes of death: diseases or injuries which are sue to an underlying cause of death
Type 4	Immediate causes of death: final step in a morbid process, including cardiac arrest or respiratory failure
Type 5	Insufficiently specified causes within ICD chapters: e.g. ill-defined site of cancer or ill-defined injuries
Garbage severity	Explanation
Level 1 (very high)	These are causes where the underlying COD can belong to any of three broad cause groups (communicable disease, non-communicable disease or injury). For example, fever which may be due to a communicable disease such as tuberculosis, non-communicable disease such as cancer, or after an injury leading to infection.
Level 2 (high)	These are causes for which the underlying COD is likely to belong to one or two of the three broad cause groups; for example, 'essential (primary) hypertension'.
Level 3 (medium)	These are causes for which the underlying COD is likely to be within the same ICD chapter, for example, 'unspecified cancer'.
Level 4 (low)	These are diagnoses for which the underlying COD is likely to be confined to a single disease or injury category. For example, unspecified road traffic injury would still be assigned as a death due to a road traffic injury, and not to some other category.

Sources:

Naghavi M, Richards N, Chowdhury H, Eynstone-Hinkins J, Franca E, Hegnauer M, et al. Improving the quality of cause of death data for public health policy: are all 'garbage' codes equally problematic? *BMC medicine*. 2020;18(1):55-. doi: 10.1186/s12916-020-01525-w. PubMed PMID: 32146899.

Mikkelsen L, Richards N, Lopez A. Redefining 'garbage codes' for public health policy: Report on the expert group meeting, 27-28 February 2017. CRVS best-practice and advocacy. . Melbourne, Australia University of Melbourne, 2019.

Table S4a: Completeness of registration (%) by sex, excluding countries with 100% completeness

Country	Year	Both (%)	Female (%)	Male (%)	Difference** (p.p.)
Armenia	2019	97.4	98.0 (97.2 – 98.6)	96.8 (95.3 – 97.8)	1.2 (-0.1 – 2.9)
Thailand	2019	96.9	96.2 (94.6 – 97.3)	97.4 (96.2 – 98.2)	-1.2 (-3.0 – 0.5)
Kazakhstan	2019	96.6	96.8 (95.4 – 97.8)	96.5 (94.8 – 97.6)	0.3 (-1.5 – 2.2)
Croatia	2019	96.5	96.5 (95.0 – 97.6)	96.5 (94.9 – 97.6)	0.0 (-1.8 – 2.0)
Brazil	2016	96.4	96.3 (94.8 – 97.4)	96.4 (94.7 – 97.6)	0.0 (-2.0 – 2.0)
North Macedonia	2019	96.3	97.0 (95.7 – 97.9)	95.7 (93.7 – 97.1)	1.3 (-0.6 – 3.5)
Turkmenistan	2015	95.7	96.2 (94.6 – 97.4)	95.3 (93.1 – 96.8)	0.9 (-1.3 – 3.4)
Turkey	2019	95.4	96.1 (94.5 – 97.3)	94.9 (92.5 – 96.5)	1.3 (-1.0 – 3.8)
Kyrgyzstan	2017	95.2	95.6 (93.7 – 96.9)	94.9 (92.6 – 96.6)	0.6 (-1.9 – 3.3)
Tunisia*	2017	95.2	98.5 (97.9 – 99.0)	92.6 (89.4 – 95.0)	5.9 (3.5 – 9.1)
Albania	2019	95.0	95.7 (93.9 – 97.0)	94.5 (92.0 – 96.2)	1.2 (-1.3 – 4.0)
Oman	2015-18	95.0	95.0 (92.9 – 96.5)	95.0 (92.7 – 96.6)	0.0 (-2.7 – 2.7)
Mexico	2019	94.6	94.5 (92.7 – 95.8)	94.7 (93.0 – 96.2)	-0.3 (-2.6 – 2.1)
El Salvador	2016	94.5	93.0 (89.9 – 95.6)	95.7 (93.1 – 97.4)	-2.7 (-6.5 – 0.8)
Trinidad and Tobago	2019	94.2	94.8 (93.0 – 96.2)	93.8 (91.1 – 95.6)	1.0 (-1.6 – 3.9)
Panama	2019	93.9	93.7 (91.5 – 95.2)	94.0 (91.8 – 95.7)	-0.3 (-3.0 – 2.5)
Guatemala	2018	93.7	93.0 (89.0 – 96.0)	94.3 (90.0 – 96.9)	-1.3 (-6.4 – 3.9)
Kuwait	2017	93.5	93.0 (89.7 – 95.4)	93.7 (90.6 – 95.7)	-0.7 (-4.7 – 3.1)
Iran (Islamic Republic of)*	2019	92.8	94.0 (92.7 – 95.2)	91.8 (90.2 – 93.2)	2.2 (0.2 – 4.2)
Malta	2019	92.8	91.0 (86.7 – 93.9)	94.4 (91.4 – 96.4)	-3.5 (-8.2 – 0.7)
Fiji*	2017	92.2	94.7 (92.6 – 96.2)	90.1 (86.2 – 92.9)	4.6 (1.1 – 8.7)
Cabo Verde*	2018	92.1	97.5 (96.8 – 98.1)	87.9 (84.2 – 90.8)	9.6 (6.6 – 13.4)
Mongolia*	2019	91.3	87.6 (83.8 – 90.6)	93.8 (91.5 – 95.5)	-6.2 (-10.5 – -2.4)
Guyana	2019	90.8	89.9 (86.5 – 92.5)	91.5 (88.1 – 94.0)	-1.6 (-5.8 – 2.8)
Republic of Moldova*	2019	90.5	87.0 (82.5 – 90.5)	93.7 (91.4 – 95.3)	-6.7 (-11.6 – -2.7)
Algeria	2017	90.4	90.8 (88.3 – 92.9)	90.0 (86.9 – 92.3)	0.7 (-2.7 – 4.3)

