

CANCER INCIDENCE AND MORTALITY

MALTA AND THE EUROPEAN COMMUNITY COMPARED

Department of Health Information

Health Division

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SECTION 1: BACKGROUND INFORMATION

Introduction

In September 1993 the National Cancer Registry at the Department of Health Information (DHI) was accepted as an Associate Member of both the International Association of Cancer Registries (IACR) and of the European Network of Cancer Registries (ENCR). One result of this association was that the DHI was provided with the latest age-standardized incidence and mortality rates for the 12 European Community (EC) countries, in a book called "Facts and Figures of Cancer in the European Community", that was published last year by the International Agency for Research on Cancer (IARC).

On the initiative of one of the Medical Officers working at the Malta Cancer Registry, the methodologies used for the IARC book were applied to the best available cancer incidence and mortality data for Malta, i.e. the 1992 data, in order to give comparable age-standardised rates. This report is mostly limited to cancers which occurred frequently in 1992 and which were hence amenable to statistical study.

Details about the Malta Cancer Registry and the historical reasons for preferring 1992 data to previous years' data were published last year as part of the National Cancer Registry's 1992 Cancer Incidence report. The 1992 figures used in that report have been updated for the purpose of the present report.

Cancer incidence data

Besides Malta, only Denmark, England, Wales and Scotland have nation-wide cancer incidence data. For the other ten EC countries, incidence was estimated from mortality by the application of mathematical models developed on the basis of 1983-87 incidence and mortality data. The table below shows the source of each country's data:

<i>Country</i>	<i>Source of incidence data</i>
Malta	Actual 1992 incidence data
Denmark	Actual 1990 incidence data
UK	Part actual 1990 incidence data, part estimation from 1988-90 mortality data
France, W. Germany, Luxembourg, Netherlands, Portugal	Estimated from 1988-90 mortality data
E. Germany, Greece, Ireland, Italy	Estimated from 1987-89 mortality data
Spain	Estimated from 1986-88 mortality data
Belgium	Estimated from 1984-86 mortality data

Cancer mortality data

Mortality data are available for all the EC countries, as well as Malta. The EC data are for 1990, while the Malta data are for 1992. Methodological problems in the coding and classification of causes of deaths sometimes lead to a paradoxical situation in which mortality appears to exceed incidence.

Age-standardization

In order to improve the comparability of the statistics from different countries, the incidence and mortality rates are age-standardized. This is a mathematical procedure in which each country's age-specific rates are applied to a "standard world population" and then summed up to give the age-standardized rate (ASR) that would be expected if each country had an identical age structure.

For the EC countries, beginning-1990 population figures are used, while for Malta, the age-standardization is based on the mid-1992 population estimates.

Small number variation

In view of the small numbers involved 95% confidence limits have been calculated using the binomial approximation in order to give a measure of the statistical reliability of the rates.

SECTION 2: AGE-STANDARDIZED RATES - TABLES AND GRAPHS

In the following pages, information is provided on:

- All cancers
- Cancers of the colon and rectum
- Lung cancer
- Breast cancer
- Cancer of the cervix
- Cancer of the body of the uterus
- Prostate cancer
- Bladder cancer

Note: In the graphs the countries are ranked in descending order of incidence. In many cases the ranking would change if the sorting were carried out in order of mortality.

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

ALL CANCERS (EXCLUDING SKIN)						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	2	13780	0.15	12000	1.74
	5-9	1	14037	0.07	10000	0.71
	10-14	1	14596	0.07	9000	0.62
	15-19	1	14110	0.07	9000	0.64
	20-24	2	12571	0.16	8000	1.27
	25-29	3	13030	0.23	8000	1.84
	30-34	7	14674	0.48	6000	2.86
	35-39	8	14307	0.56	6000	3.36
	40-44	14	14714	0.95	6000	5.71
	45-49	21	12757	1.65	6000	9.88
	50-54	24	8259	2.91	5000	14.53
	55-59	37	8218	4.50	4000	18.01
	60-64	53	6866	7.72	4000	30.88
	65-69	83	6350	13.07	3000	39.21
	70-74	69	4747	14.54	2000	29.07
	75-79	51	2791	18.27	1000	18.27
	80-84	47	1834	25.63	500	12.81
	85+	16	919	17.41	500	8.71
	n.s.	8				
	Total	448	178560		100000	200.12
						Age standardized incidence rate (corrected): 203.76 per 100,000
					Variance:	0.954
					Standard Error:	0.977
				95% confidence limits:	Lower:	201.84
					Upper:	205.67
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	2	13234	0.15	12000	1.81
	5-9	0	13268	0.00	10000	0.00
	10-14	1	13801	0.07	9000	0.65
	15-19	2	13285	0.15	9000	1.35
	20-24	1	11770	0.08	8000	0.68
	25-29	3	12342	0.24	8000	1.94
	30-34	9	14184	0.63	6000	3.81
	35-39	18	13918	1.29	6000	7.76
	40-44	29	14572	1.99	6000	11.94
	45-49	40	13164	3.04	6000	18.23
	50-54	53	9147	5.79	5000	28.97
	55-59	42	9522	4.41	4000	17.64
	60-64	64	8473	7.55	4000	30.21
	65-69	62	7694	8.06	3000	24.17
	70-74	65	5912	10.99	2000	21.99
	75-79	57	3867	14.74	1000	14.74
	80-84	41	2825	14.51	500	7.26
	85+	21	1731	12.13	500	6.07
	n.s.	8				
	Total	518	182709		100000	199.24
						Age standardized incidence rate (corrected): 202.36 per 100,000
					Variance:	0.841
					Standard Error:	0.917
				95% confidence limits:	Lower:	200.57
					Upper:	204.16

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

CANCER OF COLON AND RECTUM						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	4	14307	0.28	6000	1.68
	40-44	1	14714	0.07	6000	0.41
	45-49	3	12757	0.24	6000	1.41
	50-54	0	8259	0.00	5000	0.00
	55-59	1	8218	0.12	4000	0.49
	60-64	6	6866	0.87	4000	3.50
	65-69	9	6350	1.42	3000	4.25
	70-74	8	4747	1.69	2000	3.37
	75-79	4	2791	1.43	1000	1.43
	80-84	4	1834	2.18	500	1.09
	85+	3	919	3.26	500	1.63
	n.s.	1				
	Total	44	178560		100000	19.26
					Age standardized incidence rate (corrected):	19.70 per 100,000
					Variance:	0.089
					Standard Error:	0.299
					95% confidence limits:	Lower: 19.12
						Upper: 20.29
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	2	14184	0.14	6000	0.85
	35-39	0	13918	0.00	6000	0.00
	40-44	1	14572	0.07	6000	0.41
	45-49	1	13164	0.08	6000	0.46
	50-54	4	9147	0.44	5000	2.19
	55-59	4	9522	0.42	4000	1.68
	60-64	8	8473	0.94	4000	3.78
	65-69	4	7694	0.52	3000	1.56
	70-74	12	5912	2.03	2000	4.06
	75-79	10	3867	2.59	1000	2.59
	80-84	4	2825	1.42	500	0.71
	85+	4	1731	2.31	500	1.16
	n.s.	1				
	Total	55	182709			19.43
					Age standardized incidence rate (corrected):	19.79 per 100,000
					Variance:	0.075
					Standard Error:	0.274
					95% confidence limits:	Lower: 19.25
						Upper: 20.32

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

CANCER OF THE LUNG						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	0	14307	0.00	6000	0.00
	40-44	2	14714	0.14	6000	0.82
	45-49	0	12757	0.00	6000	0.00
	50-54	6	8259	0.73	5000	3.63
	55-59	11	8218	1.34	4000	5.35
	60-64	12	6866	1.75	4000	6.99
	65-69	26	6350	4.09	3000	12.28
	70-74	12	4747	2.53	2000	5.06
	75-79	12	2791	4.30	1000	4.30
	80-84	8	1834	4.36	500	2.18
	85+	2	919	2.18	500	1.09
	n.s.	4				
	Total	95	178560		100000	41.70
					Age standardized incidence rate (corrected):	43.53 per 100,000
					Variance:	0.199
					Standard Error:	0.446
					95% confidence limits:	Lower: 42.66
						Upper: 44.41
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	0	13918	0.00	6000	0.00
	40-44	0	14572	0.00	6000	0.00
	45-49	0	13164	0.00	6000	0.00
	50-54	1	9147	0.11	5000	0.55
	55-59	1	9522	0.11	4000	0.42
	60-64	1	8473	0.12	4000	0.47
	65-69	1	7694	0.13	3000	0.39
	70-74	1	5912	0.17	2000	0.34
	75-79	1	3867	0.26	1000	0.26
	80-84	1	2825	0.35	500	0.18
	85+	0	1731	0.00	500	0.00
	n.s.	0				
	Total	7	182709			2.60
					Age standardized incidence rate (corrected):	2.60 per 100,000
					Variance:	0.011
					Standard Error:	0.103
					95% confidence limits:	Lower: 2.40
						Upper: 2.80

