

Is gastric cancer becoming a rare disease? A global assessment of predicted incidence trends to 2035.

Melina Arnold, Jin Young Park, M. Constanza Camargo, Nuno Lunet, David Forman, Isabelle Soerjomataram

Supplementary Material

Annex Table 1: Number of new gastric cancer cases, age-standardized incidence rates and percentage change in cases due to population and risk, 2010 and 2035, males.

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
South America									
Brazil [†]	96.9	112.1	11855	12031	13.8	6.4	1.5	119.4	-117.9
Chile [†]	8.4	10.0	2913	5323	30.4	29.1	82.8	108.5	-25.7
Colombia [†]	22.6	26.4	3746	5112	19.4	11.5	36.5	131.4	-94.9
Northern America									
Canada	13.0	20.8	1419	2720	6.2	5.9	91.7	134.7	-43.1
U.S. [†]	152.4	181.3	13643	19800	5.8	5.6	45.1	70.3	-25.2
U.S.: Black [†]	20.2	24.4	1884	3000	8.7	6.9	59.3	98.9	-39.7
U.S.: White [†]	121.6	135.4	10908	16536	5.3	5.7	51.6	60.6	-9.0
Eastern Asia									
China [†]	699.9	737.5	141929	213803	16.8	13.0	50.6	97.9	-47.2
Japan [†]	62.9	57.6	79268	89797	52.9	43.2	13.3	21.0	-7.7
Republic of Korea [†]	24.8	26.3	19189	42795	58.8	60.8	123.0	105.9	17.1
South-Eastern Asia									
Thailand [†]	32.9	33.4	1946	4224	4.8	5.3	117.1	105.2	11.9
Western Asia									
Turkey [†]	35.6	44.7	4153	7722	12.5	10.9	85.9	107.4	-21.5
Eastern Europe									
Belarus	4.5	4.2	1991	1716	29.3	23.1	-13.8	13.0	-26.8
Bulgaria	3.7	3.0	1038	704	14.0	9.7	-32.2	-3.0	-29.2

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Poland†	18.5	17.2	3456	4071	12.5	11.9	17.8	47.6	-29.8
Slovakia	1.6	2.6	353	729	14.7	13.0	106.7	148.9	-42.3
Northern Europe									
Denmark	2.8	3.0	361	457	6.7	5.8	26.5	37.3	-10.8
Estonia	0.6	0.6	239	188	21.0	14.7	-21.2	15.4	-36.7
Iceland	0.2	0.2	16	14	5.5	3.4	-14.8	80.9	-95.7
Ireland	2.3	2.7	349	620	10.1	9.6	77.7	84.1	-6.4
Lithuania	1.5	1.2	573	404	21.7	16.4	-29.5	-1.5	-28.0
Norway	2.5	3.2	292	354	6.3	5.4	21.5	67.3	-45.8
United Kingdom†	31.1	35.8	4378	4570	7.1	5.8	4.4	57.5	-53.1
Southern Europe									
Croatia	2.2	1.8	656	499	14.9	11.5	-23.9	9.6	-33.6
Cyprus	0.4	0.7	52	98	7.7	5.6	88.5	110.1	-21.7
Italy†	29.0	28.3	7974	6558	11.7	7.4	-17.8	45.4	-63.1
Malta	0.2	0.2	34	37	8.5	6.4	8.1	55.7	-47.5
Slovenia	1.1	1.0	310	338	14.5	13.1	9.0	31.3	-22.2
Spain†	23.1	22.4	4560	5023	10.7	7.8	10.2	57.0	-46.9
Western Europe									
Austria	4.2	4.4	788	930	9.1	7.6	18.1	47.1	-29.0
France†	30.9	33.9	4323	4945	7.5	6.2	14.4	47.5	-33.1
Germany†	39.7	40.5	8323	9541	9.8	8.5	14.6	41.4	-26.8
Netherlands	8.4	8.8	1288	1505	7.8	7.0	16.9	54.4	-37.6
Switzerland†	3.9	4.7	534	1068	7.5	8.7	100.2	72.4	27.8

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Oceania									
Australia	11.1	14.7	1292	1832	6.8	6.0	41.8	70.8	-29.0
New Zealand	2.2	2.6	235	347	6.7	6.7	47.7	68.4	-20.7

[†]regional registries: Brazil (Goiana), Chile (Valdivia), China (HongKong, Jiashan, Shanghai), Colombia (Cali), France (Bas-Rhin, Calvados, Doubs, Haut-Rhin, Herault, Isele, Loire-Atlantique, Manche, Martinique, Somme), Germany (Hamburg, Saarland), Italy (Biella, Ferrara, Modena, Naples, Parma, Ragusa, Romagna, Veneto), Japan (Miyagi, Nagasaki, Osaka), Poland (Kielce), Republic of Korea (Busan, Gwangju, Incheon, Seoul, Ulsan), Spain (Albacete, Basque Country, Canary Islands, Cuenca, Girona, Granada, Murcia, Navarra, Tarragona), Switzerland (Geneva, Neuchatel, St Gall-Appenzell, Ticino, Valais, Vaud), Thailand (Chiang Mai, Khon Kaen, Lampang, Songkhla), Turkey (Antalya, Izmir), UK (East England, East Midlands, London, North East, North West, South East, South West, West Midlands, Yorkshire-Humber, Northern Ireland, Scotland), U.S. (SEER9 that includes the states of Connecticut, Hawaii, Iowa, New Mexico and Utah, and the areas of Detroit in Michigan, San Francisco in California, Atlanta in Georgia, and Seattle in Washington)

Annex Table 2: Number of new gastric cancer cases, age-standardized incidence rates and percentage change in cases due to population and risk, 2010 and 2035, females.

