

**MORTALITY FROM SMOKING
IN DEVELOPED COUNTRIES
1950–2000**

(2nd edition, revised June 2006:
www.deathsfromsmoking.net)

Richard Peto, Alan D Lopez,
Jillian Boreham and Michael Thun

GERMANY

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GERMANY: 1995, 2000

Male smoking-attributed deaths (Sm.) and total deaths (Total)

		ALL CAUSES	ALL CANCER	Lung cancer	Upper aero-digestive ca. (see below)	Other cancer	COPD	Other respiratory	Vascular disease	Liver cirrhosis	Other medical	Non-medical
1995												
0-34	Sm.	-	-	-	-	-	-	-	-	-	-	-
	Total	16132	1207	62	34	1111	71	186	981	319	5702	7666
35-69	Sm.	50912	24058	15567	3974	4517	4095	671	15216	-	6872	-
	Total	164546	53934	16911	6354	30669	5348	2493	56782	10098	24087	11804
		(31%)	(45%)	(92%)	(63%)	(15%)	(77%)	(27%)	(27%)		(29%)	
70+	Sm.	43216	16623	10757	1158	4708	9320	841	13368	-	3064	-
	Total	229985	53193	11914	1999	39280	13037	7941	120732	2415	27458	5209
		(19%)	(31%)	(90%)	(58%)	(12%)	(71%)	(11%)	(11%)		(11%)	
Any age	Sm.	94128	40681	26324	5132	9225	13415	1512	28584	-	9936	-
	Total	410663	108334	28887	8387	71060	18456	10620	178495	12832	57247	24679
		(23%)	(38%)	(91%)	(61%)	(13%)	(73%)	(14%)	(16%)		(17%)	
2000												
0-34	Sm.	-	-	-	-	-	-	-	-	-	-	-
	Total	12100	959	32	18	909	62	123	735	182	4338	5701
35-69	Sm.	43198	22111	14576	3571	3964	3069	597	11420	-	6001	-
	Total	149421	52102	16009	5975	30118	4150	2475	47331	9040	23388	10935
		(29%)	(42%)	(91%)	(60%)	(13%)	(74%)	(24%)	(24%)		(26%)	
70+	Sm.	40817	17472	11716	1200	4556	7800	888	11561	-	3096	-
	Total	227460	56564	13103	2153	41308	11222	9083	113294	2386	29827	5084
		(18%)	(31%)	(89%)	(56%)	(11%)	(70%)	(10%)	(10%)		(10%)	
Any age	Sm.	84015	39583	26292	4771	8520	10869	1485	22981	-	9097	-
	Total	388981	109625	29144	8146	72335	15434	11681	161360	11608	57553	21720
		(22%)	(36%)	(90%)	(59%)	(12%)	(70%)	(13%)	(14%)		(16%)	

To be conservative, no deaths before age 35, and none from liver cirrhosis or non-medical causes, were attributed to smoking

Male death rates used for calculations: ICD codes as on previous page

	All ages	0-34	35-69	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+/ <i>NK</i>
POPULATION (1000s; UN, 2004 revision)													
1995	39731	18803	18197	3259	2911	2482	2685	2934	2140	1786	1225	613	893
2000	40159	17449	19478	3726	3210	2895	2343	2631	2777	1896	1518	979	736
NUMBER OF DEATHS (Source: WHO)													
All causes													
1995	410663	16132	164546	6295	8572	10597	18587	31674	38339	50482	54339	42448	133198
2000	388981	12100	149421	5245	7965	11331	14292	24266	40025	46297	57769	57373	112318
Lung cancer													
1995	28887	62	16911	102	360	745	1836	3598	4489	5781	5005	2854	4055
2000	29144	32	16009	106	356	809	1486	2974	4854	5424	5690	4156	3257
ANNUAL DEATH RATE / 100,000 (*The rates for the age groups 0-34 and 35-69 are the means of seven five-yearly rates, but the all-ages rates are standardised to the conventional "European" age distribution)													
All causes													
1995	991.2*	82.0*	1043.5*	193.1	294.5	426.9	692.4	1079.5	1791.5	2826.4	4436.2	6926.9	14909.1
2000	893.4*	68.0*	885.1*	140.8	248.1	391.4	610.0	922.2	1441.6	2441.3	3804.6	5863.4	15258.5
All cancer													
1995	261.3*	5.8*	346.6*	24.4	58.1	119.4	232.1	386.6	630.6	974.9	1366.5	1869.6	2798.1
2000	242.7*	5.0*	313.3*	20.6	47.7	105.1	212.2	356.1	556.6	894.7	1282.1	1672.6	2816.2
Lung cancer													
1995	69.5*	0.3*	110.0*	3.1	12.4	30.0	68.4	122.6	209.8	323.7	408.6	465.7	453.9
2000	63.0*	0.1*	97.0*	2.8	11.1	27.9	63.4	113.0	174.8	286.0	374.7	424.7	442.5
Upper aerodigestive cancer (mouth, oesophagus, pharynx and larynx)													
1995	20.0*	0.1*	38.2*	2.1	11.6	24.7	42.5	55.4	65.0	65.8	66.7	71.0	83.6
2000	18.0*	0.1*	34.6*	2.2	7.9	20.7	36.2	50.5	57.3	67.1	65.6	61.2	75.8
Other cancer													
1995	171.7*	5.4*	198.4*	19.1	34.2	64.7	121.2	208.6	355.8	585.4	891.2	1332.9	2260.6
2000	161.7*	4.8*	181.7*	15.5	28.7	56.4	112.6	192.6	324.5	541.7	841.8	1186.6	2297.9
Chronic obstructive pulmonary disease (COPD)													
1995	44.9*	0.4*	36.8*	1.1	2.7	5.8	12.2	26.6	68.9	140.4	256.9	420.2	818.8
2000	35.1*	0.3*	26.2*	1.2	2.0	4.5	10.2	21.3	42.9	101.0	198.8	314.7	696.2
Other respiratory disease													
1995	25.4*	0.9*	16.3*	2.5	4.3	4.8	8.8	14.1	27.8	51.5	98.9	180.8	629.2
2000	28.0*	0.7*	15.0*	1.9	3.2	4.7	8.2	12.8	25.5	48.9	96.9	189.3	782.4
Vascular disease													
1995	429.5*	4.4*	373.3*	30.3	61.7	108.0	196.7	351.8	679.5	1185.3	2045.1	3425.8	8360.1
2000	374.8*	3.7*	288.3*	22.7	53.1	97.9	166.5	270.4	481.6	925.9	1599.0	2739.2	8451.6
Liver cirrhosis													
1995	30.5*	1.2*	59.3*	18.3	31.5	41.1	59.3	78.4	96.5	89.9	87.3	93.2	86.7
2000	25.5*	0.8*	50.7*	11.5	25.2	40.2	48.9	62.8	78.8	87.2	77.8	68.4	72.7
Other medical causes													
1995	140.3*	31.3*	145.6*	57.5	72.8	87.9	116.6	154.1	222.5	307.7	488.8	794.1	1858.6
2000	135.7*	26.3*	134.3*	38.1	61.7	82.3	107.5	140.2	196.1	313.9	463.8	761.2	2083.5
All non-medical causes													
1995	59.3*	37.9*	65.6*	59.0	63.3	59.9	66.6	67.8	65.5	76.8	92.7	143.3	357.6
2000	51.6*	31.1*	57.3*	44.9	55.2	56.7	56.5	58.6	60.0	69.6	86.1	118.1	355.9