Jamaica	2019	89.6	88.9 (85.5 – 91.7)	90.1 (86.8 – 92.7)	-1.2 (-5.6 – 3.0)
Colombia	2019	89.3	89.0 (85.5 – 91.6)	89.5 (86.2 – 92.2)	-0.6 (-4.7 – 3.8)
Paraguay*	2018	88.8	85.2 (79.4 – 89.2)	91.5 (87.6 – 94.1)	-6.3 (-12.4 – -0.7)
Uzbekistan	2019	89.2	90.4 (87.0 – 93.2)	88.2 (84.3 – 91.3)	2.2 (-2.6 – 7.0)
Philippines	2017	87.7	88.0 (83.8 – 90.9)	87.5 (82.7 – 90.8)	0.6 (-4.7 – 6.1)
Suriname	2018	86.5	84.7 (80.1 – 88.7)	88.0 (83.5 – 90.9)	-3.3 (-9.0 – 2.3)
Libya	2017	85.8	81.0 (63.8 – 92.6)	89.4 (73.6 – 98.1)	-7.8 (-29.2 – 16.4)
Ecuador	2018	85.3	86.2 (81.6 – 89.7)	84.6 (79.9 – 88.4)	1.5 (-4.4 – 7.4)
Azerbaijan	2019	84.2	87.5 (82.6 – 91.0)	81.5 (76.1 – 86.1)	5.9 (-0.5 – 12.7)
Nicaragua	2018	82.8	83.2 (76.3 – 91.4)	82.6 (73.6 – 92.5)	0.7 (-12.2 – 15.9)
South Africa	2016	81.0	79.5 (71.0 – 85.9)	82.4 (74.0 – 88.5)	-2.9 (-13.3 – 8.0)
China	2019	78.7	76.2 (70.1 – 81.6)	80.4 (74.0 – 85.8)	-4.2 (-12.4 – 4.2)
Peru	2019	77.1	77.5 (71.9 – 82.6)	76.7 (69.5 – 82.1)	0.9 (-7.2 – 9.1)
Bolivia (Plurinational State of)	2019	75.8	75.6 (68.5 – 81.5)	76.1 (69.4 – 81.4)	-0.5 (-9.5 – 8.4)
India*	2018	75.7	67.3 (58.5 – 74.9)	80.2 (74.2 – 85.0)	-12.8 (-22.8 – -3.5)
Jordan	2017	75.0	77.4 (65.0 – 88.0)	73.2 (62.0 – 83.0)	4.2 (-12.7 – 20.0)
Iraq	2017	73.1	71.3 (64.8 – 77.6)	74.4 (67.5 – 80.2)	-3.1 (-12.0 – 6.0)
Kenya	2019	71.1	74.0 (66.6 – 80.2)	68.8 (59.6 – 76.3)	5.1 (-5.6 – 16.2)
Nepal*	2017	69.4	65.3 (61.1 – 70.0)	72.8 (67.9 – 77.5)	-7.6 (-14.2 – -0.9)
Tajikistan	2018	68.8	72.5 (65.8 – 78.2)	65.9 (58.5 – 72.4)	6.5 (-2.8 – 16.1)
Dominican Republic	2019	68.7	67.8 (59.0 – 75.0)	69.3 (61.3 – 76.1)	-1.5 (-12.2 – 9.0)
Botswana	2018	60.0	61.2 (49.2 – 75.0)	59.0 (48.6 – 71.6)	2.2 (-15.5 – 19.8)
Myanmar*	2017	53.3	45.8 (36.6 – 53.3)	59.7 (50.8 – 67.6)	-13.8 (-25.2 – -1.6)
Lao PDR	2019	51.4	51.2 (41.7 – 59.6)	51.5 (42.2 – 60.6)	-0.5 (-13.1 – 12.6)
Lesotho	2019	41.5	44.1 (36.1 – 55.7)	39.3 (33.9 – 46.1)	4.8 (-6.5 – 16.4)
Morocco	2016	39.8	36.2 (27.8 – 45.6)	42.8 (32.1 – 53.9)	-6.4 (-20.8 – 7.8)
Zambia*	2018	39.0	22.9 (18.1 – 28.3)	31.2 (25.3 – 36.7)	-8.3 (-16.0 – -0.5)
Rwanda	2019	32.5	33.3 (25.0 – 42.3)	31.8 (23.5 – 42.0)	1.4 (-11.4 – 13.7)

Note: Figures in parentheses are 95% uncertainty intervals.* 95% uncertainty interval of difference in completeness between the sexes does not overlap with 0. ** Female – male.

Table S4b: Countries with 100% completeness of registration

Country	Year	Country	Year	Country	Year
Argentina	2018	Germany	2019	Qatar	2015-18
Australia	2018	Greece	2018	Republic of Korea	2018
Austria	2019	Hungary	2019	Romania	2019
Bahrain	2015-18	Iceland	2019	Russian Federation	2019
Belarus	2019	Ireland	2019	Serbia	2019
Belgium	2019	Israel	2019	Singapore	2019
Bosnia and Herzegovina	2016	Italy	2019	Slovakia	2019
Bulgaria	2019	Japan	2019	Slovenia	2019
Canada	2018	Latvia	2019	Spain	2019
Chile	2018	Lebanon	2019	Sri Lanka	2019
Costa Rica	2019	Lithuania	2019	Sweden	2018
Cuba	2017	Luxembourg	2019	Switzerland	2019
Cyprus	2018	Malaysia	2018	Ukraine	2019
Czechia	2019	Mauritius	2019	United Arab Emirates	2019
Denmark	2019	Montenegro	2019	United Kingdom	2019
Egypt	2019	Netherlands	2019	United States of America	2018
Estonia	2019	New Zealand	2019	Uruguay	2017
Finland	2019	Norway	2019	Venezuela (Bolivarian Republic of)	2017
France	2018	Poland	2019		
Georgia	2019	Portugal	2018		

Table S5: Population, total deaths, and unregistered death analysis, by country

Country	Population 2019*		Total deaths 2019*		Estimated unregistered deaths 2019**		Proportion of unregistered deaths (%)		Additional or less female deaths registered if same completeness as males (95% UI)***
	Female	Male	Female	Male	Female	Male	Female	Male	
Mexico	63,828,360	61,111,816	322,750	415,674	17,842	21,823	45.0	55.0	897 (-6,916 – 8,505)
El Salvador	3,324,974	2,931,169	17,835	22,364	1,245	954	56.6	43.4	484 (-152 – 1,181)
Trinidad and Tobago	691,278	696,179	5,184	6,581	269	408	39.7	60.3	-53 (-204 – 83)
Panama	2,064,870	2,095,587	8,572	11,225	540	672	44.6	55.4	27 (-202 – 247)
Guatemala	9,135,175	8,641,315	41,828	52,993	2,935	3,027	49.2	50.8	546 (-1,598 – 2,663)
Kuwait	2,055,100	2,371,462	2,945	7,068	207	445	31.7	68.3	21 (-90 – 138)
Iran (Islamic Republic of)	41,480,404	42,817,476	166,629	224,485	9,942	18,308	35.2	64.8	-3,647 (-6,981 – -381)
Malta	219,820	219,401	1,827	1,953	165	108	60.4	39.6	64 (-13 – 150)
Fiji	449,354	461,895	3,353	4,066	178	403	30.6	69.4	-155 (-289 – -35)
Cabo Verde	279,737	283,826	1,524	1,976	38	239	13.6	86.4	-147 (-204 – -101)
Mongolia	1,716,545	1,671,045	9,812	15,047	1,221	932	56.7	43.3	614 (241 – 1,031)
Guyana	389,347	381,359	2,890	3,794	291	323	47.3	52.7	44 (-77 – 162)
Republic of Moldova	1,929,060	1,759,131	19,868	21,130	2,577	1,324	66.1	33.9	1,332 (535 – 2,302)
Algeria	20,646,056	21,201,234	94,327	106,784	8,712	10,687	44.9	55.1	-729 (-4,312 – 2,744)
Jamaica	1,415,048	1,395,705	9,536	10,122	1,054	997	51.4	48.6	115 (-289 – 534)
Colombia	24,426,692	23,349,986	112,508	134,171	12,380	14,037	46.9	53.1	610 (-4,025 – 4,988)
Uzbekistan	16,868,874	16,808,222	91,030	112,568	8,739	13,280	39.7	60.3	-2,000 (-6,425 – 2,400)
Paraguay	3,423,147	3,507,308	14,599	19,572	2,163	1,664	56.5	43.5	922 (100 – 1,832)
Philippines	55,284,444	56,858,320	273,645	365,156	32,933	45,816	41.8	58.2	-1,401 (-15,143 – 11,535)
Suriname	291,065	284,823	1,972	2,399	301	287	51.2	48.8	66 (-45 – 179)
Libya	3,256,680	3,478,863	13,698	17,962	2,602	1,897	57.8	42.2	1,155 (-2,435 – 4,340)
Ecuador	8,832,155	8,756,237	41,348	51,183	5,720	7,887	42.0	58.0	-651 (-3,303 – 1945)

