

ORIGINAL RESEARCH ARTICLE

A systematic analysis of the global burden of multiple myeloma from 1990 to 2021

Supplementary Files

Table S1. Top 20 countries or territories with the most incident cases in 1990

Country	Incident case	Rank
United States of America	10,367.80	1
Germany	4,158.45	2
United Kingdom	3,902.47	3
Japan	3,653.49	4
Italy	3,164.13	5
France	2,846.19	6
India	2,658.26	7
Russian Federation	2,038.14	8
Spain	1,946.08	9
China	1,693.30	10
Canada	1,480.70	11
Brazil	1,181.93	12
Netherlands	838.98	13
Australia	799.23	14
Poland	672.12	15
Argentina	667.23	16
Sweden	614.86	17
Ukraine	590.64	18
Belgium	589.54	19
Pakistan	569.48	20

Table S2. Top 20 countries or territories with the most incident cases in 2021

Location	Incident case	Rank
United States of America	17,693.07	1
China	17,249.50	2
India	12,588.15	3
Germany	8,658.12	4
Japan	7,969.13	5
United Kingdom	6,982.72	6
Italy	6,673.07	7
France	6,005.81	8
Brazil	5,332.10	9
Russian Federation	4,349.70	10
Spain	3,897.73	11
Canada	3,203.05	12
Australia	2,478.22	13
Turkey	2,222.50	14
Pakistan	2,023.74	15
Mexico	2,012.97	16
Poland	1,880.90	17
Republic of Korea	1,672.59	18
Netherlands	1,578.63	19
Bangladesh	1,101.23	20

Table S3. Top 20 countries or territories with the highest age-standardized incidence rate in 1990

Location	ASIR	Rank
Bahamas	5.70	1
Norway	5.09	2
Monaco	4.85	3
New Zealand	4.71	4
Canada	4.54	5
Bermuda	4.31	6
Ireland	4.27	7
United Kingdom	4.26	8
Netherlands	4.17	9
Australia	4.05	10
Sweden	4.05	11
Iceland	4.02	12
Puerto Rico	3.93	13
Belgium	3.75	14
Saint Lucia	3.74	15
Finland	3.67	16
Switzerland	3.64	17
Italy	3.55	18
Spain	3.60	19
Israel	3.50	20

Abbreviation: ASIR: Age-standardized incidence rate.

Table S4. Top 20 countries or territories with the highest age-standardized incidence rate in 2021

Location	ASIR	Rank
Monaco	6.86	1
Bahamas	6.55	2
New Zealand	6.00	3
Norway	5.55	4
Australia	5.38	5
United Kingdom	5.23	6
Jamaica	4.97	7
Bermuda	4.93	8
Grenada	4.81	9
Puerto Rico	4.69	10
Estonia	4.59	11
Saint Lucia	4.57	12
Iceland	4.56	13
Italy	4.55	14
Denmark	4.49	15
Netherlands	4.45	16
Germany	4.34	17
Canada	4.32	18
Antigua and Barbuda	4.24	19
Ireland	4.18	20

Abbreviation: ASIR: Age-standardized incidence rate.

Table S5. Top 10 countries or territories with the most rapid increase in EAPC of ASIR

Country	EAPC	Lower limits	Upper limits
Georgia	6.20	5.45	6.96
Turkmenistan	6.12	5.52	6.72
Ghana	4.98	4.76	5.21
São Tomé and Príncipe	4.65	4.46	4.85
Armenia	4.51	3.87	5.16
Chad	4.44	4.20	4.69
China	4.05	3.38	4.73
Equatorial Guinea	4.03	3.79	4.26
Burkina Faso	3.99	3.82	4.15
Ecuador	3.80	3.49	4.11

Abbreviations: ASIR: Age-standardized incidence rate; EAPC: Estimated annual percentage change.

Table S6. Top 20 countries or territories with the most death cases in 1990

Location	Death cases	Rank
United States of America	10,682.21	1
Germany	2,828.02	2
Japan	2,749.54	3
United Kingdom	2,718.76	4
India	2,589.68	5
France	2,433.14	6
Italy	2,228.75	7
Russian Federation	1,733.77	8
China	1,591.11	9
Spain	1,287.50	10
Brazil	1,079.70	11
Canada	1,029.49	12
Netherlands	760.37	13
Poland	652.57	14
Argentina	627.08	15
Pakistan	575.62	16
Australia	552.27	17
Sweden	536.31	18
Turkey	536.05	19
Belgium	485.25	20

Table S7. Top 20 countries or territories with the most death cases in 2021

Location	Death cases	Rank
United States of America	17,370.35	1
China	12,984.05	2
India	11,634.79	3
Japan	5,806.52	4
Germany	5,139.94	5
Brazil	4,517.35	6
France	4,411.90	7
Italy	4,217.95	8
United Kingdom	4,101.68	9
Russian Federation	3,325.90	10
Spain	2,412.25	11
Canada	2,004.77	12
Pakistan	1,939.98	13
Poland	1,847.01	14
Turkey	1,768.02	15
Mexico	1,635.54	16
Australia	1,377.54	17
Netherlands	1,188.41	18
Republic of Korea	1,100.88	19
Bangladesh	1,032.43	20

Table S8. Top 20 countries or territories with the highest age-standardized death rate in 1990

Location	ASDR	Rank
Bahamas	4.59	1
Norway	3.81	2
Netherlands	3.71	3
Monaco	3.55	4
Ireland	3.46	5
Sweden	3.35	6
United States of America	3.27	7
Saint Lucia	3.23	8
Canada	3.13	9
Belgium	3.03	10
Bermuda	3.01	11
Israel	3.00	12
New Zealand	2.96	13
Iceland	2.93	14
United Kingdom	2.89	15
Cyprus	2.87	16
Saint Kitts and Nevis	2.85	17
Puerto Rico	2.82	18
Luxembourg	2.81	19
Australia	2.80	20

Abbreviation: ASDR: Age-standardized death rate.