Rates and calculations for some earlier years are in Peto, Lopez et al, 1994

1995, 2000: GERMANY

Female smoking-attributed deaths (Sm.) and total deaths (Total)

		ALL CAUSES	ALL CANCER	Lung cancer	Upper aero-digestive ca. (see below)	Other cancer	COPD	Other respiratory	Vascular disease	Liver cirrhosis	Other medical	Non-medical
1995												
0-34	Sm.	-	-	-	-	-	-	-	-	-	-	-
	Total	7468	1130	32	8	1090	64	112	530	128	3354	2150
35-69	Sm.	7063	2845	2190	267	388	926	97	2101	-	1094	-
	Total	83570	36857	3739	995	32123	2069	1081	23456	4012	12055	4040
		(8%)	(8%)	(59%)	(27%)	(1%)	(45%)	(9%)	(9%)		(9%)	
70+	Sm.	16169	3587	2583	300	704	4106	335	6464	-	1677	-
	Total	382887	66592	4489	1155	60948	9399	12097	226926	2473	56902	8498
		(4%)	(5%)	(58%)	(26%)	(1%)	(44%)	(3%)	(3%)		(3%)	
Any age	Sm.	23232	6432	4773	567	1092	5032	432	8565	-	2771	-
	Total	473925	104579	8260	2158	94161	11532	13290	250912	6613	72311	14688
		(5%)	(6%)	(58%)	(26%)	(1%)	(44%)	(3%)	(3%)		(4%)	
2000												
0-34	Sm.	-	-	-	-	-	-	-	-	-	-	-
	Total	5813	900	29	13	858	43	79	432	83	2609	1667
35-69	Sm.	8121	3763	2954	343	466	850	130	2038	-	1340	-
	Total	75056	34951	4548	1034	29369	1690	1133	18596	3555	11416	3715
		(11%)	(11%)	(65%)	(33%)	(2%)	(50%)	(11%)	(11%)		(12%)	
70+	Sm.	16376	4163	3132	311	720	3869	370	6214	-	1760	-
	Total	368947	65262	5269	1140	58853	8677	13069	214655	2019	57844	7421
		(4%)	(6%)	(59%)	(27%)	(1%)	(45%)	(3%)	(3%)		(3%)	
Any age	Sm.	24497	7926	6086	654	1186	4719	500	8252	-	3100	-
	Total	449816	101113	9846	2187	89080	10410	14281	233683	5657	71869	12803
		(5%)	(8%)	(62%)	(30%)	(1%)	(45%)	(4%)	(4%)		(4%)	

To be conservative, no deaths before age 35, and none from liver cirrhosis or non-medical causes, were attributed to smoking

Female death rates used for calculations

	All ages	0-34	35-69	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+/ NK
POPULATION (1000s; UN, 2004 revision)													
1995	41930	17693	18346	3068	2820	2400	2626	2943	2263	2226	2198	1274	2419
2000	42185	16549	19402	3514	3060	2858	2309	2647	2894	2119	2067	2044	2123
NUMBER OF DEATHS (Source: WHO)													
All causes													
1995	473925	7468	83570	2718	4166	5263	8990	14414	18277	29742	51269	51800	279818
2000	449816	5813	75056	2557	3896	5745	7332	11716	19358	24452	40671	68915	259361
Lung cancer													
1995	8260	32	3739	63	161	290	460	676	881	1208	1422	1042	2025
2000	9846	29	4548	74	220	405	569	881	1158	1241	1597	1664	2008
ANNUAL DEATH RATE / 100,000 (*The rates for the age groups 0-34 and 35-69 are the means of seven five-yearly rates, but the all-ages rates are standardised to the conventional "European" age distribution)													
All causes													
1995	583.5*	42.4*	490.2*	88.6	147.7	219.3	342.4	489.7	807.5	1336.2	2332.2	4067.5	11566.1
2000	545.6*	35.6*	426.3*	72.8	127.3	201.0	317.5	442.6	668.8	1153.7	1967.3	3371.4	12219.0
All cancer													
1995	155.7*	5.5*	214.5*	32.7	64.5	109.4	178.5	243.1	363.5	509.5	726.2	976.4	1578.7
2000	144.9*	4.8*	197.2*	28.1	54.3	96.3	161.6	237.8	325.5	476.6	659.1	868.4	1596.3
Lung cancer													
1995	13.4*	0.1*	21.9*	2.1	5.7	12.1	17.5	23.0	38.9	54.3	64.7	81.8	83.7
2000	15.6*	0.1*	25.7*	2.1	7.2	14.2	24.6	33.3	40.0	58.6	77.2	81.4	94.6
Upper aerodigestive cancer (mouth, oesophagus, pharynx and larynx)													
1995	3.5*	0.0*	5.7*	0.6	1.6	4.1	8.0	6.1	8.3	11.4	13.8	17.3	26.1
2000	3.5*	0.1*	5.8*	0.5	1.6	3.4	6.5	9.1	8.6	11.0	13.1	13.7	27.7
Other cancer													
1995	138.7*	5.3*	186.8*	30.0	57.2	93.2	152.9	214.0	316.2	443.8	647.7	877.3	1468.9
2000	125.7*	4.6*	165.7*	25.5	45.5	78.7	130.6	195.4	277.0	407.0	568.8	773.3	1474.0
Chronic obstructive pulmonary disease (COPD)													
1995	14.3*	0.3*	12.5*	0.9	1.8	3.0	5.7	10.3	22.0	43.4	77.0	124.4	253.1
2000	12.5*	0.2*	9.9*	0.8	1.3	2.8	5.8	10.4	14.9	33.2	65.5	98.8	249.8
Other respiratory disease													
1995	14.0*	0.6*	6.4*	1.0	2.4	2.1	3.4	5.6	10.1	20.2	40.8	92.1	414.4
2000	15.4*	0.5*	6.6*	1.0	1.5	2.3	3.9	6.4	9.7	21.1	41.5	83.1	495.3
Vascular disease													
1995	269.6*	2.6*	141.3*	12.9	23.1	35.5	59.2	112.3	242.0	504.1	1055.7	2124.5	7302.2
2000	250.7*	2.4*	108.9*	9.0	20.3	33.2	54.9	79.0	174.5	391.8	821.0	1669.7	7705.3
Liver cirrhosis													
1995	12.3*	0.5*	22.7*	6.6	13.1	17.8	25.1	28.1	31.7	36.3	37.6	41.3	46.3
2000	10.3*	0.4*	19.4*	5.3	10.4	15.5	22.7	24.9	27.9	29.2	31.9	30.3	34.9
Other medical causes													
1995	94.1*	20.9*	70.5*	18.3	25.4	34.1	48.1	65.9	112.4	189.2	346.2	621.7	1710.2
2000	91.4*	17.5*	64.5*	16.2	23.6	34.3	49.1	62.6	93.3	172.3	305.4	552.4	1895.7
All non-medical causes													
1995	23.5*	11.8*	22.4*	16.2	17.4	17.5	22.3	24.4	25.8	33.5	48.7	87.2	261.1
2000	20.5*	9.8*	19.8*	12.5	15.9	16.6	19.4	21.7	23.0	29.6	42.9	68.7	241.7