Azerbaijan	5,136,802	5,141,873	34,264	40,865	4,283	7,550	36.2	63.8	-2,047 (-4,372 – 182)
Nicaragua	3,297,317	3,213,047	12,652	16,545	2,130	2,884	42.5	57.5	-76 (-1,707 – 1,305)
South Africa	28,360,934	27,227,490	245,600	276,203	50,432	48,710	50.9	49.1	7,119 (-20,029 – 33,270)
China	697,528,832	724,821,568	4,426,896	6,226,552	1,051,724	1,220,656	46.3	53.7	183,874 (-185,360 – 547,899)
Peru	16,962,012	17,033,386	71,105	81,328	15,981	18,926	45.8	54.2	-566 (-6,075 – 4,779)
Bolivia (Plurinational State of)	5,999,165	6,012,585	37,356	38,554	9,106	9,231	49.7	50.3	162 (-2,844 – 3,196)
India	677,520,832	713,186,112	4,389,254	5,002,295	1,435,915	990,525	59.2	40.8	566,780 (153,136 – 1,011,116)
Jordan	5,422,048	6,214,669	13,785	18,480	3,115	4,951	38.6	61.4	-578 (-2,756 – 1,746)
Iraq	20,550,292	21,569,198	75,203	104,412	21,616	26,768	44.7	55.3	2,336 (-4,537 – 9,009)
Kenya	25,162,982	25,064,728	132,745	161,143	34,519	50,356	40.7	59.3	-6,963 (-21,891 – 7,554)
Nepal	15,918,575	14,497,807	87,761	105,570	30,489	28,670	51.5	48.5	6,655 (-3,344 – 16,668)
Dominican Republic	5,410,452	5,471,403	29,275	41,270	9,434	12,656	42.7	57.3	457 (-2,691 – 3,633)
Tajikistan	4,693,532	4,798,882	21,427	27,276	5,893	9,309	38.8	61.2	-1,420 (-3,490 – 603)
Botswana	1,188,021	1,150,701	9,539	11,633	3,704	4,765	43.7	56.3	-203 (-1,833 – 1,438)
Myanmar	28,377,050	26,299,852	192,763	228,169	104,445	91,968	53.2	46.8	26,747 (3,126 – 48,872)
Lao People's Democratic Republic	3,560,620	3,597,630	19,580	24,877	9,546	12,054	44.2	55.8	58 (-1,591 – 1,661)
Lesotho	1,058,540	1,033,048	14,733	17,781	8,229	10,791	43.3	56.7	-712 (-2,437 – 969)
Zambia	9,220,897	9,016,785	53,227	70,128	41,038	48,248	46.0	54.0	4,418 (-1,471 – 10,297)
Morocco	17,874,360	18,077,826	104,209	123,915	66,485	70,897	48.4	51.6	6,863 (-8,340 – 22,380)
Rwanda	6,517,521	6,170,597	33,337	35,235	22,250	24,021	48.1	51.9	-477 (-4,827 – 3,994)
Total									790,541 (223,886 – 1,370,427)

* According to Global Burden of Disease (GBD) 2019. ** Calculated as: most recent completeness figure x 2019 total deaths. *** Calculated as: (male completeness x female 2019 total deaths) – (female completeness x female 2019 total deaths). UI: Uncertainty interval.

Table S6: Garbage cause percentage , by country

Country	Year	Difference (Female – male)*	Female (%)	Male (%) (age-cause-standardised)
Average		1.4 (1.3 – 1.6)	34.7 (34.6 – 34.8)	33.3 (33.2 – 33.3)
Oman	2017	1.5 (-0.5 – 3.5)	72.2 (70.6 – 73.7)	70.7 (69.4 – 71.9)
Egypt**	2019	1.3 (1.1 – 1.6)	71.5 (71.3 – 71.6)	70.2 (70.0 – 70.3)
United Arab Emirates	2019	-0.6 (-2.9 – 1.6)	61.7 (59.9 – 63.7)	62.4 (61.2 – 63.6)
Libya	2017	-0.4 (-2.0 – 1.1)	59.4 (58.2 – 60.6)	59.8 (58.9 – 60.8)
Argentina**	2018	2.0 (1.7 – 2.3)	55.5 (55.3 – 55.7)	53.5 (53.3 – 53.7)
Thailand**	2019	1.8 (1.5 – 2.1)	53.0 (52.8 – 53.3)	51.2 (51.1 – 51.4)
Lebanon**	2019	1.4 (0.4 – 2.5)	51.9 (51.1 – 52.7)	50.5 (49.8 – 51.2)
Mauritius**	2019	2.2 (0.4 – 4.0)	51.9 (50.6 – 53.3)	49.7 (48.5 – 51.0)
Guatemala**	2017	3.6 (2.9 – 4.3)	51.7 (51.1 – 52.2)	48.1 (47.6 – 48.5)
Greece**	2017	3.9 (3.4 – 4.5)	51.4 (51.0 – 51.8)	47.5 (47.1 – 47.9)
Bulgaria**	2018	1.2 (0.6 – 1.9)	49.7 (49.3 – 50.2)	48.5 (48.0 – 48.9)
Peru**	2017	1.0 (0.4 – 1.5)	48.1 (47.7 – 48.5)	47.1 (46.7 – 47.5)
Georgia**	2019	1.1 (0.2 – 2.0)	46.9 (46.3 – 47.6)	45.9 (45.2 – 46.5)
Serbia**	2017	1.4 (0.8 – 2.0)	46.3 (45.9 – 46.7)	44.9 (44.5 – 45.3)
Japan**	2018	-0.7 (-0.9 – -0.5)	43.2 (43.0 – 43.3)	43.8 (43.7 – 44.0)
Turkey**	2019	3.3 (3.0 – 3.6)	44.0 (43.8 – 44.3)	40.7 (40.5 – 40.9)
Portugal**	2018	2.0 (1.4 – 2.6)	42.4 (42.0 – 42.8)	40.4 (40.0 – 40.8)
Uruguay**	2017	1.6 (0.6 – 2.7)	42.1 (41.3 – 42.8)	40.4 (39.7 – 41.2)
Poland**	2018	1.1 (0.8 – 1.4)	41.3 (41.1 – 41.5)	40.2 (40.0 – 40.4)
Romania**	2018	1.4 (1.0 – 1.8)	41.0 (40.7 – 41.3)	39.6 (39.3 – 39.9)
Brazil**	2018	1.6 (1.5 – 1.8)	38.9 (38.8 – 39.0)	37.3 (37.2 – 37.4)
Hong Kong SAR**	2017	2.3 (1.4 – 3.2)	38.8 (38.1 – 39.5)	36.5 (36.0 – 37.1)
Panama	2017	1.2 (-0.2 – 2.6)	38.1 (37.1 – 39.1)	36.9 (36.0 – 37.8)
Cyprus**	2018	2.6 (0.9 – 4.3)	38.3 (37.0 – 39.6)	35.7 (34.5 – 36.9)
Republic of Korea**	2019	0.5 (0.1 – 0.8)	36.9 (36.7 – 37.2)	36.4 (36.2 – 36.7)
Israel**	2018	1.4 (0.5 – 2.3)	37.0 (36.3 – 37.6)	35.6 (35.0 – 36.2)
Paraguay**	2017	1.2 (0.1 – 2.3)	36.2 (35.4 – 37.1)	35.0 (34.3 – 35.7)
Kuwait**	2017	5.1 (2.8 – 7.6)	37.8 (35.9 – 39.7)	32.7 (31.3 – 34.1)
Puerto Rico**	2017	-1.7 (-2.8 – -0.6)	33.3 (32.5 – 34.0)	35.0 (34.3 – 35.7)
Armenia**	2018	2.2 (1.1 – 3.4)	35.0 (34.2 – 35.9)	32.8 (32.0 – 33.6)
Ecuador**	2017	2.2 (1.6 – 3.0)	34.4 (33.9 – 34.9)	32.2 (31.7 – 32.6)
Spain**	2017	1.6 (1.3 – 1.9)	32.4 (32.2 – 32.6)	30.8 (30.6 – 31.0)
Italy**	2017	1.9 (1.7 – 2.1)	32.3 (32.1 – 32.4)	30.4 (30.2 – 30.5)
Kazakhstan	2017	0.2 (-0.3 – 0.7)	31.3 (30.9 – 31.6)	31.0 (30.7 – 31.4)
Luxembourg	2017	-0.2 (-3.1 – 2.6)	31.0 (29.0 – 33.0)	31.2 (29.2 – 33.3)
Denmark	2018	0.5 (-0.2 – 1.3)	31.1 (30.5 – 31.7)	30.6 (30.0 – 31.1)
Singapore**	2019	2.4 (1.1 – 3.6)	31.5 (30.6 – 32.5)	29.2 (28.3 – 30.0)
Netherlands	2018	1.0 (0.6 – 1.5)	30.6 (30.3 – 30.9)	29.6 (29.3 – 29.9)
Chile**	2018	0.7 (0.1 – 1.2)	29.1 (28.7 – 29.5)	28.4 (28.1 – 28.8)