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change	Change due to population	Change due to risk (%)
	2010	2035	2010	2035	2010	2035	(%)	(%)	
South America									
Brazil†	99.9	117.1	6551	5975	6.0	2.6	-8.8	108.3	-117.1
Chile†	8.6	10.1	1736	3744	13.4	12.4	115.6	108.7	6.9
Colombia†	23.3	27.6	2716	4011	11.1	7.7	47.6	138.1	-90.4
Northern America									
Canada	13.0	21.1	819	2018	3.2	3.6	146.4	166.0	-19.6
U.S.†	156.2	183.7	9345	16745	3.1	4.1	79.2	61.4	17.8
U.S.: Black†	22.0	26.3	1515	3749	5.0	6.6	147.5	92.2	55.3
U.S.: White†	124.1	136.6	6370	9995	2.5	2.9	56.9	54.0	2.9
Eastern Asia									
China†	659.9	696.1	83967	131284	9.4	7.7	56.4	101.8	-45.4
Japan†	65.7	60.9	45282	63117	21.3	18.5	39.4	35.8	3.6
Republic of Korea†	24.7	26.5	10031	20818	24.8	27.0	107.5	92.6	14.9
South-Eastern Asia									
Thailand†	34.3	35.8	1738	4702	3.5	4.8	170.5	114.4	56.1
Western Asia									
Turkey†	36.8	46.2	2526	4576	6.3	5.3	81.2	108.0	-26.8
Eastern Europe									
Belarus	5.0	4.8	1307	1318	12.8	10.4	0.8	31.0	-30.2
Bulgaria	3.8	3.2	613	544	6.7	5.7	-11.2	10.7	-21.9

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Poland†	19.8	18.5	2195	3551	5.4	8.0	61.8	43.3	18.5
Slovakia	1.7	2.7	230	577	7.3	6.5	151.2	181.7	-30.5
Northern Europe									
Denmark	2.8	3.1	188	282	3.2	3.4	49.8	60.3	-10.5
Estonia	0.7	0.6	162	134	9.9	6.3	-17.2	28.5	-45.7
Iceland	0.2	0.2	12	26	4.5	5.5	109.7	95.0	14.7
Ireland	2.3	2.7	190	363	5.1	5.0	91.5	110.6	-19.1
Lithuania	1.7	1.4	377	370	10.1	9.7	-1.9	19.5	-21.4
Norway	2.4	3.0	184	240	3.5	2.6	30.5	79.5	-49.1
United Kingdom†	32.2	36.1	3068	3293	3.5	3.6	7.4	47.4	-40.0
Southern Europe									
Croatia	2.2	2.0	379	374	6.9	5.2	-1.3	31.8	-33.1
Cyprus	0.4	0.7	38	129	5.0	5.9	243.1	143.5	99.5
Italy†	30.7	29.3	6952	7734	7.1	5.5	11.3	34.2	-22.9
Malta	0.2	0.2	20	35	4.3	5.0	78.8	76.7	2.1
Slovenia	1.0	1.0	175	179	6.9	5.1	2.1	36.9	-34.8
Spain†	23.7	23.5	3284	4519	5.3	5.7	37.6	46.7	-9.1
Western Europe									
Austria	4.2	4.5	518	653	5.2	4.4	26.1	65.2	-39.2
France†	32.1	35.0	3076	4792	3.5	4.1	55.8	46.8	9.0
Germany†	41.2	41.2	6617	7854	5.7	5.6	18.7	26.8	-8.1
Netherlands	8.3	8.9	733	1140	4.2	4.6	55.5	71.6	-16.1
Switzerland†	4.0	4.7	354	600	3.8	4.3	69.5	51.7	17.7

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Oceania									
Australia	10.9	14.8	710	1212	3.4	3.4	70.6	102.3	-31.7
New Zealand	2.2	2.7	141	244	3.7	4.4	72.7	94.7	-22.1

[†]regional registries: Brazil (Goiana), Chile (Valdivia), China (HongKong, Jiashan, Shanghai), Colombia (Cali), France (Bas-Rhin, Calvados, Doubs, Haut-Rhin, Hérault, Isère, Loire-Atlantique, Manche, Martinique, Somme), Germany (Hamburg, Saarland), Italy (Biella, Ferrara, Modena, Naples, Parma, Ragusa, Romagna, Veneto), Japan (Miyagi, Nagasaki, Osaka), Poland (Kielce), Republic of Korea (Busan, Gwangju, Incheon, Seoul, Ulsan), Spain (Albacete, Basque Country, Canary Islands, Cuenca, Girona, Granada, Murcia, Navarra, Tarragona), Switzerland (Geneva, Neuchâtel, St Gall-Appenzell, Ticino, Valais, Vaud), Thailand (Chiang Mai, Khon Kaen, Lampang, Songkhla), Turkey (Antalya, Izmir), UK (East England, East Midlands, London, North East, North West, South East, South West, West Midlands, Yorkshire-Humber, Northern Ireland, Scotland), U.S. (SEER9 that includes the states of Connecticut, Hawaii, Iowa, New Mexico and Utah, and the areas of Detroit in Michigan, San Francisco in California, Atlanta in Georgia, and Seattle in Washington)

Annex Table 3: Number of new gastric cancer cases, age-standardized incidence rates and percentage change in cases due to population and risk, 2010 and 2035, both sexes combined, age <50 years.