Rates and calculations for some earlier years are in Peto, Lopez et al, 1994

GERMANY: 2000

Relative importance of deaths in MIDDLE age (35–69) in the year 2000

Age range (years)	Deaths attributed to SMOKING /total deaths (thousands)		Mean years lost PER DEATH FROM SMOKING
	Male	Female	
0–34	– / 12	– / 5.8	–
35–69	43 / 149	8.1 / 75	22 years
70+	41 / 227	16 / 369	8 years
All ages	84 / 389	24 / 450	15 years

Deaths, by cause, attributed to SMOKING / total deaths (thousands) in the year 2000

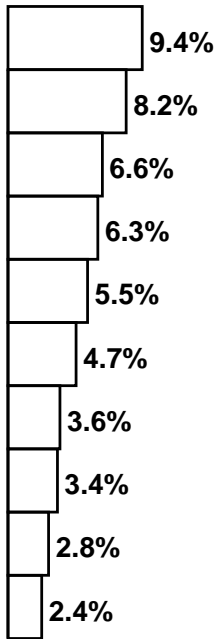
Cause	Male (by age)				Female (by age)			
	0–34	35–69	70+	All	0–34	35–69	70+	All
Lung Cancer	–/0.0	15/16	12/13	26/29	–/0.0	3.0/4.5	3.1/5.3	6.1/9.8
All Cancer	–/1.0	22/52 (42%)	17/57 (31%)	40/110	–/0.9	3.8/35 (11%)	4.2/65 (6%)	7.9/101
Vascular	–/0.7	11/47	12/113	23/161	–/0.4	2.0/19	6.2/215	8.3/234
Respiratory	–/0.2	3.7/6.6	8.7/20	12/27	–/0.1	1.0/2.8	4.2/22	5.2/25
All Other	–/10	6.0/43	3.1/37	9.1/91	–/4.4	1.3/19	1.8/67	3.1/90
All Causes	–/12	43/149 (29%)	41/227 (18%)	84/389	–/5.8	8.1/75 (11%)	16/369 (4%)	24/450

Cancer deaths, and all deaths, attributed to SMOKING / total deaths (thousands) in the year 2000

Cause	Male	Female	Male + Female
All Cancer	40 / 110 (36%)	7.9 / 101 (8%)	48 / 211 (23%)
All Causes	84 / 389 (22%)	24 / 450 (5%)	109 / 839 (13%)

1955-2000: GERMANY

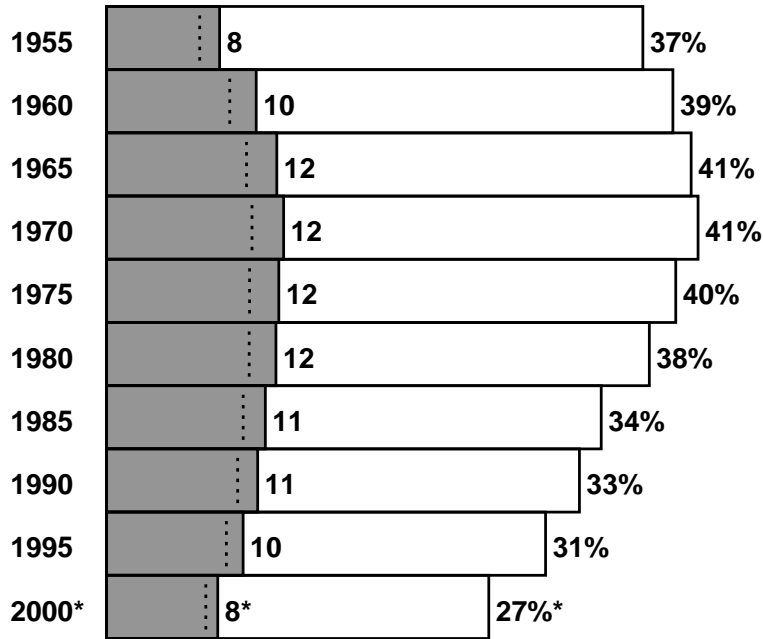
Population risk of dying at ages 0–34



Population risk of a 35-year-old dying at ages 35–69 from smoking (shaded) or from any cause (shaded and white)

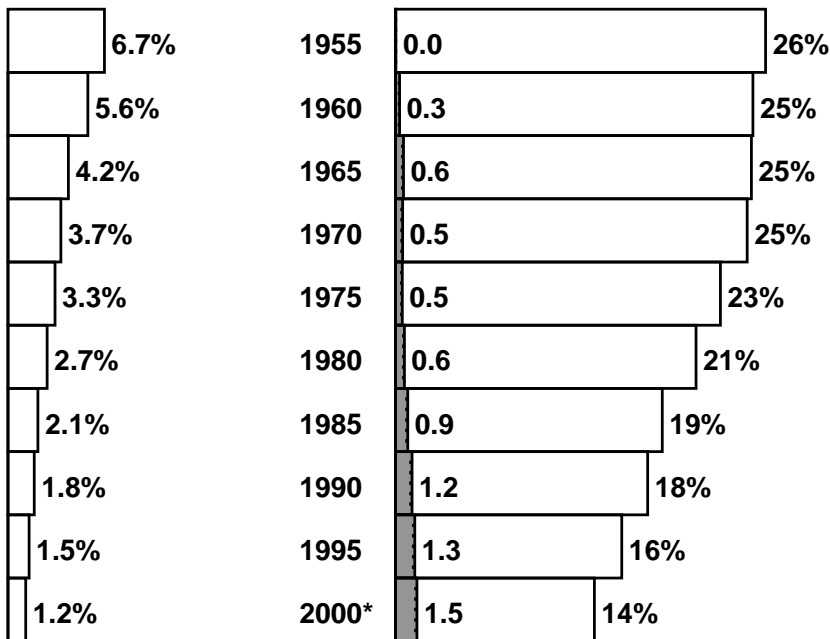
*eg, at year 2000 male death rates, out of 100 men aged 35, 27 would die before age 70 (with 8 of these deaths attributed to smoking)