Croatia**	2017	2.8 (2.1 – 3.6)	29.2 (28.6 – 29.7)	26.4 (25.8 – 26.9)
Slovenia**	2019	3.2 (2.0 – 4.4)	28.1 (27.3 – 29.0)	24.9 (24.1 – 25.8)
Germany**	2018	1.4 (1.2 – 1.6)	26.7 (26.6 – 26.8)	25.3 (25.2 – 25.4)
Sweden**	2018	1.0 (0.4 – 1.5)	26.4 (26.0 – 26.8)	25.4 (25.0 – 25.8)
United States of America**	2017	1.3 (1.2 – 1.4)	26.4 (26.4 – 26.5)	25.1 (25.1 – 25.2)
Malta**	2017	5.5 (2.6 – 8.3)	28.4 (26.3 – 30.5)	22.9 (20.9 – 24.9)
Mexico**	2017	1.5 (1.3 – 1.7)	25.6 (25.4 – 25.7)	24.0 (23.9 – 24.2)
Switzerland**	2017	1.1 (0.5 – 1.8)	25.3 (24.8 – 25.7)	24.1 (23.7 – 24.6)
Costa Rica**	2019	2.1 (1.0 – 3.2)	25.3 (24.4 – 26.1)	23.2 (22.5 – 23.9)
Austria**	2019	1.4 (0.9 – 2.0)	24.8 (24.4 – 25.2)	23.3 (22.9 – 23.8)
Czech Republic**	2019	1.7 (1.2 – 2.2)	24.9 (24.5 – 25.2)	23.2 (22.9 – 23.6)
Colombia**	2017	1.8 (1.4 – 2.1)	24.6 (24.3 – 24.9)	22.8 (22.6 – 23.1)
Cuba**	2017	1.2 (0.7 – 1.7)	23.7 (23.3 – 24.0)	22.5 (22.1 – 22.8)
Australia**	2018	1.3 (0.9 – 1.7)	23.2 (22.9 – 23.5)	21.9 (21.6 – 22.1)
Canada**	2017	0.6 (0.3 – 0.9)	22.1 (21.9 – 22.4)	21.5 (21.3 – 21.7)
Iceland	2019	0.9 (-2.4 – 4.3)	22.0 (19.6 – 24.4)	21.0 (18.8 – 23.5)
Nicaragua**	2018	2.1 (1.1 – 3.2)	22.1 (21.3 – 22.9)	19.9 (19.3 – 20.6)
United Kingdom, Scotland** ***	2019	1.7 (1.0 – 2.3)	20.3 (19.8 – 20.7)	18.6 (18.2 – 19.1)
Belarus	2018	-0.2 (-0.6 – 0.2)	18.1 (17.8 – 18.4)	18.3 (18.0 – 18.6)
Latvia	2018	0.6 (-0.2 – 1.4)	15.2 (14.6 – 15.8)	14.6 (14.0 – 15.2)
Estonia	2019	0.1 (-1.1 – 1.2)	13.7 (13.0 – 14.5)	13.7 (12.9 – 14.5)
Lithuania**	2019	1.2 (0.6 – 1.9)	12.8 (12.4 – 13.3)	11.6 (11.1 – 12.1)
Hungary	2019	0.2 (-0.2 – 0.6)	12.2 (11.9 – 12.4)	12.0 (11.7 – 12.2)
Republic of Moldova	2018	0.1 (-0.5 – 0.8)	11.3 (10.9 – 11.8)	11.2 (10.7 – 11.6)
Finland**	2018	0.6 (0.2 – 1.1)	8.9 (8.6 – 9.3)	8.3 (7.9 – 8.6)

Note: Figures in parentheses are 95% uncertainty intervals.

* Percentage points.

** 95% uncertainty interval of difference in garbage causes between the sexes does not overlap with 0.

*** For the United Kingdom, only cause of death data by age group for Scotland are available in the WHO Mortality Database.