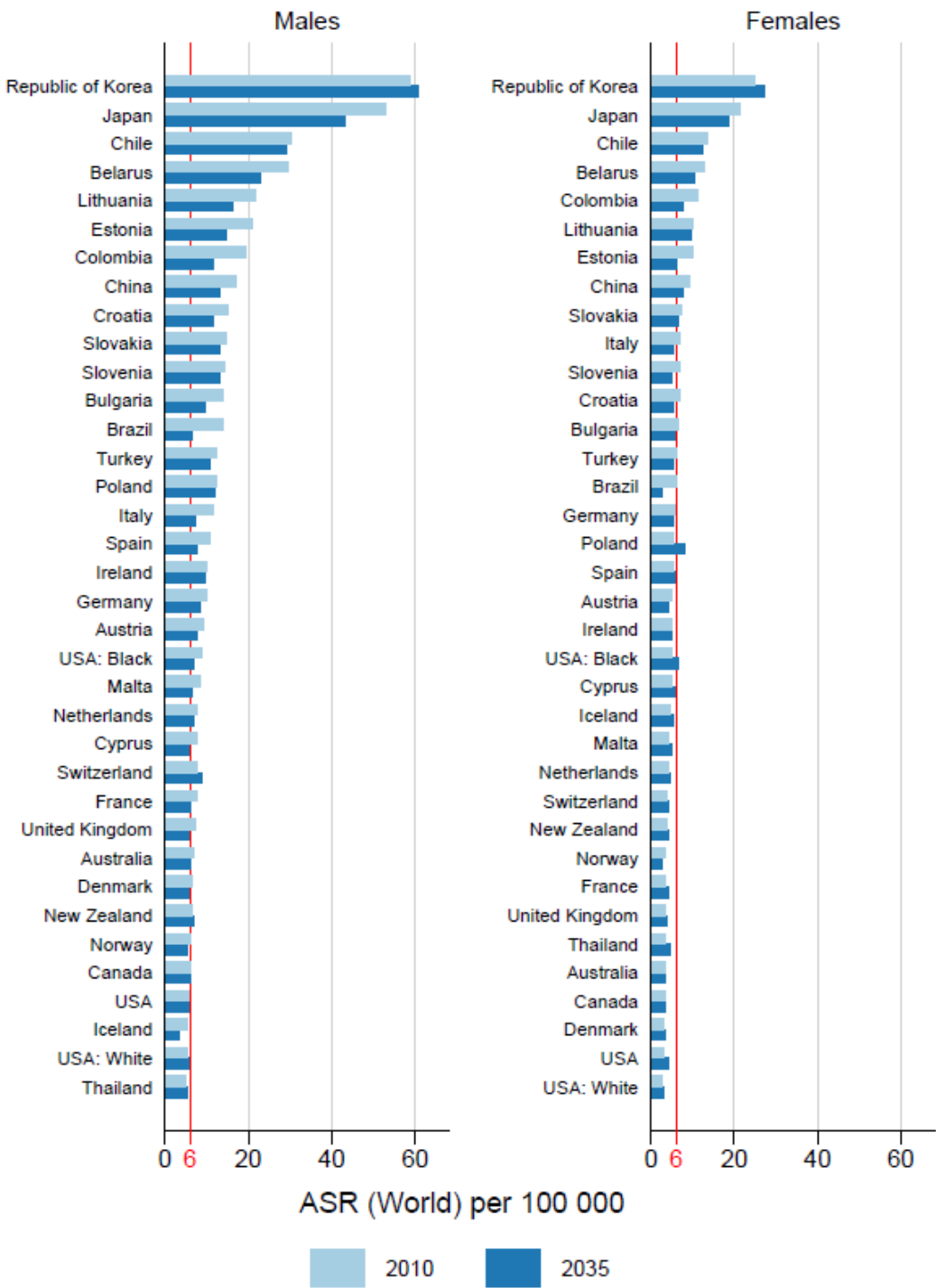
	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
South America									
Brazil†	158.2	149.0	3061	1818	1.8	0.9	-40.6	20.6	-61.2
Chile†	12.9	12.6	443	734	2.8	3.9	65.9	17.4	48.4
Colombia†	37.5	36.1	1365	609	3.3	1.2	-55.4	21.9	-77.2
Northern America									
Canada	17.2	24.1	217	471	0.9	1.3	117.5	38.7	78.9
U.S.†	210.1	227.5	2322	4032	0.8	1.3	73.6	11.1	62.5
U.S.: Black†	31.7	33.7	432	484	1.1	1.0	12.1	21.9	-9.8
U.S.: White†	161.7	161.6	1619	1871	0.7	0.8	15.5	2.7	12.8
Eastern Asia									
China†	1023.4	833.9	29904	29305	2.1	2.0	-2.0	-4.3	2.3
Japan†	72.9	55.5	4428	2788	4.0	3.4	-37.0	-24.0	-13.1
Republic of Korea†	35.2	26.6	4674	2426	8.4	5.6	-48.1	-22.3	-25.8
South-Eastern Asia									
Thailand†	50.0	38.8	694	643	1.0	1.1	-7.2	-19.7	12.4
Western Asia									
Turkey†	58.3	61.7	1145	979	1.9	1.2	-14.5	30.8	-45.3
Eastern Europe									
Belarus	6.3	5.3	312	309	3.4	3.7	-1.0	-12.5	11.6
Bulgaria	4.6	3.2	109	63	1.6	1.2	-42.5	-24.2	-18.2

	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Poland†	25.1	18.7	637	791	1.9	2.4	24.2	-3.9	28.0
Slovakia	2.2	2.9	51	85	1.7	1.8	66.3	52.9	13.4
Northern Europe									
Denmark	3.5	3.6	38	24	0.7	0.5	-35.6	-3.5	-32.1
Estonia	0.8	0.7	30	17	2.5	1.6	-42.6	-11.8	-30.8
Iceland	0.2	0.2	2	2	0.6	0.8	33.3	8.9	24.4
Ireland	3.3	3.2	41	28	1.0	0.7	-33.3	-6.8	-26.5
Lithuania	2.1	1.5	89	75	2.9	3.3	-15.9	-25.9	10.0
Norway	3.3	3.8	30	35	0.7	0.7	15.3	16.2	-0.9
United Kingdom†	41.3	42.2	398	832	0.7	1.4	109.0	-0.2	109.2
Southern Europe									
Croatia	2.7	2.0	61	45	1.5	1.4	-26.9	-21.1	-5.8
Cyprus	0.6	0.8	7	8	0.9	0.7	21.2	57.6	-36.4
Italy†	35.7	27.7	733	389	1.2	1.0	-46.8	-32.2	-14.6
Malta	0.3	0.2	3	2	0.9	0.6	-25.0	8.3	-33.3
Slovenia	1.3	1.0	39	17	1.9	1.1	-55.4	-23.4	-32.1
Spain†	30.4	21.9	574	557	1.2	1.7	-3.0	-34.2	31.1
Western Europe									
Austria	5.3	4.8	95	76	1.1	1.0	-19.8	-12.9	-6.9
France†	40.3	39.5	489	528	0.9	1.0	7.9	-7.9	15.8
Germany†	48.3	42.6	933	694	1.1	1.0	-25.6	-17.4	-8.2
Netherlands	10.7	9.9	146	195	0.9	1.4	33.5	-12.0	45.5
Switzerland†	5.0	5.2	87	81	1.1	1.0	-7.1	-2.6	-4.5