MALE



Note: Most of those killed by smoking would otherwise have survived beyond age 70, but a minority (shaded area to right of dotted line) would have died by 70 anyway

FEMALE



GERMANY: 1950-2000

Numbers of deaths attributed to smoking / total deaths (thousands)

Year	Male (by age)				Female (by age)			
	0-34	35-69	70+	All	0-34	35-69	70+	All
1950
1955	-/50	34/153 (22%)	9.0/181 (5%)	43/384	-/36	0.2/129 (0.1%)	0.0/207	0.2/371
1960	-/48	47/173 (27%)	17/208 (8%)	64/430	-/31	1.5/135 (1%)	0.3/245 (0.1%)	1.8/411
1965	-/41	57/193 (29%)	28/225 (12%)	84/459	-/25	3.1/142 (2%)	3.7/282 (1%)	6.9/449
1970	-/38	60/200 (30%)	42/245 (17%)	102/483	-/21	2.9/143 (2%)	3.2/329 (1%)	6.1/493
1975	-/30	54/180 (30%)	56/271 (21%)	109/481	-/16	2.8/129 (2%)	4.4/364 (1%)	7.1/508
1980	-/25	48/156 (31%)	55/274 (20%)	104/456	-/13	3.1/107 (3%)	6.1/376 (2%)	9.2/496
1985	-/20	46/141 (33%)	54/272 (20%)	100/434	-/10	4.1/89 (5%)	7.2/396 (2%)	11/496
1990	-/20	52/162 (32%)	43/243 (18%)	95/425	-/9.3	6.2/94 (7%)	10/393 (3%)	17/496
1995	-/16	51/165 (31%)	43/230 (19%)	94/411	-/7.5	7.1/84 (8%)	16/383 (4%)	23/474
2000	-/12	43/149 (29%)	41/227 (18%)	84/389	-/5.8	8.1/75 (11%)	16/369 (4%)	24/450

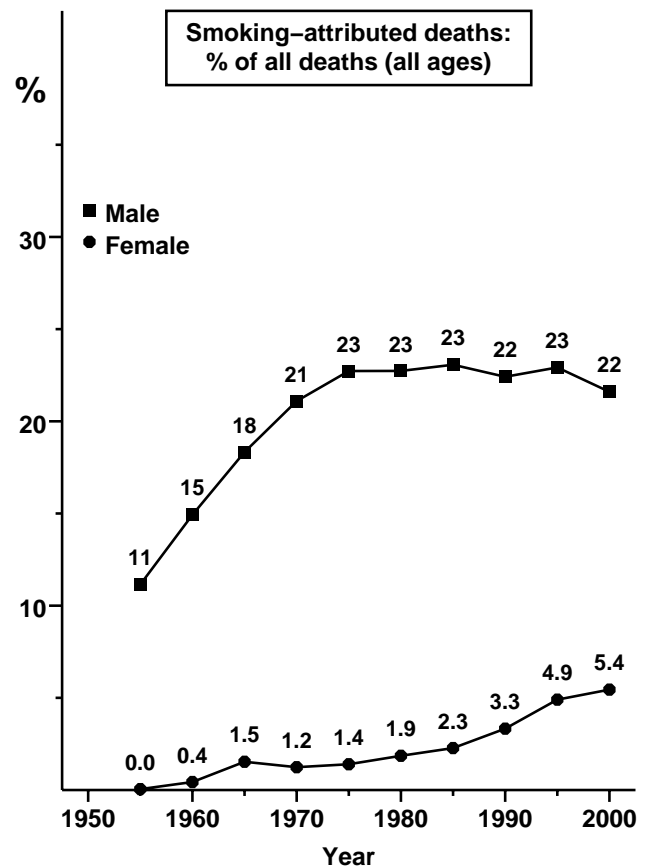
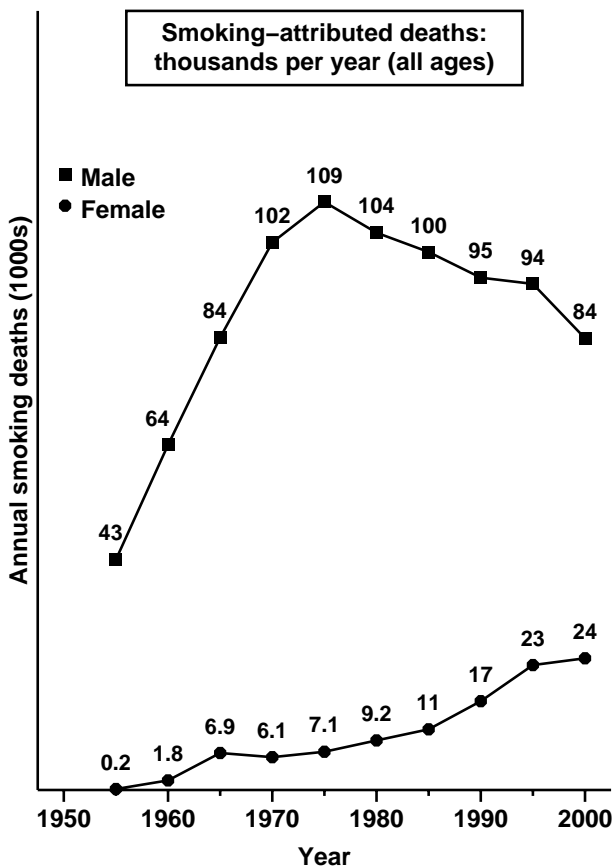
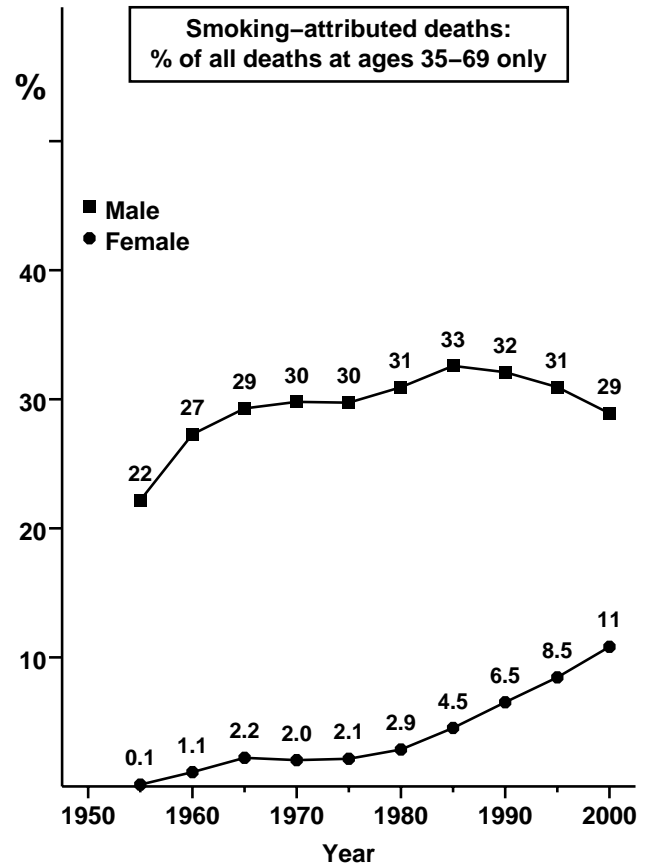
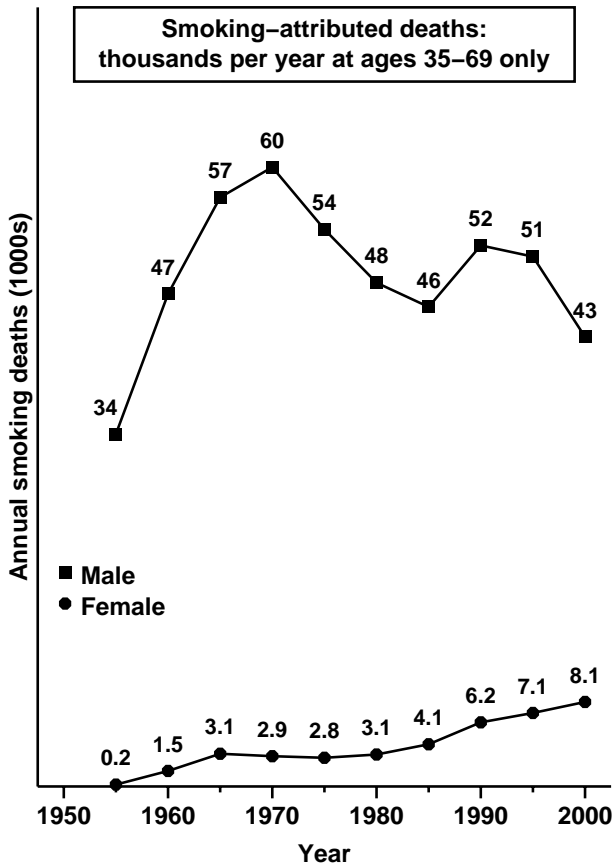
50-year total* (M=millions), mid-1950 to mid-2000: **4.8/ 45M**