Table S7: Garbage severity by sex, by country

Country	Year	Female minus Male (p.p.) (age-cause-std.) (positive means higher garbage for females v males)					Female Garbage severity (%)					Male Garbage severity (%) (age-cause-standardised)				
		All	Very high	High	Medium	Low	All	Very high	High	Medium	Low	All	Very high	High	Medium	Low
Average		1.4	0.4	0.4	0.3	0.4	34.7	15.7	4.3	3.4	11.4	33.3	15.3	3.9	3.1	11.0
Median		1.4	0.2	0.4	0.3	0.3	32.4	12.7	3.7	3.3	10.5	31.1	12.4	2.9	2.9	10.2
Oman	2017	1.5	0.7	0.2	0.6	0.0	72.2	54.5	7.3	4.1	6.2	70.7	53.7	7.1	3.6	6.2
Egypt	2019	1.3	-0.4	0.6	0.1	1.0	71.5	46.5	13.9	1.9	9.2	70.2	46.8	13.3	1.8	8.2
United Arab Emirates	2019	-0.6	-1.4	0.6	0.5	-0.3	61.8	50.4	4.2	4.5	2.7	62.4	51.8	3.6	4.0	3.0
Libya	2017	-0.4	-1.4	0.5	0.3	0.2	59.4	44.1	4.5	2.2	8.6	59.8	45.5	4.0	1.9	8.4
Argentina	2018	2.0	1.4	0.1	0.9	-0.4	55.5	27.2	4.2	6.5	17.5	53.5	25.7	4.1	5.6	18.0
Thailand	2019	1.8	1.0	-0.1	0.0	0.9	53.0	33.6	3.8	2.9	12.7	51.2	32.6	3.9	2.9	11.8
Lebanon	2019	1.4	1.2	-0.4	0.4	0.2	51.9	36.5	5.7	3.0	6.7	50.5	35.3	6.1	2.6	6.4
Mauritius	2019	2.2	-0.9	0.4	0.1	2.6	51.9	12.9	3.0	5.5	30.5	49.7	13.7	2.6	5.4	27.9
Guatemala	2017	3.6	0.4	0.1	0.6	2.4	51.7	21.6	4.7	3.8	21.6	48.1	21.2	4.6	3.2	19.1
Greece	2017	3.9	1.5	0.6	0.7	1.1	51.4	21.2	9.0	2.8	18.4	47.5	19.6	8.4	2.1	17.3
Bulgaria	2018	1.2	-0.2	0.2	0.2	1.0	49.7	32.4	4.2	2.1	11.0	48.5	32.6	3.9	1.9	10.1
Peru	2017	1.0	0.2	-0.1	0.5	0.5	48.1	21.9	5.0	3.7	17.4	47.1	21.8	5.2	3.2	16.9
Georgia	2019	1.1	0.4	0.0	-0.1	0.7	46.9	22.6	5.7	2.1	16.5	45.9	22.2	5.7	2.2	15.8
Serbia	2017	1.4	0.0	1.2	0.0	0.3	46.3	14.1	9.5	2.6	20.1	44.9	14.1	8.4	2.6	19.8
Japan	2018	-0.7	-0.3	0.0	0.6	-0.9	43.2	27.8	1.5	3.5	10.4	43.8	28.2	1.5	2.9	11.3
Turkey	2019	3.3	1.2	0.6	0.1	1.5	44.0	23.1	2.3	2.7	15.9	40.7	21.9	1.8	2.6	14.4
Portugal	2018	2.0	0.8	0.5	0.3	0.3	42.4	15.6	5.5	4.8	16.5	40.4	14.8	4.9	4.5	16.2
Uruguay	2017	1.6	0.7	0.3	0.4	0.4	42.1	21.0	3.8	6.4	10.8	40.4	20.3	3.5	6.1	10.5
Poland	2018	1.1	-0.1	0.8	0.4	-0.1	41.3	22.1	10.1	2.4	6.6	40.2	22.2	9.3	2.0	6.7

Romania	2018	1.4	0.5	0.4	0.1	0.4	41.0	3.9	14.0	2.2	20.9	39.6	3.4	13.6	2.1	20.5
Brazil	2018	1.6	0.3	0.5	0.3	0.6	38.9	13.1	4.8	3.6	17.5	37.3	12.7	4.3	3.3	16.9
Hong Kong SAR	2017	2.3	0.9	-0.1	0.9	0.5	38.8	10.7	1.2	3.3	23.6	36.5	9.8	1.3	2.4	23.0
Panama	2017	1.2	0.4	0.8	-1.0	1.0	38.1	15.3	3.7	3.4	15.7	36.9	15.0	2.9	4.4	14.6
Cyprus	2018	2.6	0.6	1.6	-1.0	1.4	38.3	14.3	5.1	7.0	12.0	35.7	13.7	3.5	8.0	10.5
Republic of Korea	2019	0.5	0.8	0.7	0.0	-1.0	36.9	22.0	3.5	1.6	9.7	36.4	21.3	2.8	1.6	10.7
Israel	2018	1.4	-0.6	1.2	0.5	0.3	37.0	18.4	4.0	4.1	10.5	35.6	19.0	2.9	3.5	10.2
Paraguay	2017	1.2	-0.3	0.2	0.3	1.0	36.2	13.6	4.0	3.9	14.7	35.0	13.9	3.8	3.6	13.6
Kuwait	2017	5.2	5.3	-0.6	1.1	-0.6	37.8	17.5	1.4	3.2	15.8	32.6	12.2	2.0	2.1	16.4
Puerto Rico	2017	-1.7	-1.9	0.7	-0.4	-0.1	33.3	11.9	3.6	4.0	13.7	35.0	13.8	2.9	4.5	13.8
Armenia	2018	2.2	0.2	1.4	0.5	0.2	35.0	5.7	18.7	1.6	9.1	32.8	5.5	17.3	1.2	8.9
Ecuador	2017	2.2	0.6	0.0	0.4	1.2	34.4	12.2	5.1	2.6	14.5	32.2	11.7	5.1	2.2	13.3
Spain	2017	1.6	1.4	0.6	-0.2	-0.2	32.4	14.0	3.4	6.8	8.1	30.8	12.7	2.8	7.0	8.3
Italy	2017	1.9	0.2	0.5	0.8	0.5	32.3	10.1	4.1	6.0	12.0	30.4	9.9	3.7	5.3	11.5
Kazakhstan	2017	0.2	0.1	-0.1	-0.2	0.5	31.3	11.0	2.0	9.6	8.6	31.0	10.9	2.2	9.8	8.1
Luxembourg	2017	-0.2	-0.3	0.6	0.6	-1.1	31.0	15.7	3.5	4.8	7.0	31.2	16.0	2.8	4.2	8.2
Denmark	2018	0.5	-0.4	0.7	0.7	-0.4	31.1	16.1	3.3	4.1	7.6	30.6	16.5	2.7	3.4	8.1
Singapore	2019	2.4	0.6	-0.1	0.4	1.4	31.5	2.9	0.6	2.1	25.9	29.2	2.3	0.7	1.7	24.5
Netherlands	2018	1.0	-0.2	0.5	0.1	0.6	30.6	14.3	3.3	4.7	8.3	29.6	14.6	2.8	4.6	7.7
Chile	2018	0.7	0.4	0.5	0.2	-0.5	29.1	9.4	5.0	3.4	11.4	28.4	9.0	4.4	3.2	11.9
Croatia	2017	2.8	0.8	0.3	0.6	1.1	29.2	8.1	3.1	2.5	15.5	26.3	7.3	2.8	1.9	14.4
Slovenia	2019	3.2	2.8	0.2	0.3	-0.1	28.1	15.9	2.3	2.3	7.7	24.9	13.1	2.1	2.0	7.7
Germany	2018	1.4	0.9	0.7	0.1	-0.3	26.7	12.6	3.5	3.4	7.1	25.3	11.7	2.8	3.4	7.4
Sweden	2018	1.0	0.1	0.6	0.8	-0.6	26.4	11.4	4.6	3.7	6.7	25.4	11.3	3.9	2.8	7.3
United States of America	2017	1.3	0.0	0.5	0.3	0.4	26.4	11.8	2.7	3.8	8.2	25.1	11.8	2.1	3.5	7.7
Malta	2017	5.5	2.6	-0.2	0.0	3.1	28.4	8.2	1.1	2.0	17.1	22.9	5.6	1.3	2.0	14.0
Mexico	2017	1.5	0.2	0.5	-0.2	1.0	25.6	7.4	3.7	2.2	12.2	24.0	7.2	3.2	2.4	11.2