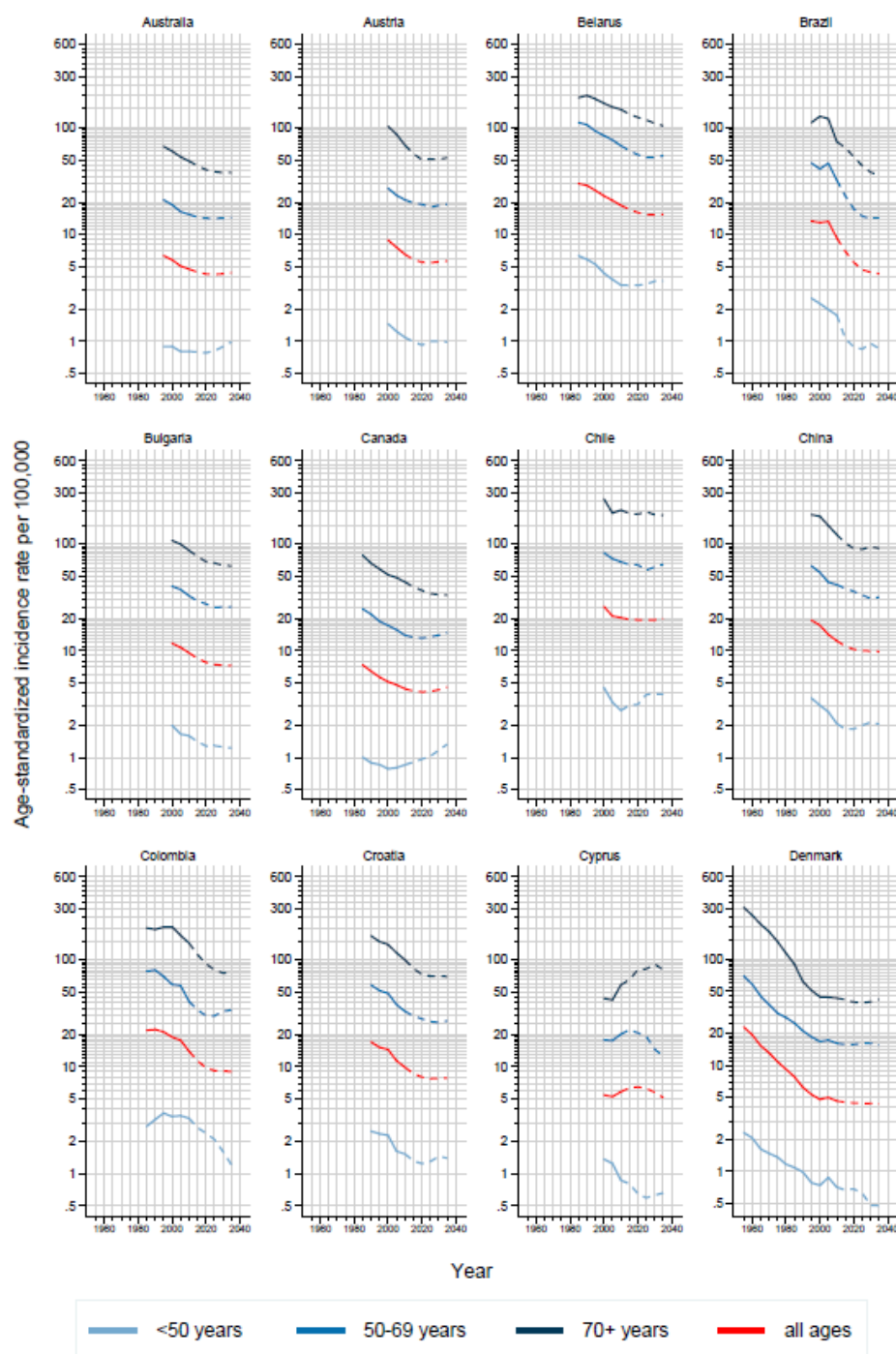
	Population (annual, million)		Number of new cases		Age-standardized rate		Total change (%)	Change due to population (%)	Change due to risk (%)
	2010	2035	2010	2035	2010	2035			
Oceania									
Australia	15.0	18.4	162	248	0.8	1.0	53.2	24.3	28.9
New Zealand	3.0	3.3	48	73	1.2	1.6	52.5	11.1	41.5

[†]regional registries: Brazil (Goiana), Chile (Valdivia), China (HongKong, Jiashan, Shanghai), Colombia (Cali), France (Bas-Rhin, Calvados, Doubs, Haut-Rhin, Hérault, Isère, Loire-Atlantique, Manche, Martinique, Somme), Germany (Hamburg, Saarland), Italy (Biella, Ferrara, Modena, Naples, Parma, Ragusa, Romagna, Veneto), Japan (Miyagi, Nagasaki, Osaka), Poland (Kielce), Republic of Korea (Busan, Gwangju, Incheon, Seoul, Ulsan), Spain (Albacete, Basque Country, Canary Islands, Cuenca, Girona, Granada, Murcia, Navarra, Tarragona), Switzerland (Geneva, Neuchâtel, St Gall-Appenzell, Ticino, Valais, Vaud), Thailand (Chiang Mai, Khon Kaen, Lampang, Songkhla), Turkey (Antalya, Izmir), UK (East England, East Midlands, London, North East, North West, South East, South West, West Midlands, Yorkshire-Humber, Northern Ireland, Scotland), U.S. (SEER9 that includes the states of Connecticut, Hawaii, Iowa, New Mexico and Utah, and the areas of Detroit in Michigan, San Francisco in California, Atlanta in Georgia, and Seattle in Washington)

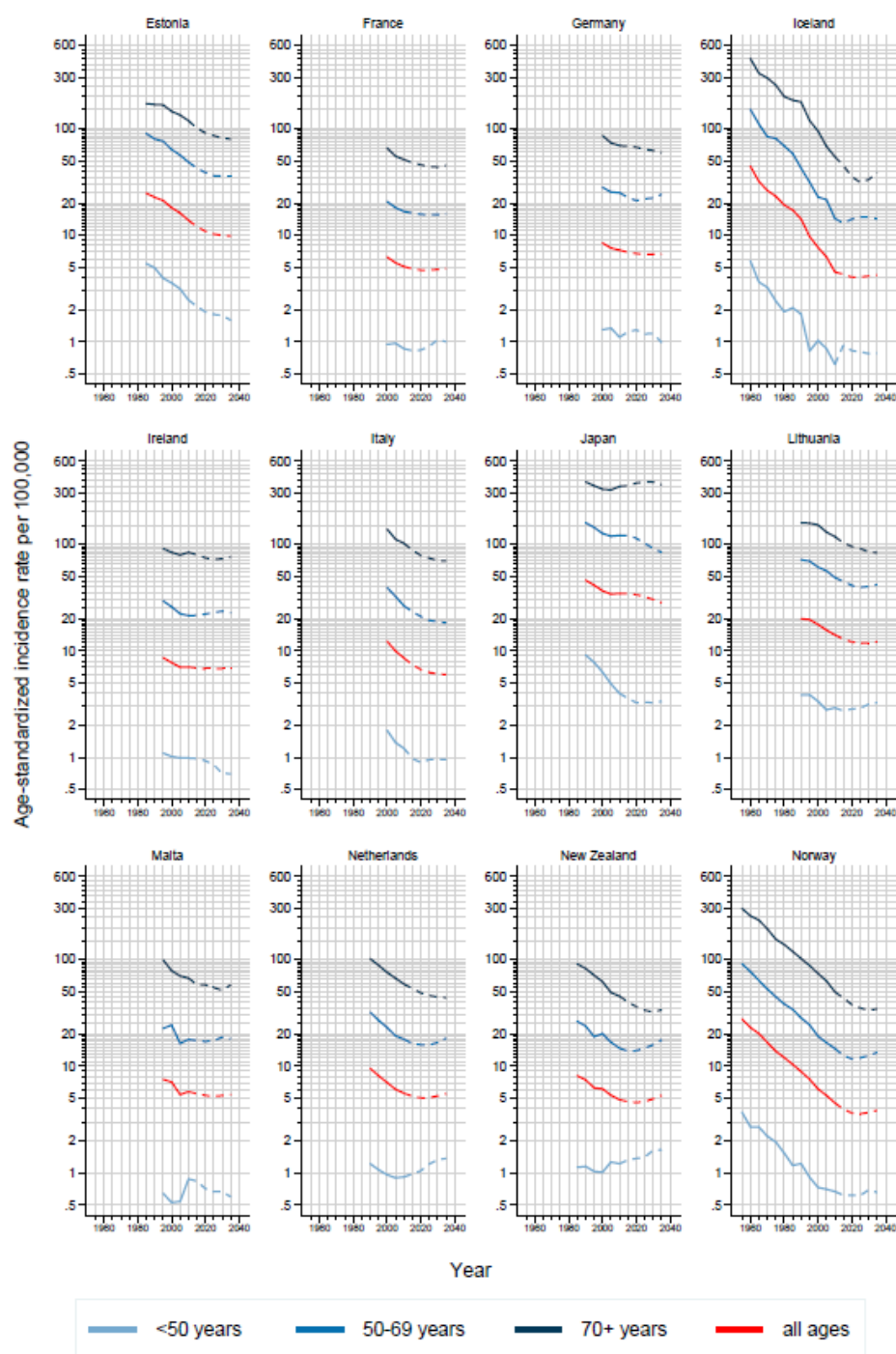
Annex Figure 1. Age-standardized gastric cancer incidence rates (ASR) in 2010 and predicted rates in 2035 by sex.