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

CANCER OF THE FEMALE BREAST						
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	2	12342	0.16	8000	1.30
	30-34	1	14184	0.07	6000	0.42
	35-39	9	13918	0.65	6000	3.88
	40-44	16	14572	1.10	6000	6.59
	45-49	24	13164	1.82	6000	10.94
	50-54	27	9147	2.95	5000	14.76
	55-59	19	9522	2.00	4000	7.98
	60-64	21	8473	2.48	4000	9.91
	65-69	16	7694	2.08	3000	6.24
	70-74	19	5912	3.21	2000	6.43
	75-79	18	3867	4.65	1000	4.65
	80-84	12	2825	4.25	500	2.12
	85+	9	1731	5.20	500	2.60
	n.s.	5				
	Total	198	182709			77.83
					Age standardized incidence rate (corrected):	79.84
						per 100,000
					Variance:	0.334
					Standard Error:	0.578
					95% confidence limits:	Lower: 78.71
						Upper: 80.97
CANCER OF THE CERVIX						
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	2	14184	0.14	6000	0.85
	35-39	1	13918	0.07	6000	0.43
	40-44	1	14572	0.07	6000	0.41
	45-49	2	13164	0.15	6000	0.91
	50-54	2	9147	0.22	5000	1.09
	55-59	1	9522	0.11	4000	0.42
	60-64	3	8473	0.35	4000	1.42
	65-69	2	7694	0.26	3000	0.78
	70-74	1	5912	0.17	2000	0.34
	75-79	0	3867	0.00	1000	0.00
	80-84	0	2825	0.00	500	0.00
	85+	0	1731	0.00	500	0.00
	n.s.	0				
	Total	15	182709			6.65
					Age standardized incidence rate (corrected):	6.65
						per 100,000
					Variance:	0.030
					Standard Error:	0.173
					95% confidence limits:	Lower: 6.31
						Upper: 6.99

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

CANCER OF THE BODY OF UTERUS							
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no	
	0-4	0	13234	0.00	12000	0.00	
	5-9	0	13268	0.00	10000	0.00	
	10-14	0	13801	0.00	9000	0.00	
	15-19	0	13285	0.00	9000	0.00	
	20-24	0	11770	0.00	8000	0.00	
	25-29	0	12342	0.00	8000	0.00	
	30-34	1	14184	0.07	6000	0.42	
	35-39	0	13918	0.00	6000	0.00	
	40-44	2	14572	0.14	6000	0.82	
	45-49	4	13164	0.30	6000	1.82	
	50-54	3	9147	0.33	5000	1.64	
	55-59	5	9522	0.53	4000	2.10	
	60-64	9	8473	1.06	4000	4.25	
	65-69	10	7694	1.30	3000	3.90	
	70-74	8	5912	1.35	2000	2.71	
	75-79	2	3867	0.52	1000	0.52	
	80-84	1	2825	0.35	500	0.18	
	85+	0	1731	0.00	500	0.00	
	n.s.	0					
	Total	45	182709			18.36	
	Age standardized incidence rate (corrected):					18.36	per 100,000
					Variance:	0.077	
					Standard Error:	0.278	
				95% confidence limits:	Lower:	17.81	
					Upper:	18.90	
CANCER OF THE PROSTATE							
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no	
	0-4	0	13780	0.00	12000	0.00	
	5-9	0	14037	0.00	10000	0.00	
	10-14	0	14596	0.00	9000	0.00	
	15-19	0	14110	0.00	9000	0.00	
	20-24	0	12571	0.00	8000	0.00	
	25-29	0	13030	0.00	8000	0.00	
	30-34	0	14674	0.00	6000	0.00	
	35-39	0	14307	0.00	6000	0.00	
	40-44	0	14714	0.00	6000	0.00	
	45-49	0	12757	0.00	6000	0.00	
	50-54	1	8259	0.12	5000	0.61	
	55-59	0	8218	0.00	4000	0.00	
	60-64	3	6866	0.44	4000	1.75	
	65-69	7	6350	1.10	3000	3.31	
	70-74	8	4747	1.69	2000	3.37	
	75-79	7	2791	2.51	1000	2.51	
	80-84	9	1834	4.91	500	2.45	
	85+	4	919	4.35	500	2.18	
	n.s.	0					
	Total	39	178560		100000	16.17	
	Age standardized incidence rate (corrected):					16.17	per 100,000
					Variance:	0.071	
					Standard Error:	0.267	
				95% confidence limits:	Lower:	15.65	
					Upper:	16.69	

AGE-STANDARDIZED CANCER INCIDENCE RATES FOR MALTA, 1992

CANCER OF THE BLADDER						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	0	14307	0.00	6000	0.00
	40-44	3	14714	0.20	6000	1.22
	45-49	2	12757	0.16	6000	0.94
	50-54	3	8259	0.36	5000	1.82
	55-59	5	8218	0.61	4000	2.43
	60-64	6	6866	0.87	4000	3.50
	65-69	11	6350	1.73	3000	5.20
	70-74	12	4747	2.53	2000	5.06
	75-79	5	2791	1.79	1000	1.79
	80-84	5	1834	2.73	500	1.36
	85+	1	919	1.09	500	0.54
	n.s.	1				
	Total	54	178560		100000	23.86
					Age standardized incidence rate (corrected):	24.31 per 100,000
					Variance:	0.112
					Standard Error:	0.334
				95% confidence limits:	Lower:	23.66
					Upper:	24.97
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	0	13918	0.00	6000	0.00
	40-44	0	14572	0.00	6000	0.00
	45-49	0	13164	0.00	6000	0.00
	50-54	1	9147	0.11	5000	0.55
	55-59	0	9522	0.00	4000	0.00
	60-64	1	8473	0.12	4000	0.47
	65-69	2	7694	0.26	3000	0.78
	70-74	2	5912	0.34	2000	0.68
	75-79	3	3867	0.78	1000	0.78
	80-84	1	2825	0.35	500	0.18
	85+	2	1731	1.16	500	0.58
	n.s.	0				
	Total	12	182709			4.01
					Age standardized incidence rate (corrected):	4.01 per 100,000
					Variance:	0.015
					Standard Error:	0.121
				95% confidence limits:	Lower:	3.77
					Upper:	4.24

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

ALL CANCERS (EXCLUDING SKIN)						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	2	14037	0.14	10000	1.42
	10-14	1	14596	0.07	9000	0.62
	15-19	1	14110	0.07	9000	0.64
	20-24	2	12571	0.16	8000	1.27
	25-29	0	13030	0.00	8000	0.00
	30-34	2	14674	0.14	6000	0.82
	35-39	5	14307	0.35	6000	2.10
	40-44	2	14714	0.14	6000	0.82
	45-49	11	12757	0.86	6000	5.17
	50-54	14	8259	1.70	5000	8.48
	55-59	27	8218	3.29	4000	13.14
	60-64	39	6866	5.68	4000	22.72
	65-69	62	6350	9.76	3000	29.29
	70-74	53	4747	11.16	2000	22.33
	75-79	52	2791	18.63	1000	18.63
	80-84	51	1834	27.81	500	13.90
	85+	28	919	30.47	500	15.23
	Total	352	178560		100000	
				Age standardized mortality rate:		156.58 per 100,000
					Variance:	0.733
					Standard Error:	0.856
				95% confidence limits:	Lower:	154.91
					Upper:	158.26
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	1	13801	0.07	9000	0.65
	15-19	1	13285	0.08	9000	0.68
	20-24	1	11770	0.08	8000	0.68
	25-29	0	12342	0.00	8000	0.00
	30-34	2	14184	0.14	6000	0.85
	35-39	8	13918	0.57	6000	3.45
	40-44	10	14572	0.69	6000	4.12
	45-49	15	13164	1.14	6000	6.84
	50-54	19	9147	2.08	5000	10.39
	55-59	23	9522	2.42	4000	9.66
	60-64	25	8473	2.95	4000	11.80
	65-69	38	7694	4.94	3000	14.82
	70-74	42	5912	7.10	2000	14.21
	75-79	39	3867	10.09	1000	10.09
	80-84	34	2825	12.04	500	6.02
	85+	30	1731	17.33	500	8.67
	Total	288	182709		100000	
				Age standardized mortality rate:		102.90 per 100,000
					Variance:	0.401
					Standard Error:	0.633
				95% confidence limits:	Lower:	101.66
					Upper:	104.14