1950-2000 by age & sex:

-/1.6M	2.4/8.3M	1.9/12M	4.3/22M	-/0.9M	0.2/5.7M	0.3/16M	0.5/23M
	(29%)	(16%)			(3%)	(2%)	

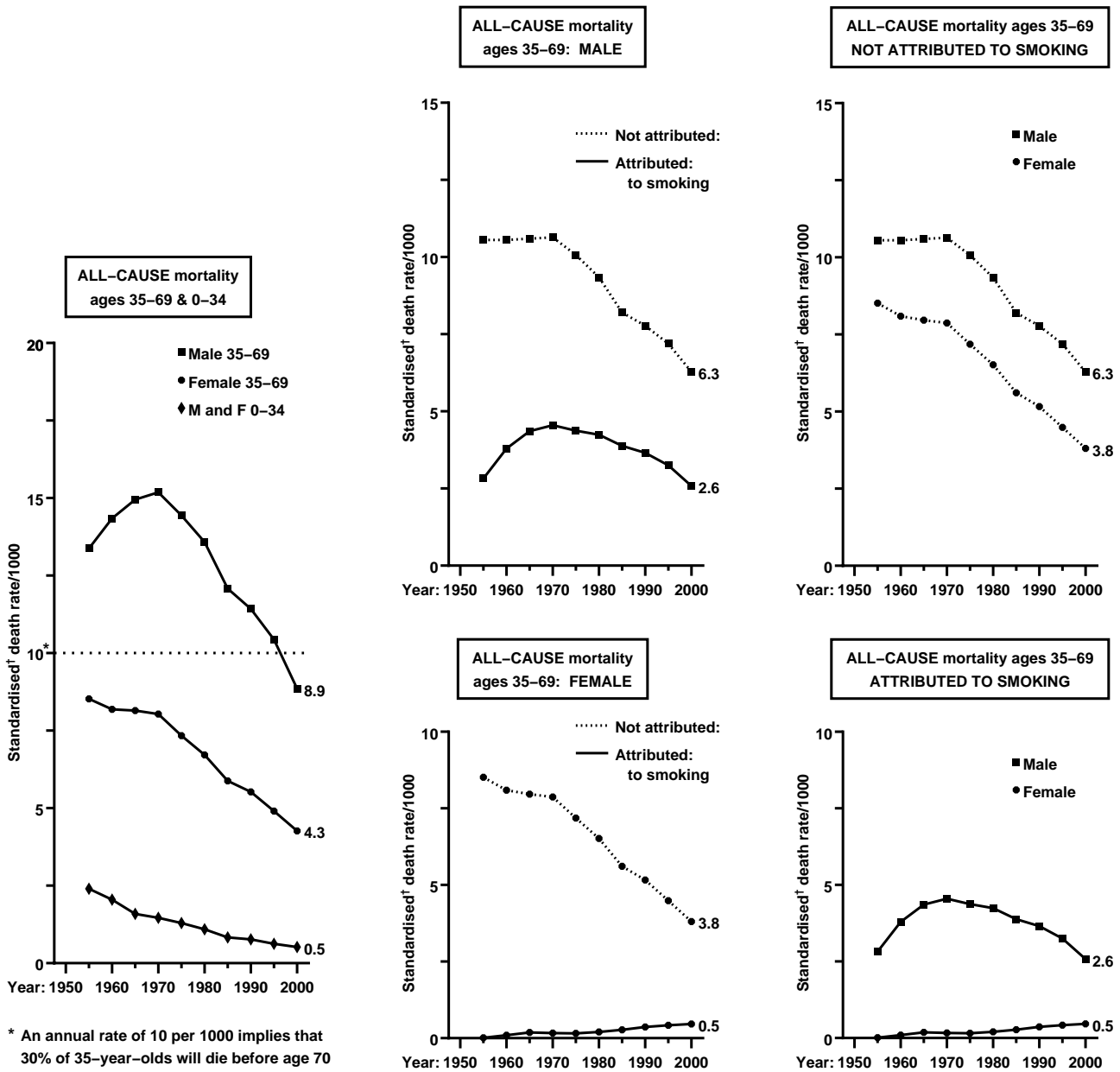
*Estimated as 10 times the sum of the annual numbers for 1955, 1965, 1975, 1985 & 1995