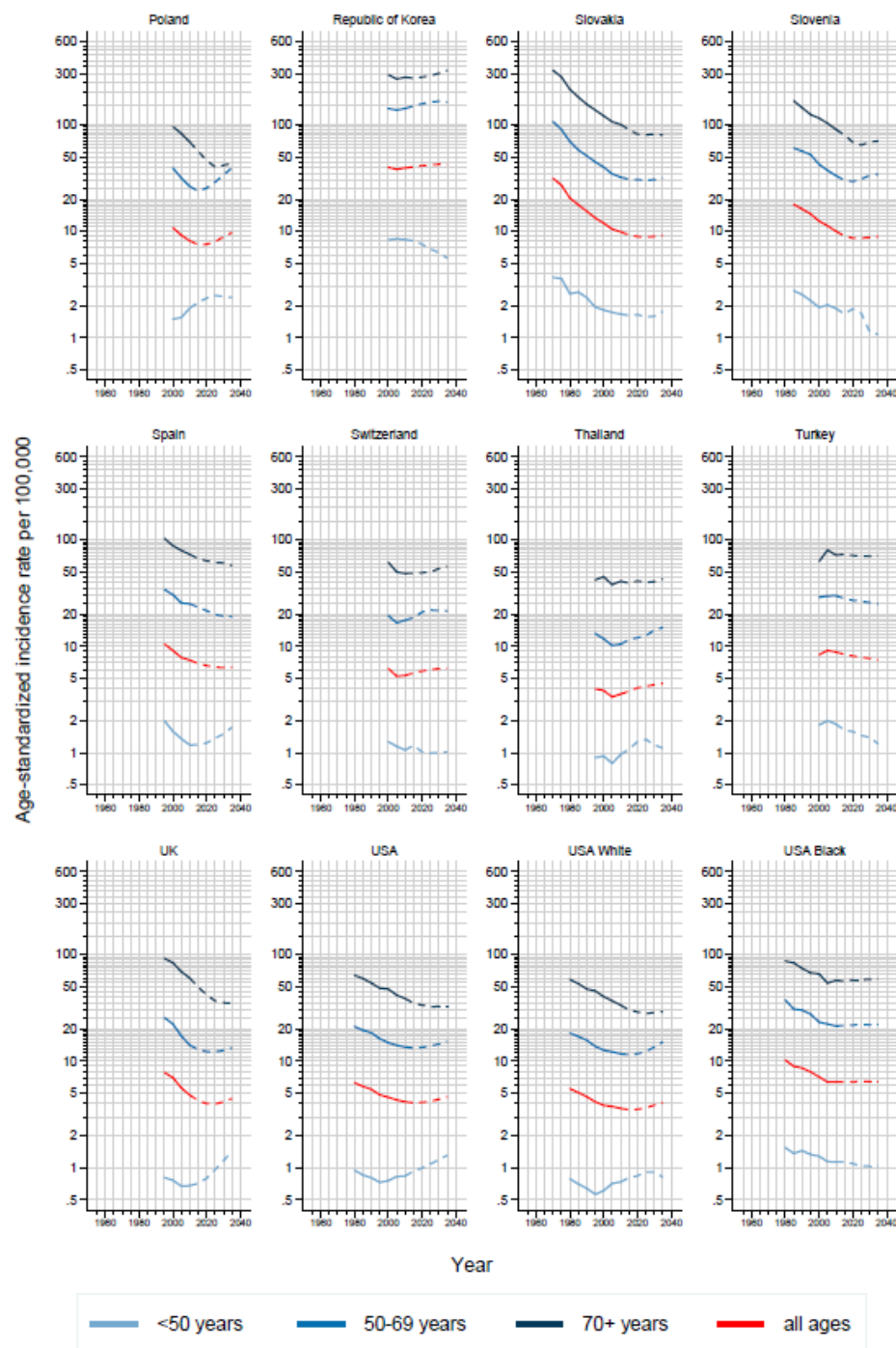
Annex Figure 2. Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in both sexes: observed (solid lines) and predicted (dashed lines)