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

CANCER OF COLON AND RECTUM						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	0	14307	0.00	6000	0.00
	40-44	1	14714	0.07	6000	0.41
	45-49	1	12757	0.08	6000	0.47
	50-54	1	8259	0.12	5000	0.61
	55-59	2	8218	0.24	4000	0.97
	60-64	2	6866	0.29	4000	1.17
	65-69	6	6350	0.94	3000	2.83
	70-74	6	4747	1.26	2000	2.53
	75-79	6	2791	2.15	1000	2.15
	80-84	3	1834	1.64	500	0.82
	85+	3	919	3.26	500	1.63
	Total	31	178560		100000	
				Age standardized mortality rate:		13.58 per 100,000
					Variance:	0.062
					Standard Error:	0.249
				95% confidence limits:	Lower:	13.10
					Upper:	14.07
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	0	13918	0.00	6000	0.00
	40-44	3	14572	0.21	6000	1.24
	45-49	1	13164	0.08	6000	0.46
	50-54	3	9147	0.33	5000	1.64
	55-59	3	9522	0.32	4000	1.26
	60-64	0	8473	0.00	4000	0.00
	65-69	6	7694	0.78	3000	2.34
	70-74	4	5912	0.68	2000	1.35
	75-79	5	3867	1.29	1000	1.29
	80-84	3	2825	1.06	500	0.53
	85+	8	1731	4.62	500	2.31
	Total	36	182709			
				Age standardized mortality rate:		12.42 per 100,000
					Variance:	0.046
					Standard Error:	0.215
				95% confidence limits:	Lower:	12.00
					Upper:	12.84

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

CANCER OF THE LUNG						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	0	14307	0.00	6000	0.00
	40-44	0	14714	0.00	6000	0.00
	45-49	1	12757	0.08	6000	0.47
	50-54	6	8259	0.73	5000	3.63
	55-59	11	8218	1.34	4000	5.35
	60-64	19	6866	2.77	4000	11.07
	65-69	23	6350	3.62	3000	10.87
	70-74	9	4747	1.90	2000	3.79
	75-79	16	2791	5.73	1000	5.73
	80-84	11	1834	6.00	500	3.00
	85+	3	919	3.26	500	1.63
	Total	99	178560		100000	
				Age standardized mortality rate:	45.55	per 100,000
					Variance:	0.220
					Standard Error:	0.469
				95% confidence limits:	Lower:	44.63
					Upper:	46.47
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	1	13918	0.07	6000	0.43
	40-44	0	14572	0.00	6000	0.00
	45-49	0	13164	0.00	6000	0.00
	50-54	0	9147	0.00	5000	0.00
	55-59	1	9522	0.11	4000	0.42
	60-64	3	8473	0.35	4000	1.42
	65-69	1	7694	0.13	3000	0.39
	70-74	2	5912	0.34	2000	0.68
	75-79	2	3867	0.52	1000	0.52
	80-84	3	2825	1.06	500	0.53
	85+	1	1731	0.58	500	0.29
	Total	14	182709			
				Age standardized mortality rate:	4.67	per 100,000
					Variance:	0.017
					Standard Error:	0.131
				95% confidence limits:	Lower:	4.41
					Upper:	4.93

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

CANCER OF THE FEMALE BREAST							
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no	
	0-4	0	13234	0.00	12000	0.00	
	5-9	0	13268	0.00	10000	0.00	
	10-14	0	13801	0.00	9000	0.00	
	15-19	0	13285	0.00	9000	0.00	
	20-24	0	11770	0.00	8000	0.00	
	25-29	0	12342	0.00	8000	0.00	
	30-34	0	14184	0.00	6000	0.00	
	35-39	3	13918	0.22	6000	1.29	
	40-44	2	14572	0.14	6000	0.82	
	45-49	9	13164	0.68	6000	4.10	
	50-54	4	9147	0.44	5000	2.19	
	55-59	8	9522	0.84	4000	3.36	
	60-64	6	8473	0.71	4000	2.83	
	65-69	6	7694	0.78	3000	2.34	
	70-74	12	5912	2.03	2000	4.06	
	75-79	12	3867	3.10	1000	3.10	
	80-84	2	2825	0.71	500	0.35	
	85+	10	1731	5.78	500	2.89	
	Total	74	182709				
				Age standardized mortality rate:		27.34	per 100,000
					Variance:	0.107	
					Standard Error:	0.327	
				95% confidence limits:		Lower:	26.70
						Upper:	27.98
CANCER OF THE CERVIX							
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no	
	0-4	0	13234	0.00	12000	0.00	
	5-9	0	13268	0.00	10000	0.00	
	10-14	0	13801	0.00	9000	0.00	
	15-19	0	13285	0.00	9000	0.00	
	20-24	0	11770	0.00	8000	0.00	
	25-29	0	12342	0.00	8000	0.00	
	30-34	1	14184	0.07	6000	0.42	
	35-39	0	13918	0.00	6000	0.00	
	40-44	1	14572	0.07	6000	0.41	
	45-49	0	13164	0.00	6000	0.00	
	50-54	1	9147	0.11	5000	0.55	
	55-59	0	9522	0.00	4000	0.00	
	60-64	0	8473	0.00	4000	0.00	
	65-69	0	7694	0.00	3000	0.00	
	70-74	0	5912	0.00	2000	0.00	
	75-79	0	3867	0.00	1000	0.00	
	80-84	0	2825	0.00	500	0.00	
	85+	0	1731	0.00	500	0.00	
	Total	3	182709				
				Age standardized mortality rate:		1.38	per 100,000
					Variance:	0.006	
					Standard Error:	0.080	
				95% confidence limits:		Lower:	1.22
						Upper:	1.54

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

CANCER OF THE BODY OF UTERUS						
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	0	13918	0.00	6000	0.00
	40-44	0	14572	0.00	6000	0.00
	45-49	1	13164	0.08	6000	0.46
	50-54	1	9147	0.11	5000	0.55
	55-59	1	9522	0.11	4000	0.42
	60-64	1	8473	0.12	4000	0.47
	65-69	2	7694	0.26	3000	0.78
	70-74	2	5912	0.34	2000	0.68
	75-79	1	3867	0.26	1000	0.26
	80-84	3	2825	1.06	500	0.53
	85+	1	1731	0.58	500	0.29
	Total	13	182709			
					Age standardized mortality rate:	4.43 per 100,000
					Variance:	0.017
					Standard Error:	0.130
				95% confidence limits:	Lower:	4.18
					Upper:	4.68
CANCER OF THE PROSTATE						
	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	0	14307	0.00	6000	0.00
	40-44	0	14714	0.00	6000	0.00
	45-49	0	12757	0.00	6000	0.00
	50-54	0	8259	0.00	5000	0.00
	55-59	0	8218	0.00	4000	0.00
	60-64	3	6866	0.44	4000	1.75
	65-69	2	6350	0.31	3000	0.94
	70-74	8	4747	1.69	2000	3.37
	75-79	7	2791	2.51	1000	2.51
	80-84	6	1834	3.27	500	1.64
	85+	10	919	10.88	500	5.44
	Total	36	178560		100000	
					Age standardized mortality rate:	15.65 per 100,000
					Variance:	0.072
					Standard Error:	0.268
				95% confidence limits:	Lower:	15.12
					Upper:	16.17