Table S9. Top 20 countries or territories with the highest age-standardized death rate in 2021

Location	ASDR	Rank
Bahamas	4.71	1
Monaco	4.40	2
Grenada	3.57	3
Zimbabwe	3.53	4
Jamaica	3.50	5
Norway	3.42	6
Saint Lucia	3.34	7
New Zealand	3.15	8
Netherlands	3.15	9
Uganda	3.11	10
Uruguay	2.94	11
United Kingdom	2.89	12
Antigua and Barbuda	2.87	13
Israel	2.87	14
United States of America	2.84	15
Australia	2.84	16
Iceland	2.79	17
Saint Kitts and Nevis	2.77	18
Denmark	2.77	19
France	2.75	20

Abbreviation: ASDR: Age-standardized death rate.

Table S10. Top 10 countries or territories with the most rapid increase in EAPC of ASDR

Country	EAPC	Lower limits	Upper limits
Georgia	6.18	5.43	6.95
Turkmenistan	5.92	5.33	6.52
Ghana	4.93	4.69	5.17
São Tomé and Príncipe	4.52	4.32	4.73
Chad	4.43	4.18	4.69
Armenia	4.23	3.61	4.85
Burkina Faso	3.96	3.79	4.12
Equatorial Guinea	3.75	3.52	3.99
Togo	3.62	3.47	3.78
Senegal	3.62	3.44	3.80

Abbreviations: ASDR: Age-standardized death rate; EAPC: Estimated annual percentage change.

Table S11. Top 20 countries or territories with the highest disability-adjusted life years in 1990

Location	DALY	Rank
United States of America	229,849.26	1
India	73,821.10	2
Japan	61,799.20	3
Germany	61,701.44	4
United Kingdom	56,818.96	5
Italy	49,287.14	6
Russian Federation	48,956.51	7
France	48,327.07	8
China	46,854.42	9
Brazil	30,032.02	10
Spain	28,634.54	11
Canada	22,847.05	12
Poland	16,823.42	13
Netherlands	16,029.99	14
Argentina	15,078.15	15
Pakistan	14,893.27	16
Turkey	14,877.44	17
Ukraine	13,575.55	18
Australia	12,314.88	19
Mexico	11,657.88	20

Abbreviation: DALY: Disability-adjusted life year.

Table S12. Top 20 countries or territories with the highest disability-adjusted life year in 2021

Location	DALY	Rank
China	338,358.51	1
United States of America	335,912.20	2
India	299,443.99	3
Brazil	111,741.65	4
Germany	96,366.99	5
Japan	93,334.19	6
Russian Federation	84,050.36	7
France	76,887.59	8
United Kingdom	76,843.60	9
Italy	76,797.91	10
Pakistan	53,543.32	11
Mexico	45,019.67	12
Turkey	44,486.14	13
Spain	44,223.93	14
Poland	38,827.63	15
Canada	38,082.98	16
Indonesia	27,450.71	17
Australia	26,581.52	18
Bangladesh	25,871.99	19
South Africa	25,639.52	20

Abbreviation: DALY: Disability-adjusted life year.

Table S13. Top 20 countries or territories with the highest age-standardized DALY rate in 1990

Location	Age-standardized DALY	Rank
Bahamas	117.08	1
Norway	84.66	2
Netherlands	81.11	3
Monaco	78.60	4
Saint Lucia	76.25	5
Ireland	75.08	6
United States of America	73.82	7
Sweden	71.42	8
Canada	70.45	9
Bermuda	69.79	10
Saint Kitts and Nevis	67.33	11
New Zealand	67.30	12
Puerto Rico	66.92	13
United Arab Emirates	66.30	14
Iceland	64.73	15
Trinidad and Tobago	64.52	16
United Kingdom	64.21	17
Israel	63.98	18
Uruguay	63.72	19
Greenland	63.71	20

Abbreviation: DALY: Disability-adjusted life year.

Table S14. Top 20 countries or territories with the highest age-standardized disability-adjusted life year rate in 2021

Location	Age-standardized DALY	Rank
Bahamas	117.52	1
Monaco	93.34	2
Zimbabwe	88.68	3
Grenada	84.44	4
Jamaica	83.97	5
Saint Lucia	80.73	6
Uganda	73.85	7
Trinidad and Tobago	68.79	8
Norway	68.12	9
New Zealand	67.57	10
Estonia	67.13	11
Uruguay	67.11	12
Antigua and Barbuda	66.61	13
Lithuania	65.57	14
Netherlands	64.47	15
Costa Rica	63.78	16
Latvia	63.11	17
Saint Kitts and Nevis	63.04	18
Eswatini	62.53	19
Puerto Rico	62.31	20

Abbreviation: DALY: Disability-adjusted life year.

Table S15. Top 10 countries or territories with the most rapid increase in EAPC of age-standardized DALY rate

Country	EAPC	Lower limits	Upper limits
Turkmenistan	6.04	5.45	6.64
Georgia	5.98	5.23	6.73
Ghana	4.75	4.52	4.98
Chad	4.35	4.10	4.61
São Tomé and Príncipe	4.33	4.13	4.53
Armenia	4.14	3.51	4.77
Burkina Faso	3.84	3.70	3.99
Equatorial Guinea	3.57	3.35	3.79
Togo	3.54	3.38	3.69
Senegal	3.51	3.32	3.69

Abbreviations: DALY: Disability-adjusted life year; EAPC: Estimated annual percentage change.