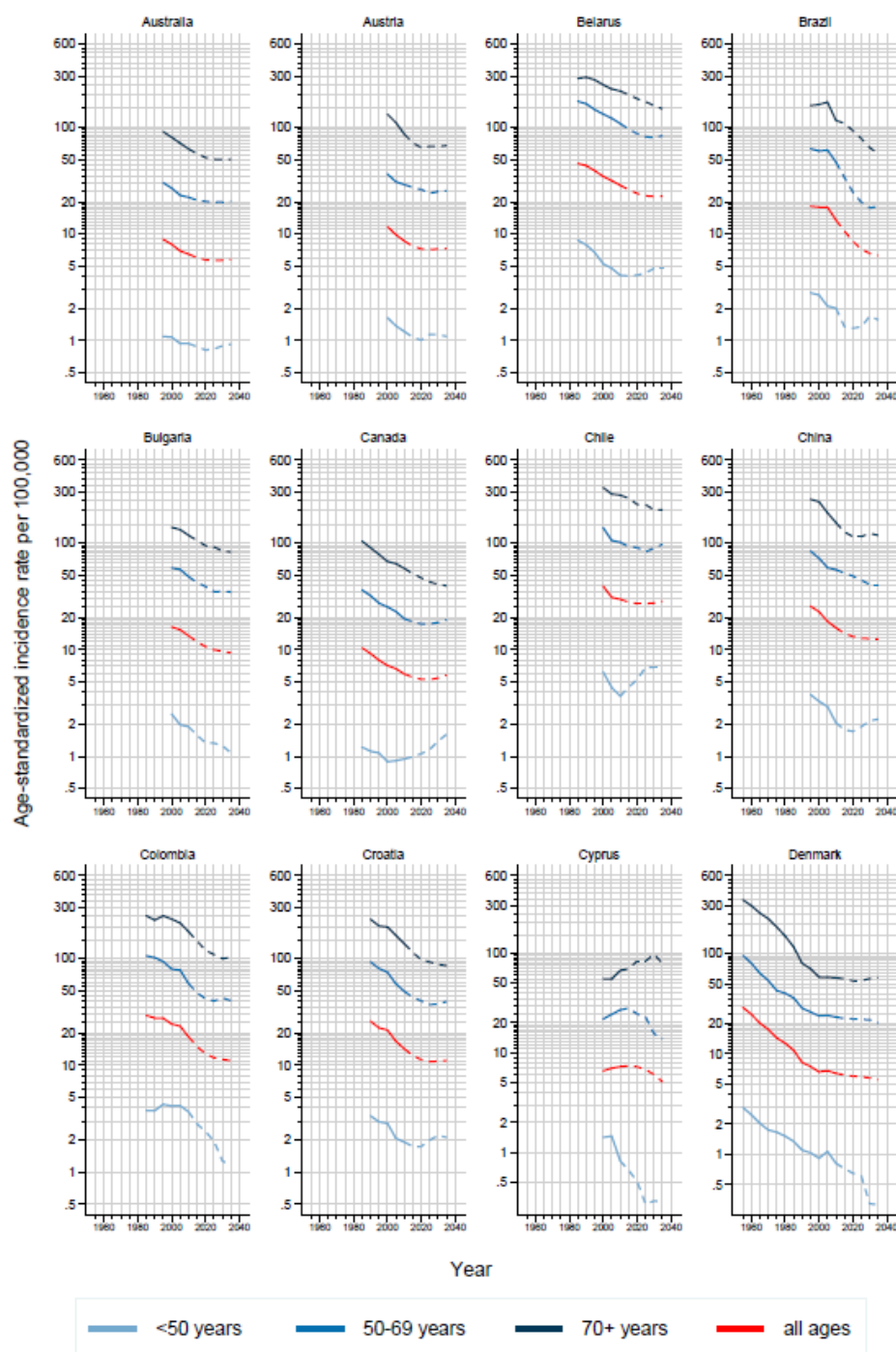
Annex Figure 2 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in both sexes: observed (solid lines) and predicted (dashed lines)



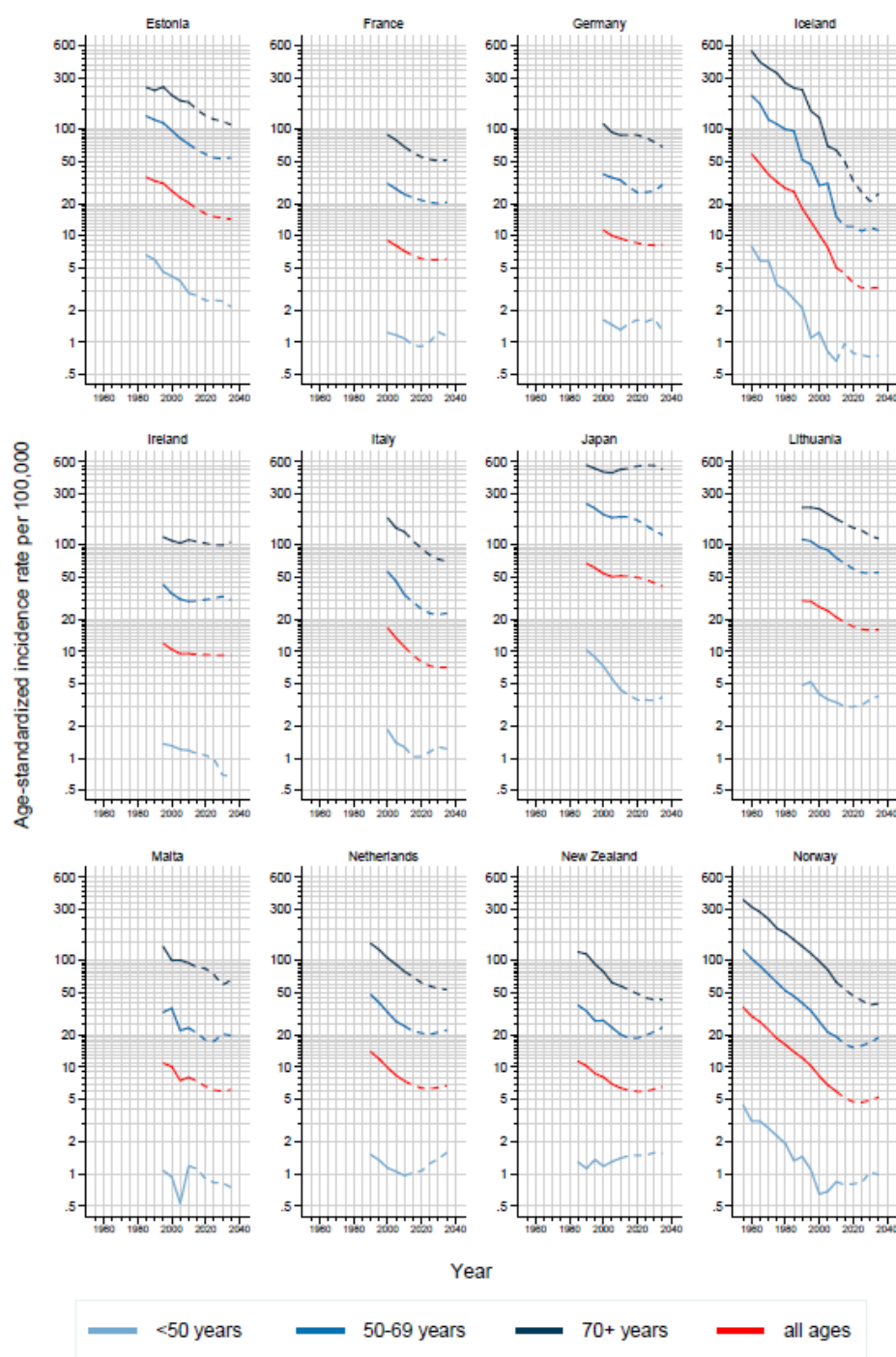
Annex Figure 2 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in both sexes: observed (solid lines) and predicted (dashed lines)