Switzerland	2017	1.1	0.9	0.3	0.1	-0.2	25.3	12.5	3.1	3.4	6.3	24.2	11.6	2.8	3.3	6.5
Costa Rica	2019	2.1	0.1	0.5	0.0	1.4	25.3	5.5	4.3	3.0	12.5	23.2	5.4	3.8	3.0	11.0
Austria	2019	1.4	0.2	1.1	0.6	-0.4	24.8	9.4	4.2	3.5	7.6	23.3	9.3	3.2	3.0	7.9
Czech Republic	2019	1.7	0.8	0.7	0.5	-0.2	24.9	11.9	5.3	2.4	5.3	23.2	11.1	4.6	2.0	5.5
Colombia	2017	1.8	0.3	0.2	0.0	1.2	24.6	6.3	2.9	3.1	12.4	22.8	6.0	2.7	3.0	11.1
Cuba	2017	1.2	0.1	0.8	0.4	-0.1	23.7	4.9	5.2	2.2	11.4	22.5	4.8	4.4	1.8	11.5
Australia	2018	1.3	0.0	0.4	0.5	0.4	23.2	8.1	2.3	4.5	8.3	21.9	8.1	1.9	4.0	7.8
Canada	2017	0.6	-0.3	0.4	0.3	0.2	22.1	8.3	2.3	3.5	8.0	21.5	8.5	2.0	3.2	7.8
Iceland	2019	0.9	-0.2	0.7	0.8	-0.4	22.0	10.2	3.2	1.9	6.6	21.1	10.4	2.5	1.1	7.0
Nicaragua	2018	2.1	0.3	0.2	0.0	1.6	22.1	7.0	2.5	1.8	10.7	19.9	6.7	2.3	1.8	9.1
United Kingdom, Scotland*	2019	1.6	0.0	0.0	0.8	0.9	20.3	6.8	1.4	3.9	8.2	18.6	6.9	1.4	3.1	7.3
Belarus	2018	-0.2	0.4	-0.4	-0.2	0.0	18.1	14.4	1.9	1.1	0.7	18.3	14.1	2.2	1.4	0.7
Latvia	2018	0.6	0.1	0.2	-0.3	0.6	15.2	3.9	2.1	1.8	7.4	14.6	3.7	2.0	2.0	6.8
Estonia	2019	0.0	0.1	0.6	0.4	-1.1	13.7	6.2	1.3	4.0	2.1	13.7	6.1	0.7	3.6	3.2
Lithuania	2019	1.2	0.5	0.0	0.2	0.5	12.8	3.8	0.9	1.3	6.8	11.6	3.3	0.9	1.1	6.3
Hungary	2019	0.2	-0.1	0.9	-0.2	-0.4	12.2	3.0	4.9	1.2	3.1	12.0	3.0	4.0	1.4	3.5
Republic of Moldova	2018	0.1	0.1	0.0	0.0	0.1	11.3	1.3	0.7	0.7	8.7	11.2	1.2	0.7	0.7	8.6
Finland	2018	0.6	0.2	0.4	0.3	-0.3	8.9	2.1	1.5	2.2	3.1	8.3	1.9	1.1	1.9	3.4

* For the United Kingdom, only cause of death data by age group for Scotland are available in the WHO Mortality Database. p.p.: percentage points.

Table S8: Garbage type by sex, by country

Country	Absolute difference* (age-cause-std.) (p.p.)					
	All	Symptoms	Impossible	Intermediate	Immediate	Unspecified
Average	1.4	0.0	0.0	0.6	-0.1	1.0
Median	1.4	0.0	0.0	0.4	0.0	0.9
Oman	1.5	0.3	-0.9	0.9	0.1	1.0
Egypt	1.3	-0.4	0.2	0.5	0.0	1.1
United Arab Emirates	-0.6	-1.2	1.0	0.3	-0.6	-0.1
Libya	-0.4	-0.3	0.1	0.1	-1.2	0.8
Argentina	2.0	0.0	-0.1	1.3	0.0	0.7
Thailand	1.8	0.0	-0.7	1.4	0.0	1.0
Lebanon	1.5	0.1	-0.2	1.8	-0.8	0.5
Mauritius	2.2	0.0	-0.3	-1.0	0.0	3.5
Guatemala	3.6	-0.1	0.0	0.6	0.0	3.1
Greece	3.9	0.2	-0.2	1.8	0.2	1.9
Bulgaria	1.2	0.0	-0.1	0.2	-0.2	1.4
Peru	1.0	-0.1	0.0	0.0	-0.1	1.1
Georgia	1.1	0.0	0.2	-0.1	0.1	0.9
Serbia	1.4	0.0	0.2	1.2	-0.4	0.5
Japan	-0.7	0.0	0.0	-0.3	-0.1	-0.4
Turkey	3.3	-0.2	0.1	2.0	-0.2	1.6
Portugal	2.0	-0.1	0.1	1.1	0.0	0.9
Uruguay	1.7	0.1	-0.1	0.0	0.3	1.4
Poland	1.1	0.0	0.0	0.6	0.0	0.5
Romania	1.4	0.0	0.0	0.5	0.0	0.8
Brazil	1.6	-0.1	-0.1	0.8	0.0	1.0
Hong Kong SAR	2.3	0.0	-0.1	0.9	0.0	1.4
Panama	1.2	-0.2	0.5	0.3	0.2	0.4

Cyprus	2.6	0.0	0.3	1.0	0.3	0.9
Republic of Korea	0.5	-0.1	0.1	1.4	-0.3	-0.7
Israel	1.4	0.0	0.0	0.0	0.0	1.3
Paraguay	1.2	0.1	-0.3	0.1	-0.1	1.4
Kuwait	5.1	-0.2	-0.4	5.5	-0.5	0.7
Puerto Rico	-1.7	-0.1	-0.2	-1.2	0.1	-0.3
Armenia	2.2	0.1	0.0	1.2	-0.1	1.0
Ecuador	2.2	0.1	-0.1	0.4	0.0	1.9
Spain	1.6	0.0	0.2	1.1	0.0	0.3
Italy	1.9	0.0	0.1	0.0	0.0	1.9
Kazakhstan	0.2	0.0	0.2	-0.4	0.0	0.4
Luxembourg	-0.2	0.4	-0.1	-0.6	-0.3	0.5
Denmark	0.5	-0.1	0.2	0.2	0.0	0.3
Singapore	2.4	0.1	-0.2	0.9	0.0	1.6
Netherlands	1.0	-0.1	0.1	-0.1	0.0	1.1
Chile	0.7	0.0	0.0	0.7	0.0	-0.1
Croatia	2.8	0.0	0.0	0.5	0.0	2.3
Slovenia	3.2	0.0	0.0	2.6	0.0	0.6
Malta	5.5	0.5	-0.4	2.4	0.0	3.0
Germany	1.4	0.0	-0.1	1.1	0.0	0.4
Sweden	1.0	0.0	-0.1	0.5	0.1	0.5
United States of America	1.0	0.0	-0.1	0.0	0.0	1.1
Mexico	1.5	0.0	-0.1	0.5	0.0	1.1
Switzerland	1.1	0.0	0.1	0.5	0.1	0.4
Costa Rica	2.1	0.0	-0.2	0.4	-0.1	2.0
Austria	1.4	0.0	0.0	0.5	0.0	1.0
Czech Republic	1.7	0.0	0.0	1.2	0.0	0.6
Colombia	1.8	0.0	0.1	0.3	0.0	1.4
Cuba	1.2	0.0	0.0	-0.2	0.0	1.4