1955-2000: GERMANY



GERMANY: 1955-2000

ALL-CAUSE mortality rates attributed and not attributed to smoking



* An annual rate of 10 per 1000 implies that 30% of 35-year-olds will die before age 70

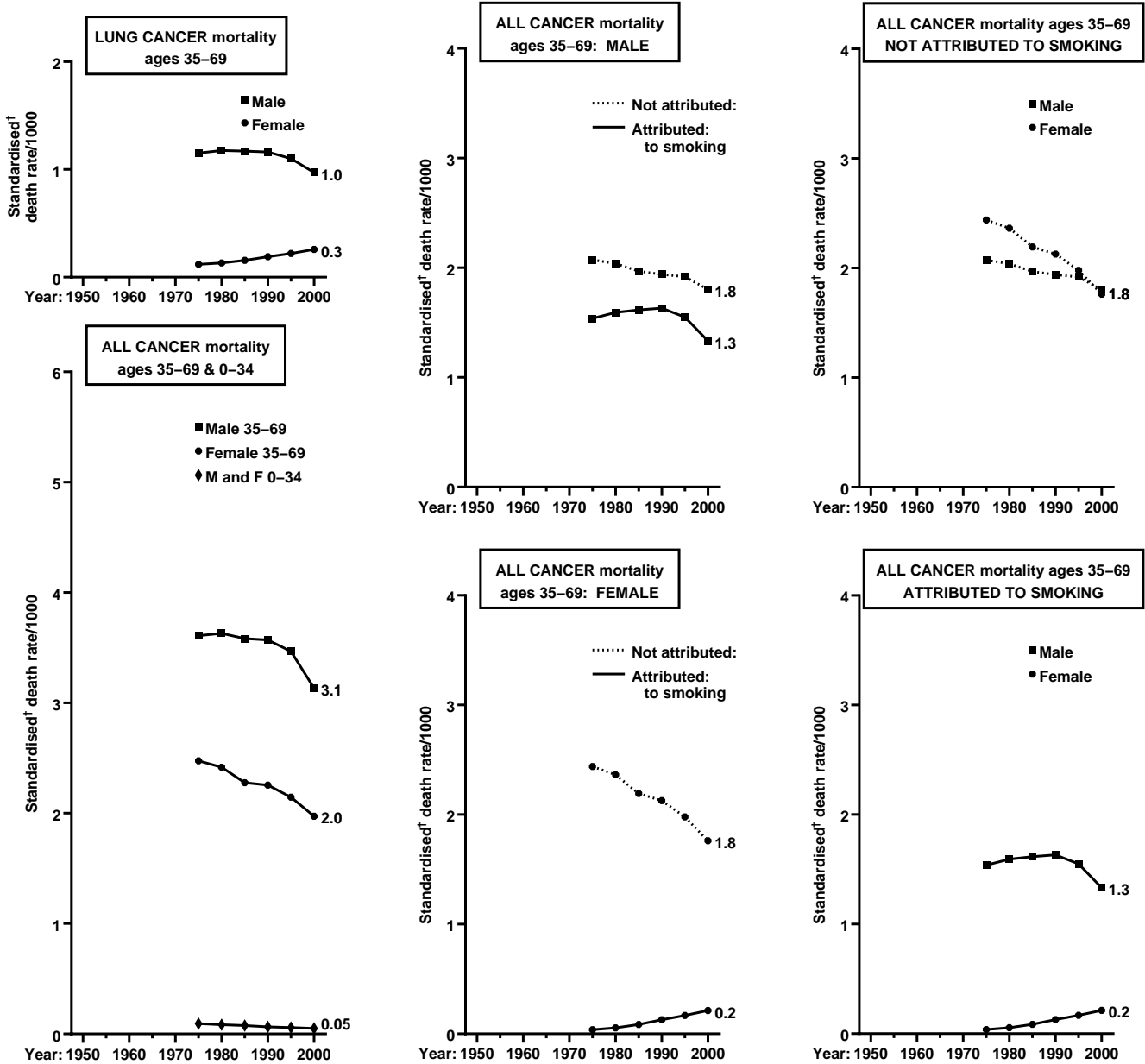
† Mean of 7 age-specific rates, ages 35-69 (or ages 0-34)

Year	MALE all-cause mortality (annual rate/1000, by age)								FEMALE all-cause mortality (annual rate/1000, by age)									
	0-34		35-69		70-79		0-34		35-69		70-79		0-34		35-69		70-79	
	Attributed to smoking?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
1950	
1955	-	2.81	2.82	10.6	4.20	71.2	-	1.99	0.01	8.51	0.00	62.6	-	1.99	0.01	8.51	0.00	62.6
1960	-	2.46	3.79	10.6	7.30	71.3	-	1.64	0.09	8.09	0.10	59.9	-	1.64	0.09	8.09	0.10	59.9
1965	-	1.94	4.35	10.6	11.4	69.6	-	1.23	0.18	7.96	0.87	56.4	-	1.23	0.18	7.96	0.87	56.4
1970	-	1.85	4.55	10.6	16.6	68.9	-	1.07	0.16	7.87	0.66	56.5	-	1.07	0.16	7.87	0.66	56.5
1975	-	1.63	4.37	10.1	19.5	67.2	-	0.95	0.15	7.18	0.73	52.9	-	0.95	0.15	7.18	0.73	52.9
1980	-	1.39	4.24	9.34	16.9	59.7	-	0.79	0.20	6.51	0.84	44.4	-	0.79	0.20	6.51	0.84	44.4
1985	-	1.05	3.88	8.20	16.0	56.6	-	0.60	0.27	5.61	0.99	40.4	-	0.60	0.27	5.61	0.99	40.4
1990	-	1.00	3.65	7.77	13.3	50.4	-	0.53	0.36	5.16	1.38	35.4	-	0.53	0.36	5.16	1.38	35.4
1995	-	0.82	3.25	7.19	12.5	44.3	-	0.42	0.42	4.48	1.76	30.2	-	0.42	0.42	4.48	1.76	30.2
2000	-	0.68	2.58	6.27	10.2	38.1	-	0.36	0.46	3.80	1.72	25.0	-	0.36	0.46	3.80	1.72	25.0