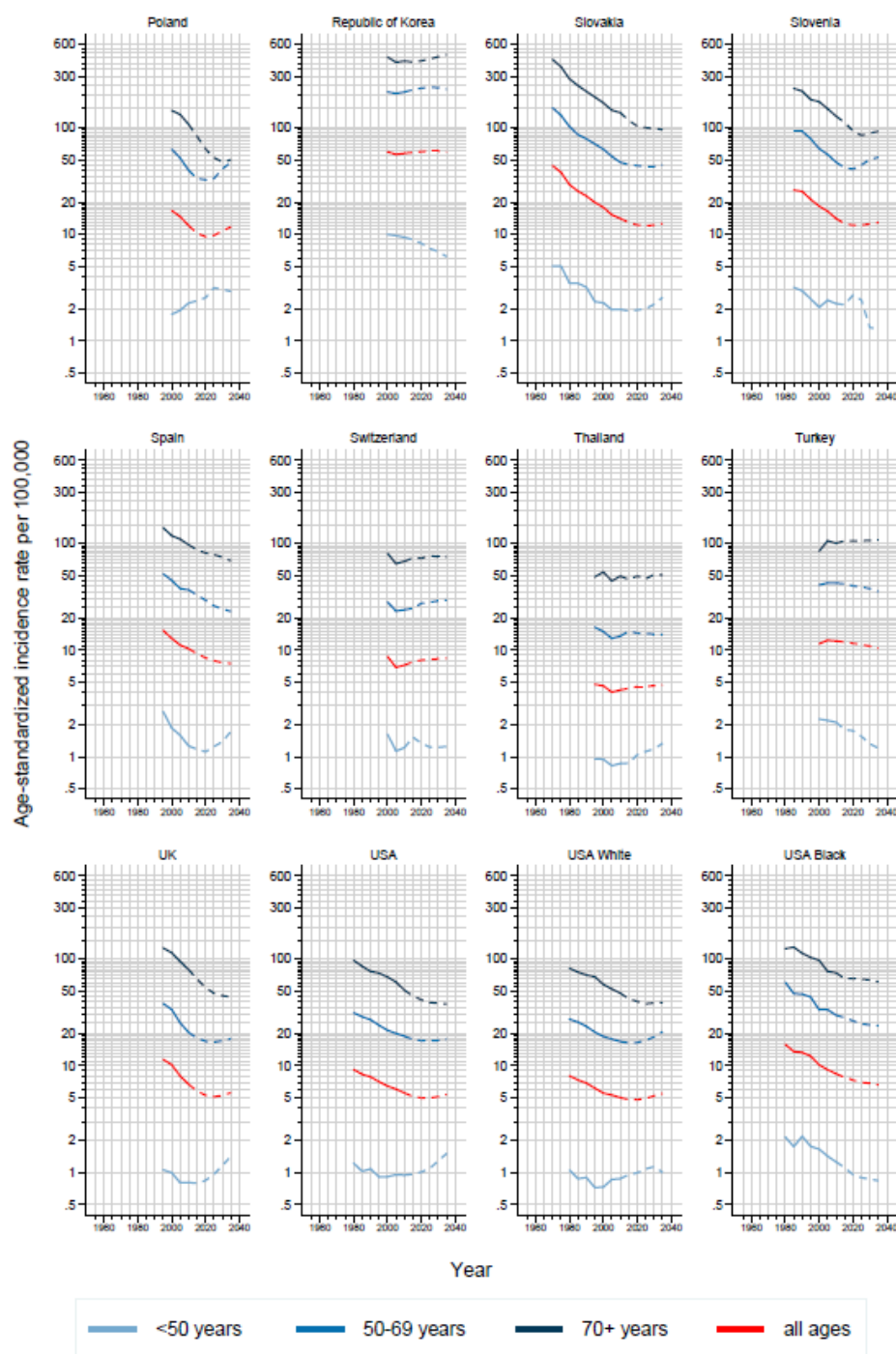
Annex Figure 3. Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in males: observed (solid lines) and predicted (dashed lines)