AGE-STANDARDIZED CANCER MORTALITY RATES FOR MALTA, 1992

CANCER OF THE BLADDER						
MALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13780	0.00	12000	0.00
	5-9	0	14037	0.00	10000	0.00
	10-14	0	14596	0.00	9000	0.00
	15-19	0	14110	0.00	9000	0.00
	20-24	0	12571	0.00	8000	0.00
	25-29	0	13030	0.00	8000	0.00
	30-34	0	14674	0.00	6000	0.00
	35-39	1	14307	0.07	6000	0.42
	40-44	0	14714	0.00	6000	0.00
	45-49	0	12757	0.00	6000	0.00
	50-54	0	8259	0.00	5000	0.00
	55-59	1	8218	0.12	4000	0.49
	60-64	2	6866	0.29	4000	1.17
	65-69	3	6350	0.47	3000	1.42
	70-74	5	4747	1.05	2000	2.11
	75-79	2	2791	0.72	1000	0.72
	80-84	10	1834	5.45	500	2.73
	85+	2	919	2.18	500	1.09
	Total	26	178560		100000	
				Age standardized mortality rate:	10.13	per 100,000
					Variance:	0.042
					Standard Error:	0.206
				95% confidence limits:	Lower:	9.72
					Upper:	10.53
FEMALES	Age grp	Obs no	Popn	A Sp Rate	WSP	Estim no
	0-4	0	13234	0.00	12000	0.00
	5-9	0	13268	0.00	10000	0.00
	10-14	0	13801	0.00	9000	0.00
	15-19	0	13285	0.00	9000	0.00
	20-24	0	11770	0.00	8000	0.00
	25-29	0	12342	0.00	8000	0.00
	30-34	0	14184	0.00	6000	0.00
	35-39	0	13918	0.00	6000	0.00
	40-44	0	14572	0.00	6000	0.00
	45-49	0	13164	0.00	6000	0.00
	50-54	0	9147	0.00	5000	0.00
	55-59	0	9522	0.00	4000	0.00
	60-64	0	8473	0.00	4000	0.00
	65-69	2	7694	0.26	3000	0.78
	70-74	1	5912	0.17	2000	0.34
	75-79	0	3867	0.00	1000	0.00
	80-84	2	2825	0.71	500	0.35
	85+	1	1731	0.58	500	0.29
	Total	6	182709			
				Age standardized mortality rate:	1.76	per 100,000
					Variance:	0.006
					Standard Error:	0.075
				95% confidence limits:	Lower:	1.61
					Upper:	1.91

Cancer cases and deaths: MALTA (1992) vs E.C. (1990)

ALL CANCERS (excluding skin)

	Males		Females	
	ASR (Cases)	ASR (Deaths)	ASR (Cases)	ASR (Deaths)
Belgium	310.1	218.5	237.3	122.0
Denmark	288.0	189.8	269.0	149.2
France	310.8	211.6	207.9	100.1
Germany	283.4	188.5	234.0	120.3
Greece	230.8	150.9	174.1	82.7
Ireland	256.7	176.8	240.3	133.4
Italy	275.6	198.7	203.6	106.8
Luxembourg	306.6	213.0	233.2	120.2
MALTA	203.8	156.6	202.4	102.9
Netherlands	290.8	202.5	234.8	120.2
Portugal	228.8	145.7	184.4	89.7
Spain	247.7	166.1	177.2	85.6
United Kingdom	251.8	187.9	210.8	136.8
European Community	274.4	190.9	209.3	111.6

CANCER of the COLON and RECTUM

	Males		Females	
	ASR (Cases)	ASR (Deaths)	ASR (Cases)	ASR (Deaths)
Belgium	36.9	20.7	31.2	16.9
Denmark	39.2	23.9	32.6	19.7
France	35.1	18.9	26.2	12.7
Germany	39.4	22.8	32.0	17.9
Greece	18.2	7.2	15.8	6.1
Ireland	35.5	24.3	27.5	17.4
Italy	29.4	16.4	22.6	11.5
Luxembourg	41.8	25.1	28.4	14.5
MALTA	19.7	13.6	19.8	12.4
Netherlands	35.0	18.7	29.3	15.3
Portugal	29.0	15.7	21.9	10.8
Spain	25.9	13.2	20.9	10.0
United Kingdom	32.2	21.1	24.9	15.9
European Community	32.2	18.3	25.5	13.7

Cancer cases and deaths: MALTA (1992) vs E.C. (1990)

CANCER OF THE LUNG

	Males		Females	
	ASR (Cases)	ASR (Deaths)	ASR (Cases)	ASR (Deaths)
Belgium	82.6	81.1	8.7	7.3
Denmark	59.6	54.4	23.1	23.0
France	53.2	48.0	6.7	5.4
Germany	54.5	50.1	9.2	7.8
Greece	54.3	50.6	8.0	6.9
Ireland	58.6	48.8	21.8	19.0
Italy	62.8	59.9	8.7	7.6
Luxembourg	70.4	67.6	10.1	8.8
MALTA	43.5	45.5	2.6	4.7
Netherlands	74.6	73.5	12.0	10.4
Portugal	30.3	25.7	5.5	4.4
Spain	47.5	43.4	4.8	3.8
United Kingdom	69.3	60.7	21.6	21.4
European Community	59.3	54.5	10.8	9.8

CANCER of the FEMALE BREAST

	ASR (Cases)	ASR (Deaths)
Belgium	71.9	27.6
Denmark	71.6	29.5
France	61.5	21.2
Germany	64.9	23.1
Greece	46.3	16.0
Ireland	66.0	29.0
Italy	54.4	21.7
Luxembourg	72.5	28.0
MALTA	79.8	27.3
Netherlands	72.8	28.6
Portugal	49.5	17.6
Spain	47.9	16.9
United Kingdom	58.0	30.5
European Community	58.5	23.3

Cancer cases and deaths: MALTA (1992) vs E.C. (1990)

CANCER of the CERVIX

	ASR (Cases)	ASR (Deaths)
Belgium	9.7	4.6
Denmark	16.6	5.5
France	9.7	4.2
Germany	10.9	4.9
Greece	9.4	3.8
Ireland	9.8	3.8
Italy	8.7	3.6
Luxembourg	7.9	3.1
MALTA	6.7	1.4
Netherlands	7.5	2.9
Portugal	11.5	5.2
Spain	8.5	3.3
United Kingdom	12.3	5.2
European Community	10.1	4.3

CANCER of the BODY of the UTERUS

	ASR (Cases)	ASR (Deaths)
Belgium	12.4	2.7
Denmark	15	3.7
France	10.3	2.1
Germany	11.2	2.5
Greece	5.8	0.9
Ireland	9.7	2.4
Italy	9.6	2.9
Luxembourg	15.2	5.5
MALTA	18.4	4.4
Netherlands	11.2	2.5
Portugal	8.9	2.2
Spain	9.3	2.5
United Kingdom	8	2.1
European Community	9.7	2.4

Cancer cases and deaths: MALTA (1992) vs E.C. (1990)

CANCER of the PROSTATE

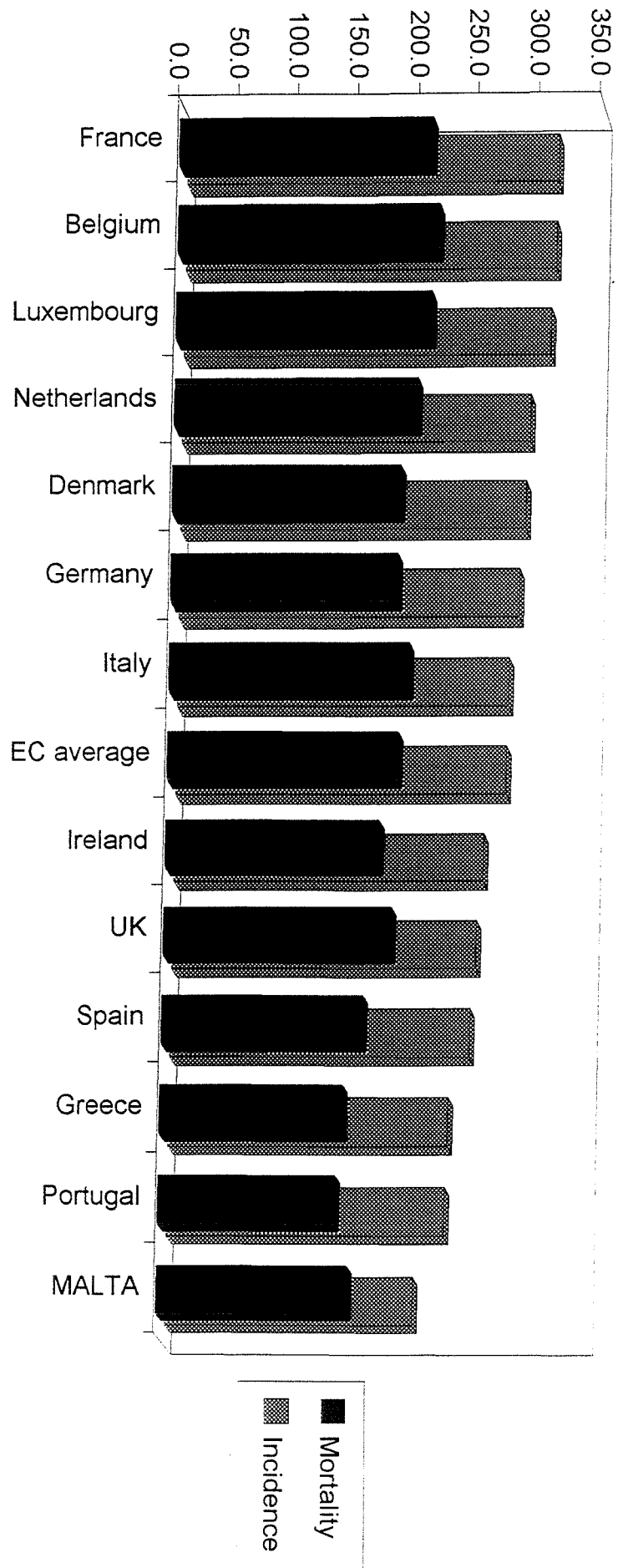
	ASR (Cases)	ASR (Deaths)
Belgium	39.1	19.6
Denmark	32.2	20.3
France	40	20.4
Germany	37.6	18.5
Greece	15.2	9.4
Ireland	34.9	18.6
Italy	18.5	12.8
Luxembourg	38.3	19.2
MALTA	16.2	15.6
Netherlands	39.4	19.7
Portugal	20.1	14.5
Spain	19.7	14.2
United Kingdom	24.8	17.5
European Community	28.2	16.7