Australia	1.3	0.0	0.0	0.1	0.0	1.2
Canada	0.6	0.0	0.0	-0.1	0.0	0.8
Nicaragua	2.1	0.0	0.0	0.5	0.0	1.6
Iceland	0.9	-0.1	-0.3	0.5	-0.1	0.9
United Kingdom, Scotland	1.6	0.0	-0.1	0.0	0.0	1.7
Belarus	-0.2	0.0	0.0	0.0	0.0	-0.2
Latvia	0.6	0.0	0.0	0.1	0.0	0.5
Estonia	0.0	0.0	0.2	-0.1	-0.1	0.1
Lithuania	1.2	0.0	-0.1	0.4	0.0	0.9
Hungary	0.2	0.0	0.1	0.3	0.0	-0.2
Republic of Moldova	0.2	0.1	-0.1	-0.1	0.0	0.3
Finland	0.6	0.0	0.1	0.0	0.0	0.6

Table S8 (contd.)

Country	Female Garbage type (%)						Male Garbage type (%) (age-cause-standardised)					
	All	Symptoms	Impossible	Intermediate	Immediate	Unspecified	All	Symptoms	Impossible	Intermediate	Immediate	Unspecified
Average	34.7	4.8	1.6	11.8	1.5	15.0	33.3	4.9	1.7	11.2	1.5	14.0
Median	32.4	2.7	1.2	10.5	0.2	14.0	31.1	2.7	1.3	10.2	0.2	13.1
Oman	72.2	32.5	3.2	16.9	8.1	11.5	70.7	32.2	4.1	16.0	8.0	10.4
Egypt	71.5	6.9	2.8	43.8	8.7	9.3	70.2	7.3	2.7	43.2	8.8	8.2
United Arab Emirates	61.8	11.0	11.7	14.9	16.0	8.3	62.4	12.2	10.7	14.5	16.5	8.4
Libya	59.4	18.6	3.2	12.2	13.9	11.5	59.8	18.9	3.1	12.1	15.1	10.7
Argentina	55.5	5.1	3.3	24.2	0.1	22.8	53.5	5.1	3.4	22.9	0.1	22.1
Thailand	53.0	25.2	1.4	10.2	0.0	16.3	51.2	25.2	2.0	8.8	0.0	15.3
Lebanon	51.9	6.9	5.3	17.5	11.3	11.0	50.5	6.8	5.5	15.6	12.1	10.5
Mauritius	52.0	1.2	1.5	9.5	3.5	36.2	49.7	1.2	1.8	10.6	3.5	32.7
Guatemala	51.7	10.6	2.4	10.9	0.2	27.5	48.1	10.8	2.5	10.3	0.2	24.3
Greece	51.4	2.0	6.8	18.2	2.9	21.5	47.5	1.9	7.0	16.4	2.7	19.6
Bulgaria	49.7	3.1	0.7	31.6	1.9	12.4	48.5	3.1	0.8	31.4	2.1	11.0
Peru	48.1	2.8	2.9	17.3	1.4	23.6	47.1	2.9	3.0	17.3	1.5	22.5
Georgia	46.9	14.5	0.7	11.3	0.9	19.5	45.9	14.5	0.6	11.3	0.8	18.6
Serbia	46.3	4.2	0.9	30.7	2.8	7.8	44.9	4.2	0.7	29.5	3.2	7.3
Japan	43.2	13.5	0.7	14.5	0.7	13.8	43.8	13.4	0.7	14.8	0.8	14.2
Turkey	44.0	5.6	1.7	17.6	1.7	17.5	40.7	5.7	1.6	15.7	1.9	15.8
Portugal	42.4	4.7	2.9	12.5	0.0	22.3	40.4	4.8	2.8	11.4	0.0	21.4
Uruguay	42.1	7.9	2.0	12.6	1.4	18.1	40.4	7.8	2.2	12.6	1.1	16.7
Poland	41.3	10.1	0.1	22.1	0.1	8.9	40.2	10.1	0.1	21.4	0.1	8.5
Romania	41.0	1.1	0.2	17.7	0.0	21.9	39.6	1.1	0.3	17.2	0.0	21.0
Brazil	38.9	4.4	2.0	11.6	0.1	20.9	37.3	4.4	2.1	10.8	0.1	19.9

Hong Kong SAR	38.8	2.8	0.7	8.3	0.1	27.0	36.5	2.8	0.8	7.3	0.1	25.6
Panama	38.1	3.2	2.2	11.5	2.4	18.8	36.9	3.4	1.6	11.2	2.2	18.4
Cyprus	38.3	3.0	1.2	11.3	2.1	20.6	35.7	3.0	0.9	10.3	1.8	19.7
Republic of Korea	36.9	10.8	1.2	10.9	1.8	12.3	36.4	10.9	1.1	9.4	2.1	12.9
Israel	37.0	4.8	1.5	14.8	0.1	15.7	35.6	4.8	1.5	14.8	0.1	14.4
Paraguay	36.2	7.5	1.4	7.9	0.0	19.4	35.0	7.5	1.6	7.8	0.1	18.0
Kuwait	37.8	1.1	1.3	15.9	0.3	19.1	32.7	1.3	1.8	10.4	0.8	18.4
Puerto Rico	33.3	1.1	1.0	12.4	0.3	18.4	35.0	1.2	1.2	13.6	0.2	18.8
Armenia	35.0	1.0	0.7	22.4	0.1	10.9	32.8	0.9	0.7	21.1	0.2	9.9
Ecuador	34.4	5.9	2.5	7.7	0.1	18.1	32.2	5.9	2.6	7.3	0.0	16.3
Spain	32.4	2.0	2.2	13.4	0.0	14.8	30.8	1.9	2.0	12.3	0.0	14.6
Italy	32.3	2.1	1.4	8.6	0.9	19.3	30.4	2.1	1.3	8.7	0.9	17.3
Kazakhstan	31.3	7.0	1.6	5.3	0.1	17.2	31.0	7.1	1.4	5.7	0.1	16.8
Luxembourg	31.0	2.3	2.1	13.7	1.1	11.8	31.2	1.9	2.3	14.3	1.4	11.4
Denmark	31.1	10.0	1.6	6.5	0.4	12.5	30.6	10.2	1.4	6.4	0.4	12.2
Singapore	31.5	0.2	0.4	3.1	0.0	27.8	29.2	0.2	0.6	2.2	0.0	26.2
Netherlands	30.6	3.9	1.7	9.9	1.1	14.1	29.6	3.9	1.5	10.1	1.1	13.0
Chile	29.1	2.5	1.2	10.3	0.1	15.1	28.4	2.4	1.2	9.6	0.1	15.1
Croatia	29.2	1.1	0.6	9.0	0.4	18.1	26.4	1.1	0.6	8.5	0.3	15.8
Slovenia	28.1	2.5	0.3	16.1	0.2	9.1	24.9	2.5	0.3	13.5	0.2	8.5
Malta	28.4	0.5	0.8	8.1		19.0	23.8	0.0	1.2	5.7		16.0
Germany	26.7	2.7	1.2	12.0	0.3	10.6	25.3	2.7	1.3	10.9	0.3	10.2
Sweden	26.4	3.2	1.1	9.0	0.4	12.7	25.4	3.2	1.2	8.6	0.3	12.1
United States of America	26.1	0.7	1.2	10.7	0.6	12.8	25.1	0.8	1.3	10.8	0.6	11.7
Mexico	25.6	1.3	1.5	7.1	0.0	15.7	24.0	1.3	1.6	6.6	0.0	14.6
Switzerland	25.3	3.9	2.2	8.4	1.0	9.7	24.1	3.9	2.0	7.9	1.0	9.3
Costa Rica	25.3	0.6	1.0	6.4	0.4	16.9	23.2	0.6	1.3	6.0	0.4	14.8