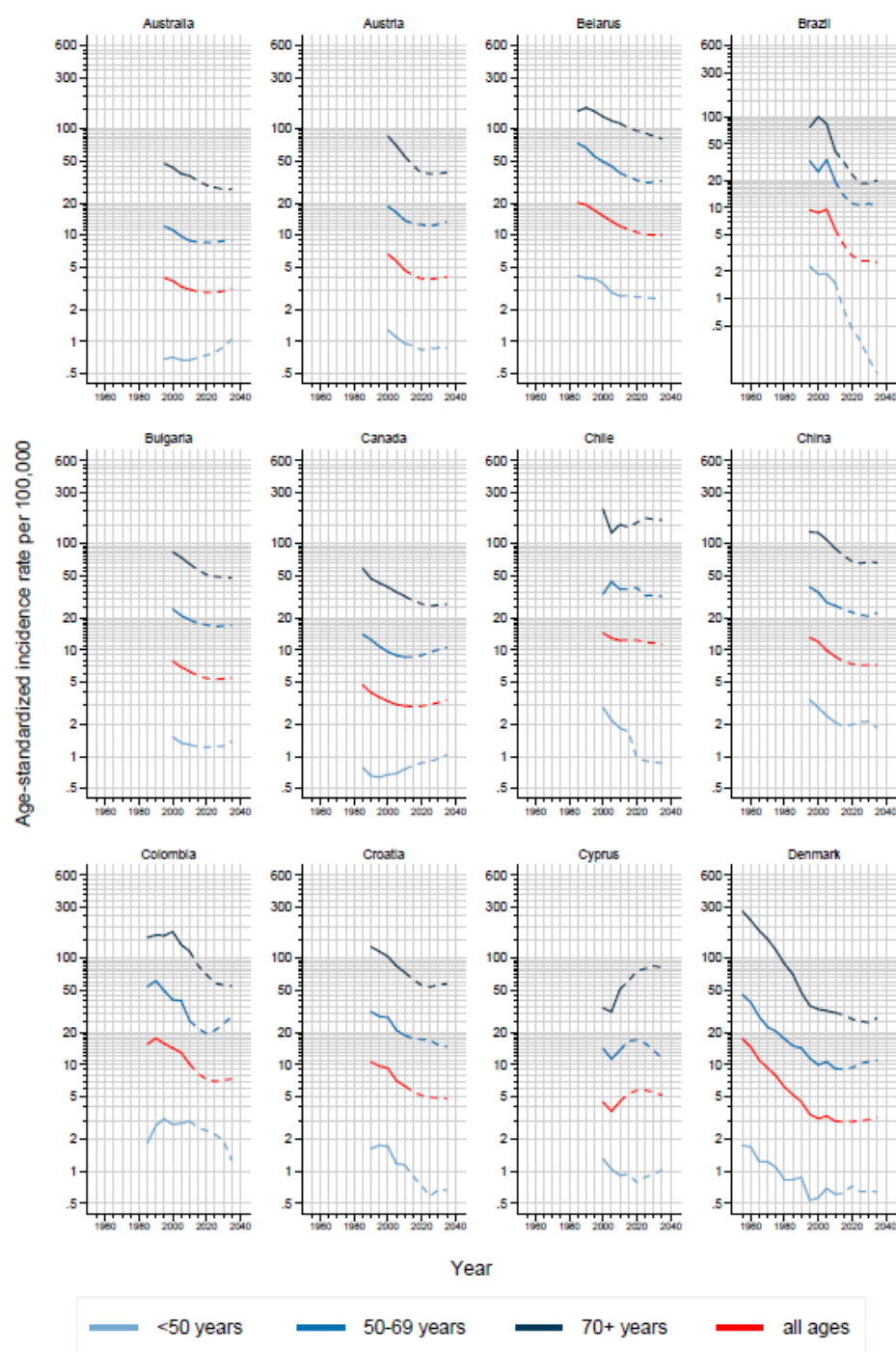
Annex Figure 3 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in males: observed (solid lines) and predicted (dashed lines)



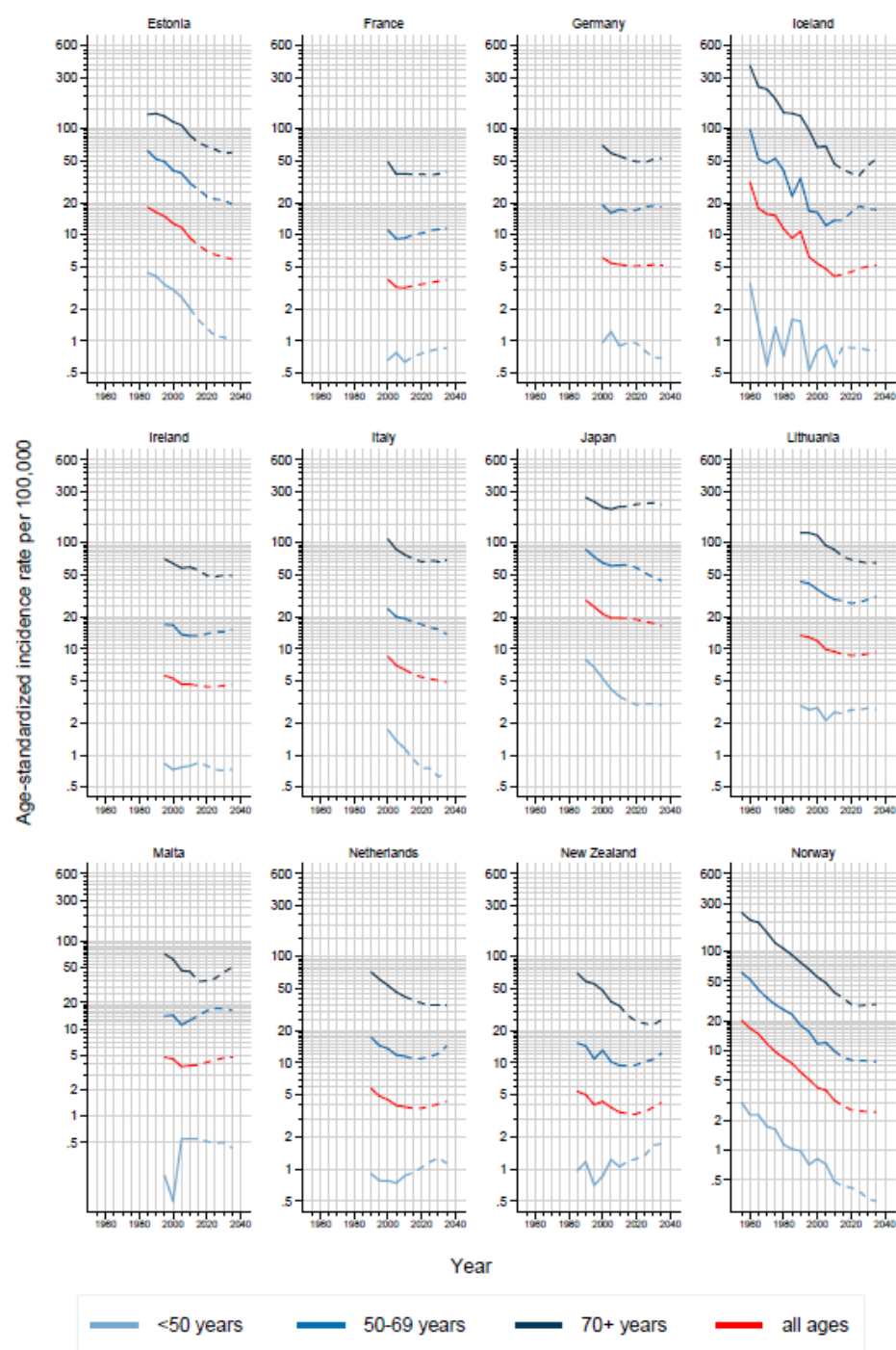
Annex Figure 3 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in males: observed (solid lines) and predicted (dashed lines)



Annex Figure 4. Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in females: observed (solid lines) and predicted (dashed lines)



Annex Figure 4 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in females: observed (solid lines) and predicted (dashed lines)



Annex Figure 4 (cont.). Trends in (truncated) age-standardized gastric cancer incidence rates by country and age in females: observed (solid lines) and predicted (dashed lines)