CANCER of the BLADDER

	Males		Females	
	ASR (Cases)	ASR (Deaths)	ASR (Cases)	ASR (Deaths)
Belgium	17	8.9	3.8	2.3
Denmark	27.1	10.3	7.1	2.8
France	15.9	7.3	3.2	1.6
Germany	15.7	7.6	3.6	2
Greece	19.8	7.3	3.8	1.3
Ireland	16.1	5	4.2	1.7
Italy	22.3	9.6	4	1.6
Luxembourg	13.9	6.2	3.2	1.5
MALTA	24.3	10.1	4	1.8
Netherlands	15.9	7.8	3.6	2.1
Portugal	17.1	5.1	3.9	1.4
Spain	21.3	8.5	3.9	1.4
United Kingdom	18.7	7.7	5.5	2.6
European Community	18.7	8	4.1	1.9

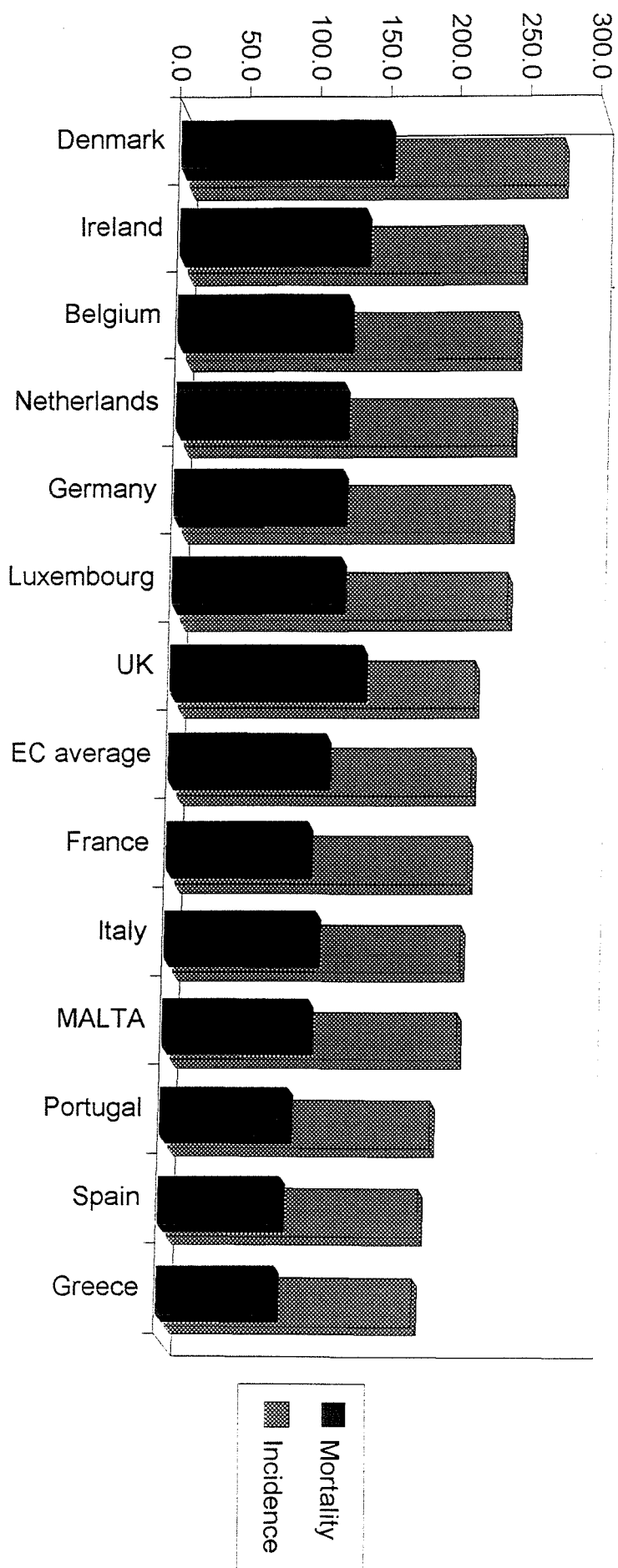
ASR

All cancers - males



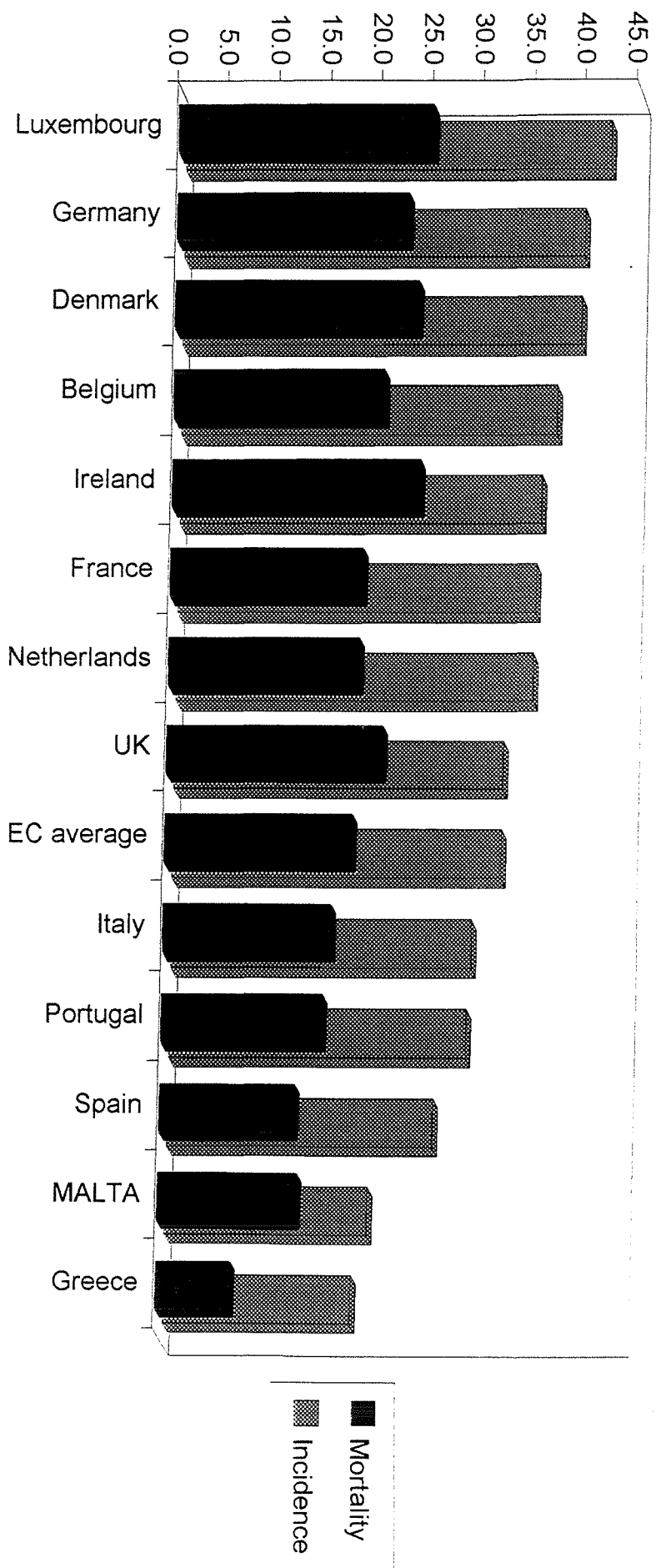
All cancers - females