0-34 and 35-69 = means of 7 age-specific rates; 70-79 = mean of 2 rates (70-74 & 75-79)

1975-2000: GERMANY

ALL CANCER mortality rates attributed and not attributed to smoking



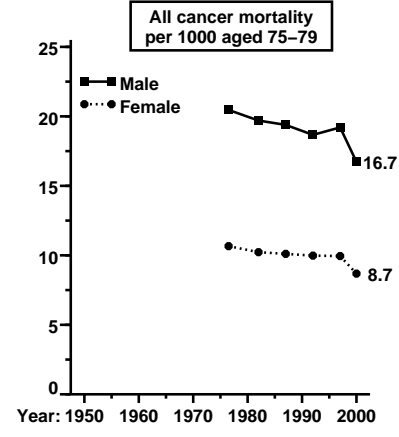
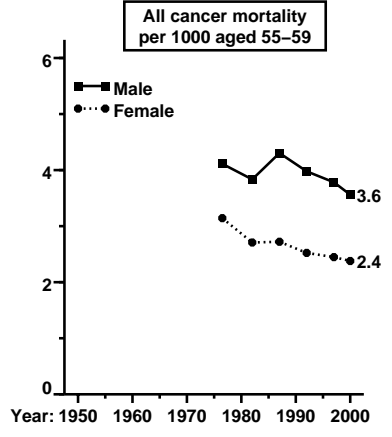
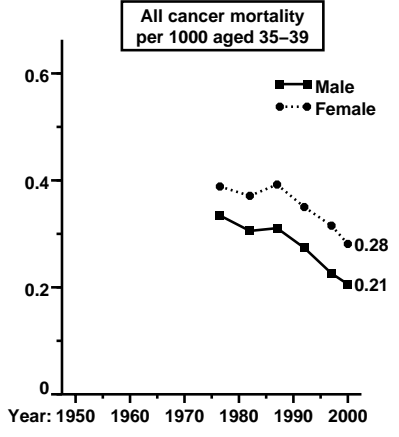
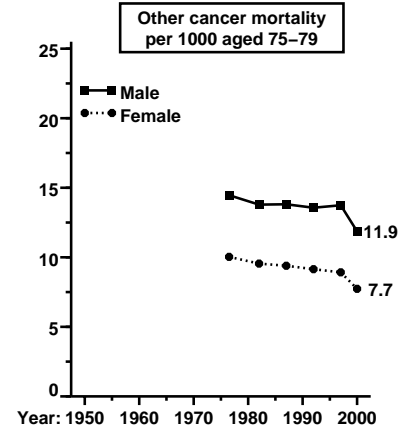
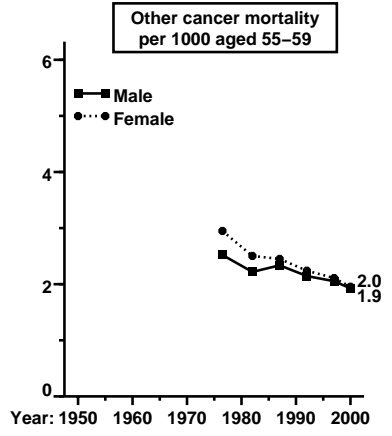
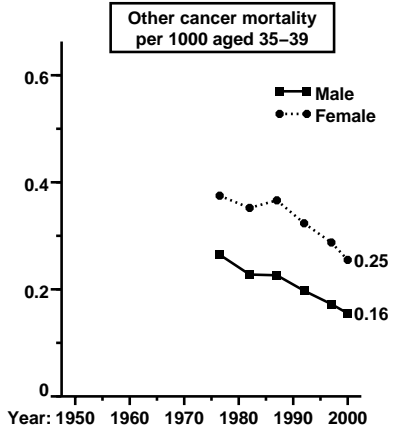
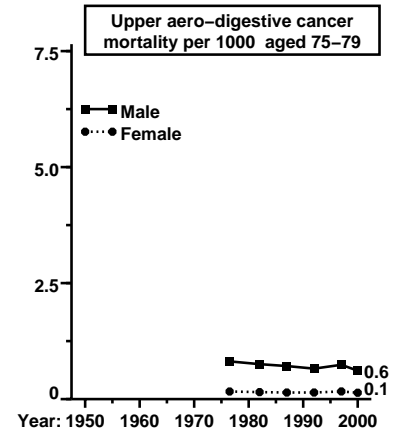
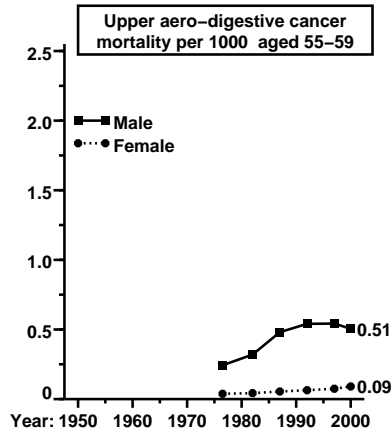
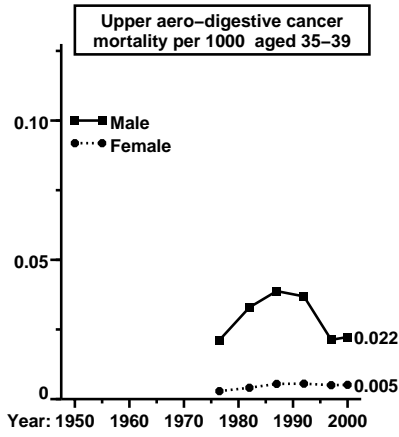
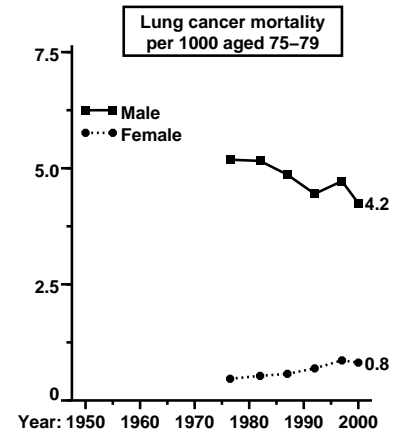
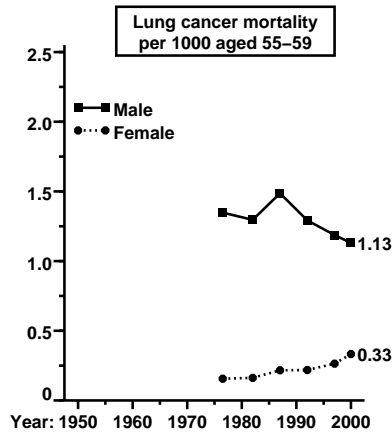
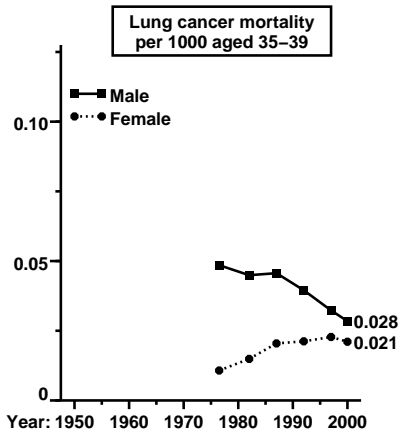
† Mean of 7 age-specific rates, ages 35-69 (or ages 0-34)