Austria	24.8	2.8	0.6	9.5	0.2	11.6	23.3	2.8	0.7	9.1	0.2	10.6
Czech Republic	24.9	1.4	0.4	12.9	1.1	9.1	23.2	1.5	0.4	11.8	1.1	8.4
Colombia	24.6	1.3	1.7	6.0	0.0	15.6	22.8	1.3	1.5	5.8	0.0	14.2
Cuba	23.7	0.7	1.0	7.2	0.1	14.7	22.5	0.7	1.0	7.4	0.1	13.3
Australia	23.2	1.2	1.1	7.2	0.2	13.5	21.9	1.2	1.1	7.1	0.1	12.3
Canada	22.1	1.2	1.2	7.1	0.2	12.5	21.5	1.2	1.2	7.3	0.2	11.6
Nicaragua	22.0	2.2	1.4	5.6	0.1	12.8	19.9	2.2	1.4	5.1	0.2	11.1
Iceland	22.0	1.0	1.0	8.4	0.6	11.0	21.1	1.1	1.3	7.9	0.7	10.1
United Kingdom, Scotland**	20.3	2.5	0.9	3.7	0.1	13.1	18.6	2.5	1.0	3.7	0.0	11.4
Belarus	18.1	11.0	0.1	5.3	0.0	1.7	18.3	11.0	0.2	5.2	0.0	1.9
Latvia	15.2	0.9	0.4	4.8	0.1	9.0	14.6	0.9	0.4	4.7	0.1	8.5
Estonia	13.7	1.4	0.6	5.4	0.2	6.0	13.7	1.4	0.4	5.5	0.4	6.0
Lithuania	12.8	1.1	0.3	3.2	0.0	8.2	11.6	1.1	0.4	2.8	0.0	7.3
Hungary	12.2	0.2	0.5	7.5	0.0	3.9	12.0	0.2	0.4	7.3	0.0	4.1
Republic of Moldova	11.3	0.4	0.1	1.4	0.0	9.3	11.2	0.4	0.2	1.5	0.1	9.0
Finland	8.9	0.5	0.7	2.3	0.0	5.4	8.3	0.5	0.5	2.4	0.0	4.9

* Female – male. * For the United Kingdom, only cause of death data by age group for Scotland are available in the WHO Mortality Database.

Table S9: Completeness of MCCODs (i.e. deaths with a cause) by sex (as a % of estimated total deaths in the country), by country

Country	Year	Both sexes	Female	Male
Oman	2017	95.0	95.3	94.7
Egypt	2019	97.6	98.3	97.0
United Arab Emirates	2019	100.0	100.0	100.0
Libya	2017	85.8	80.9	89.3
Argentina	2018	100.0	100.0	100.0
Thailand	2019	96.9	97.5	96.3
Lebanon	2019	100.0	100.0	100.0
Mauritius	2019	100.0	100.0	100.0
Guatemala	2017	93.2	92.2	94.2
Greece	2017	100.0	100.0	100.0
Bulgaria	2018	100.0	100.0	100.0
Peru	2017	80.6	79.9	81.2
Georgia	2019	100.0	100.0	100.0
Serbia	2017	100.0	100.0	100.0
Japan	2018	100.0	100.0	100.0
Turkey	2019	95.4	94.8	96.0
Portugal	2018	100.0	100.0	100.0
Uruguay	2017	100.0	100.0	100.0
Poland	2018	100.0	100.0	100.0
Romania	2018	100.0	100.0	100.0
Brazil	2018	95.3	95.2	95.4
Hong Kong SAR	2017	100.0	100.0	100.0
Panama	2017	95.2	95.2	95.2
Cyprus	2018	100.0	100.0	100.0
Republic of Korea	2019	92.6	91.1	93.9
Israel	2018	100.0	100.0	100.0
Paraguay	2017	88.8	90.0	87.6
Kuwait	2017	93.5	93.7	93.3
Puerto Rico	2017	96.1	96.9	95.3
Armenia	2018	97.3	96.5	98.0
Ecuador	2017	84.0	83.3	84.7
Spain	2017	100.0	100.0	100.0
Italy	2017	100.0	100.0	100.0
Kazakhstan	2017	96.7	96.2	97.2
Luxembourg	2017	100.0	100.0	100.0
Denmark	2018	100.0	100.0	100.0
Singapore	2019	100.0	100.0	100.0
Netherlands	2018	100.0	100.0	100.0
Chile	2018	100.0	100.0	100.0
Croatia	2017	97.0	96.9	97.1
Slovenia	2019	100.0	100.0	100.0

Germany	2018	100.0	100.0	100.0
Sweden	2018	100.0	100.0	100.0
United States of America	2017	100.0	100.0	100.0
Malta	2017	93.1	94.0	92.2
Mexico	2017	93.6	93.5	93.7
Switzerland	2017	100.0	100.0	100.0
Costa Rica	2019	100.0	100.0	100.0
Austria	2019	100.0	100.0	100.0
Czech Republic	2019	100.0	100.0	100.0
Colombia	2017	88.3	88.9	87.6
Cuba	2017	100.0	100.0	100.0
Australia	2018	100.0	100.0	100.0
Canada	2017	100.0	100.0	100.0
Iceland	2019	100.0	100.0	100.0
Nicaragua	2018	81.8	82.2	81.3
United Kingdom, Scotland*	2019	100.0	100.0	100.0
Belarus	2018	100.0	100.0	100.0
Latvia	2018	100.0	100.0	100.0
Estonia	2019	100.0	100.0	100.0
Lithuania	2019	100.0	100.0	100.0
Hungary	2019	100.0	100.0	100.0

* For the United Kingdom, only cause of death data by age group for Scotland are available in the WHO Mortality Database. MCCOD: Medical Certificate of Cause of Death.