ASR



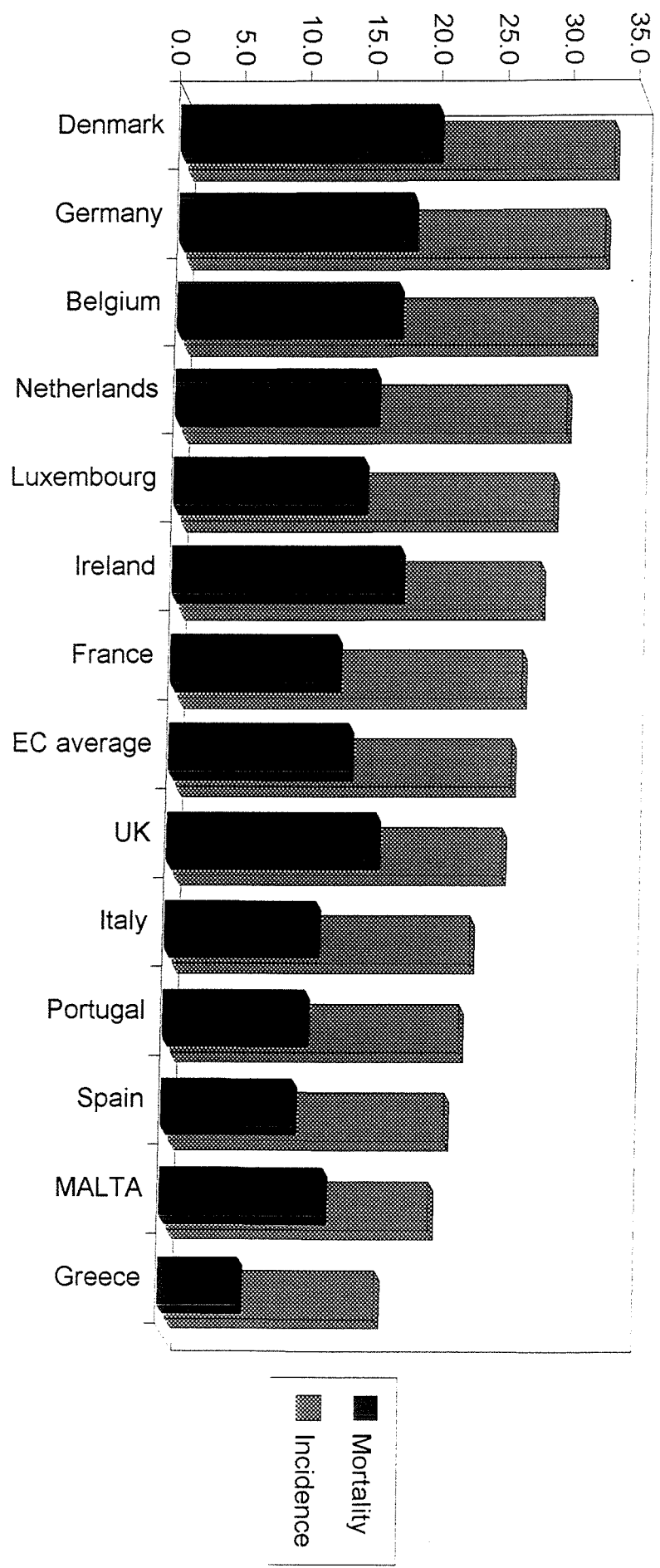
Cancer of the colon and rectum - males

ASR

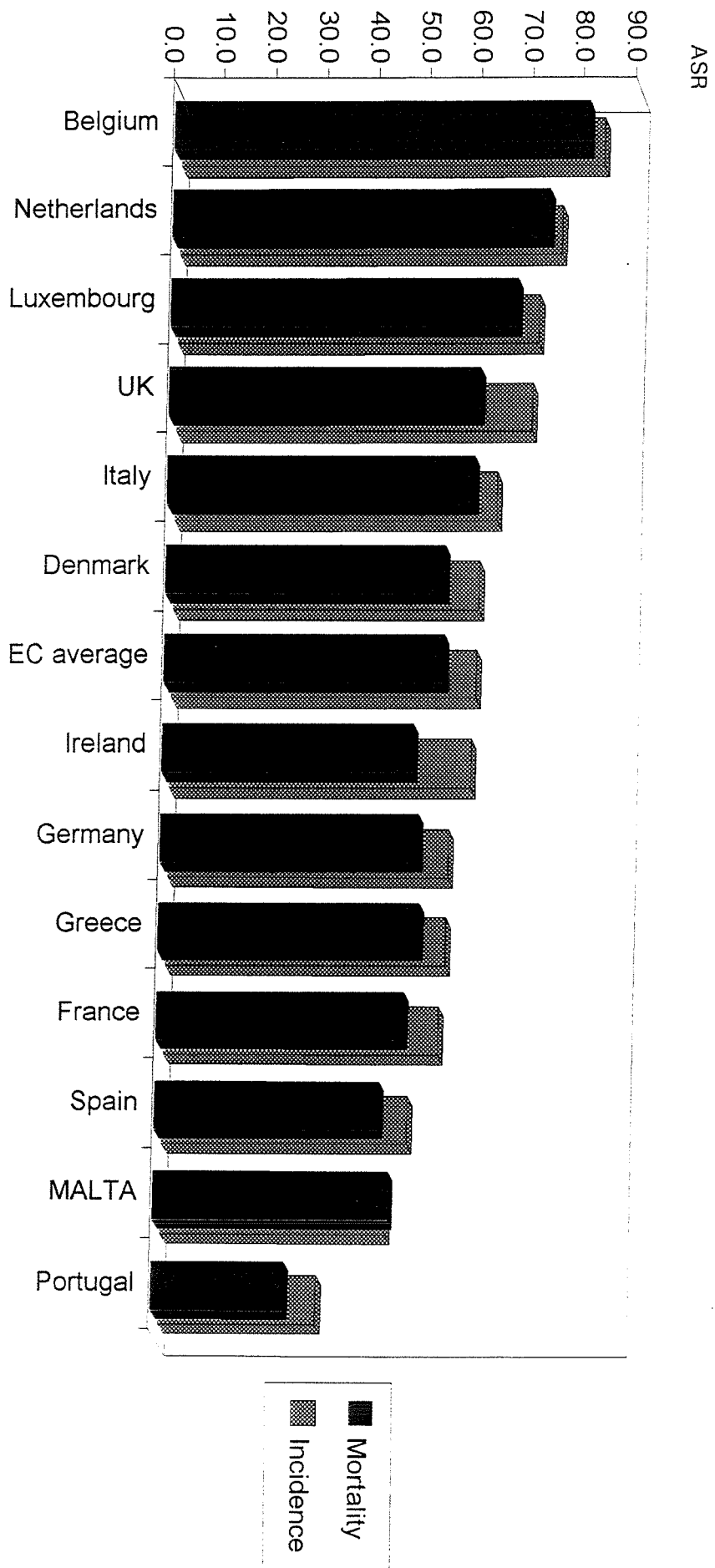


Cancer of the colon and rectum - females

ASR

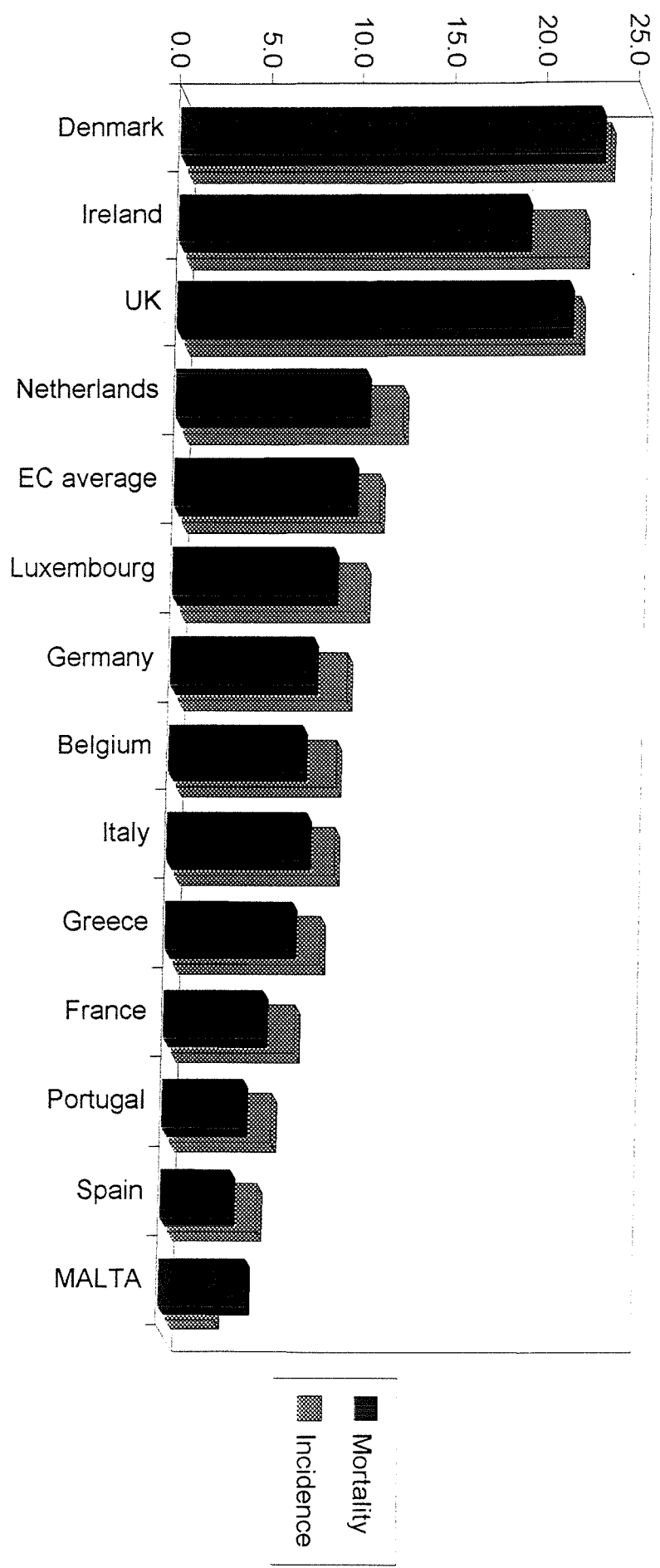


Cancer of the lung - males