Year	MALE cancer mortality (annual rate/1000, by age)								FEMALE cancer mortality (annual rate/1000, by age)							
	Attributed to smoking?		0-34		35-69		70-79		Attributed to smoking?		0-34		35-69		70-79	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1950
1955
1960
1965
1970
1975	-	0.10	1.54	2.07	6.55	11.5	-	0.08	0.04	2.44	0.14	9.23				
1980	-	0.09	1.59	2.04	6.38	10.7	-	0.07	0.05	2.36	0.20	8.66				
1985	-	0.08	1.61	1.97	6.25	10.8	-	0.07	0.08	2.19	0.25	8.62				
1990	-	0.07	1.63	1.94	5.66	10.8	-	0.06	0.13	2.13	0.39	8.20				
1995	-	0.06	1.55	1.92	5.70	10.5	-	0.06	0.17	1.98	0.55	7.96				
2000	-	0.05	1.33	1.80	5.07	9.71	-	0.05	0.21	1.76	0.61	7.03				

0-34 and 35-69 = means of 7 age-specific rates; 70-79 = mean of 2 rates (70-74 & 75-79)

GERMANY: 1975-2000

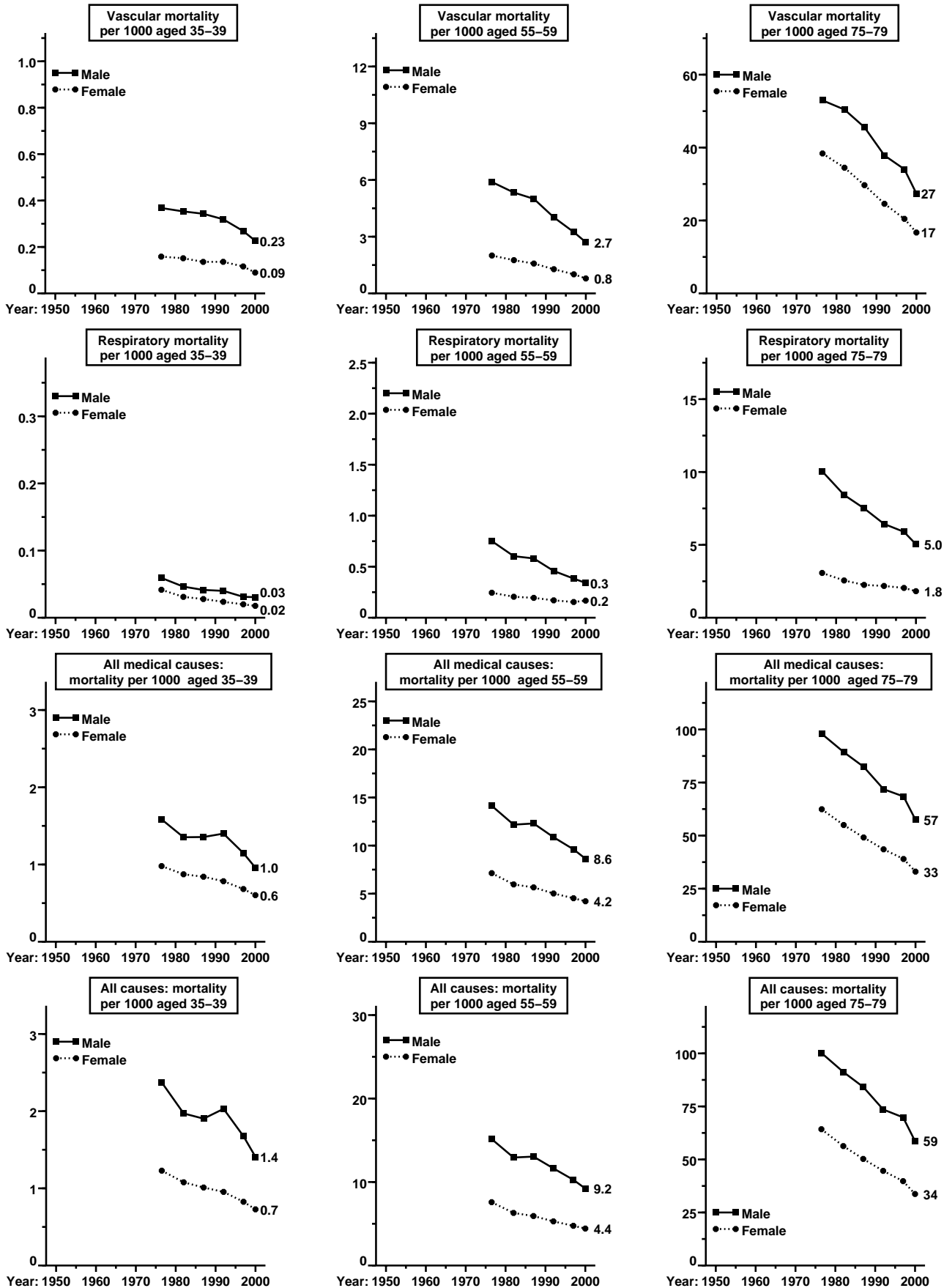
Mortality* trends at selected ages: 35-39, 55-59 & 75-79



* Annual mortality per 1000: averages of years available in 1975-79,....,1995-99; then year 2000 separately

1975-2000: GERMANY

Mortality* trends at selected ages: 35-39, 55-59 & 75-79



* Annual mortality per 1000: averages of years available in 1975-79,.....,1995-99; then year 2000 separately