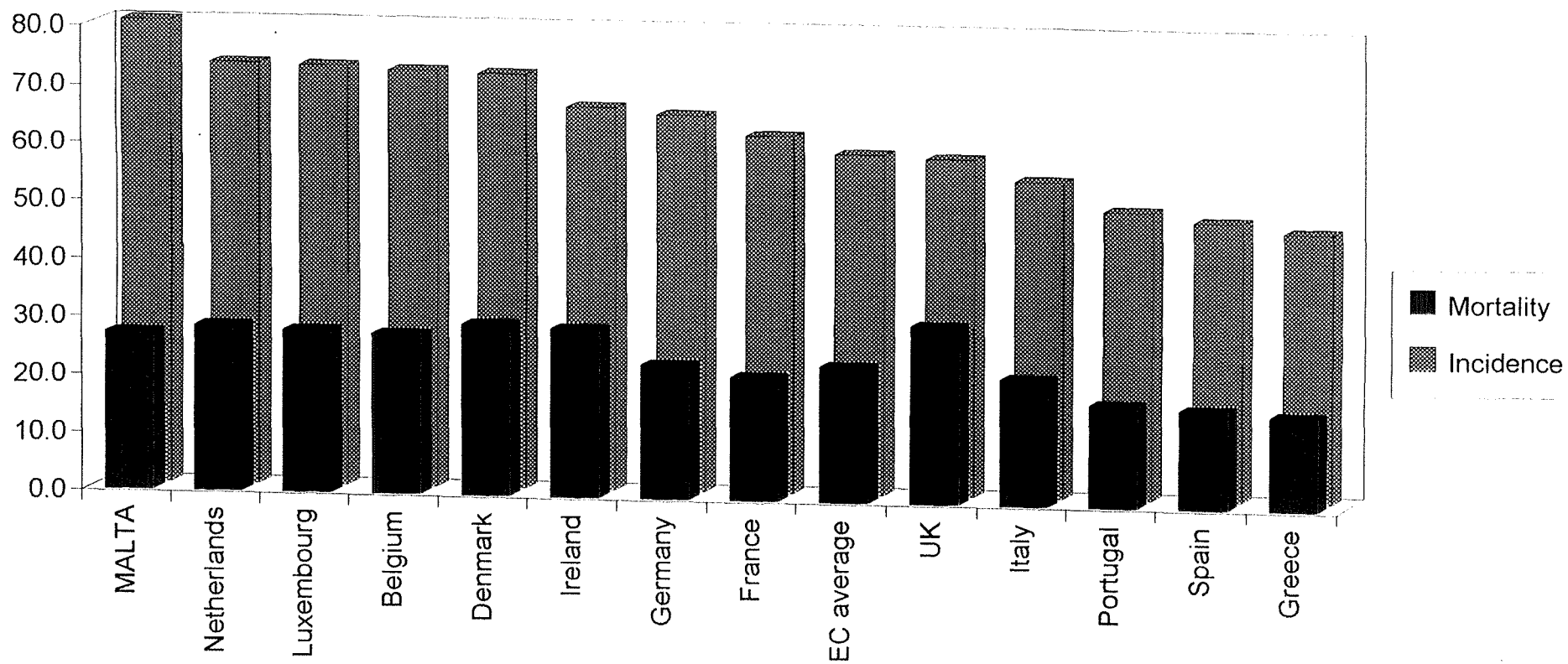
Cancer of the lung - females

ASR



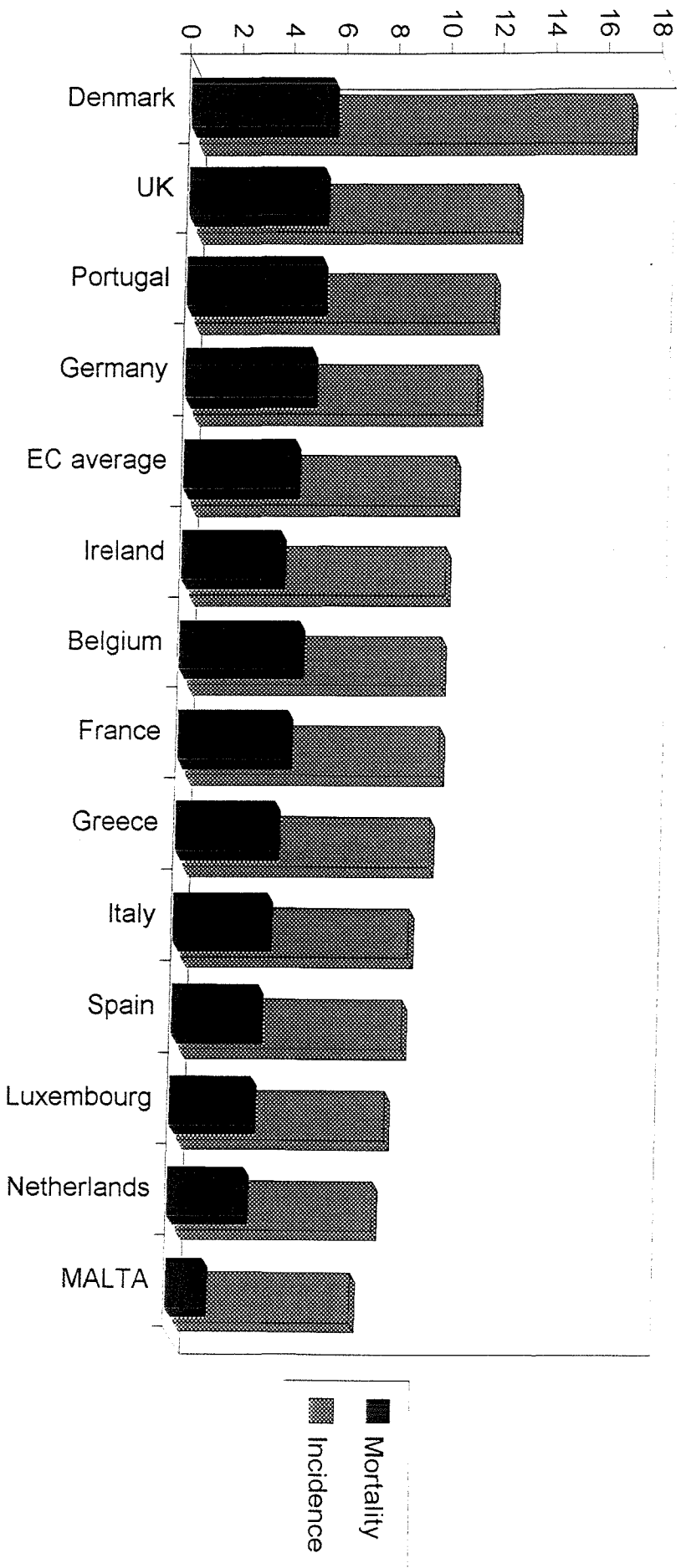
Cancer of the female breast

ASR



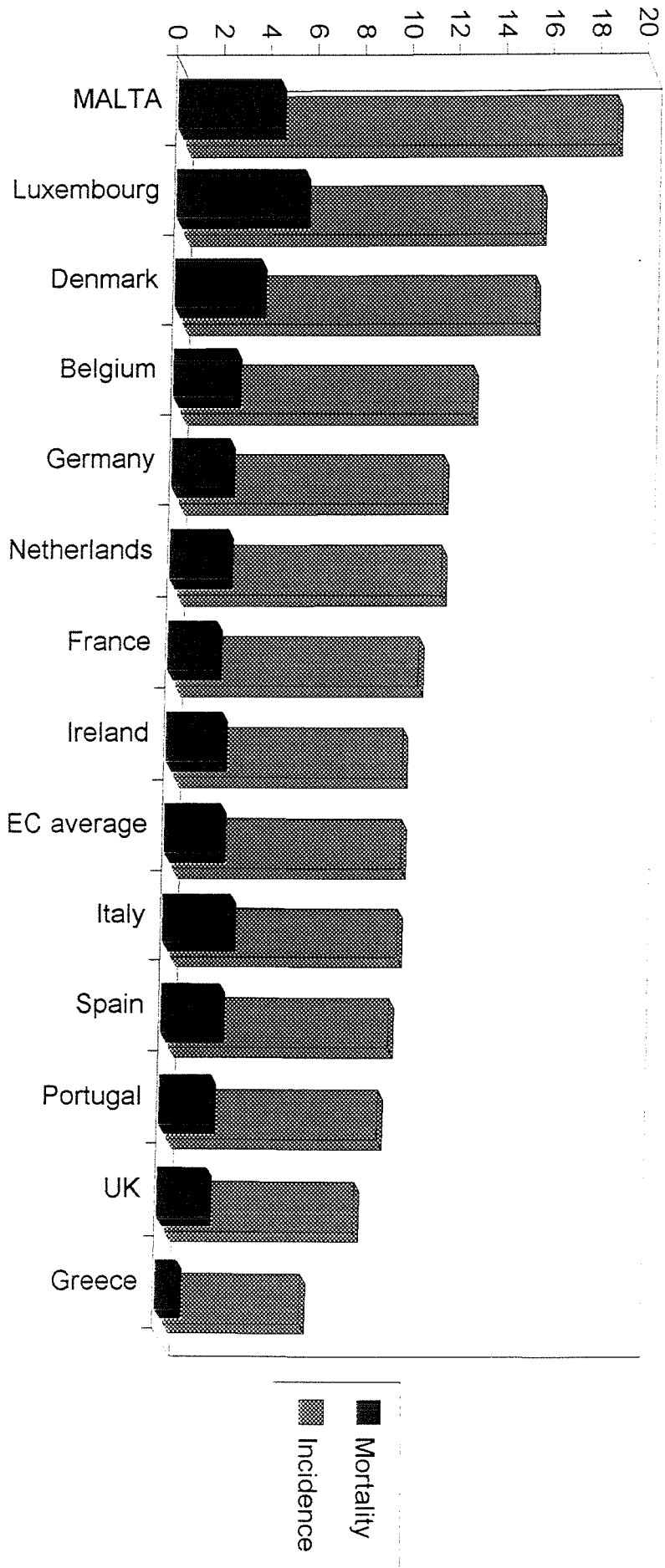
Cancer of the cervix

ASR

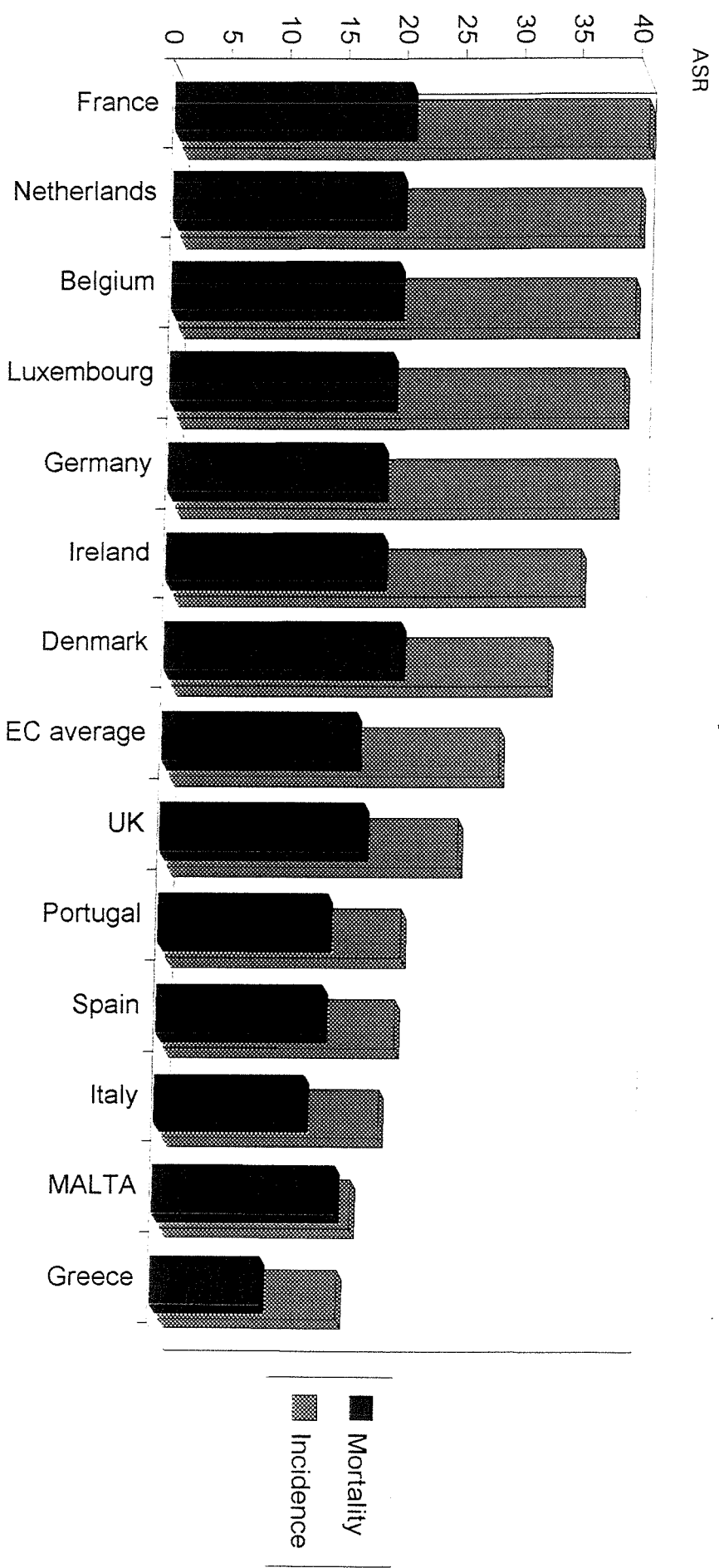


Cancer of the body of the uterus

ASR

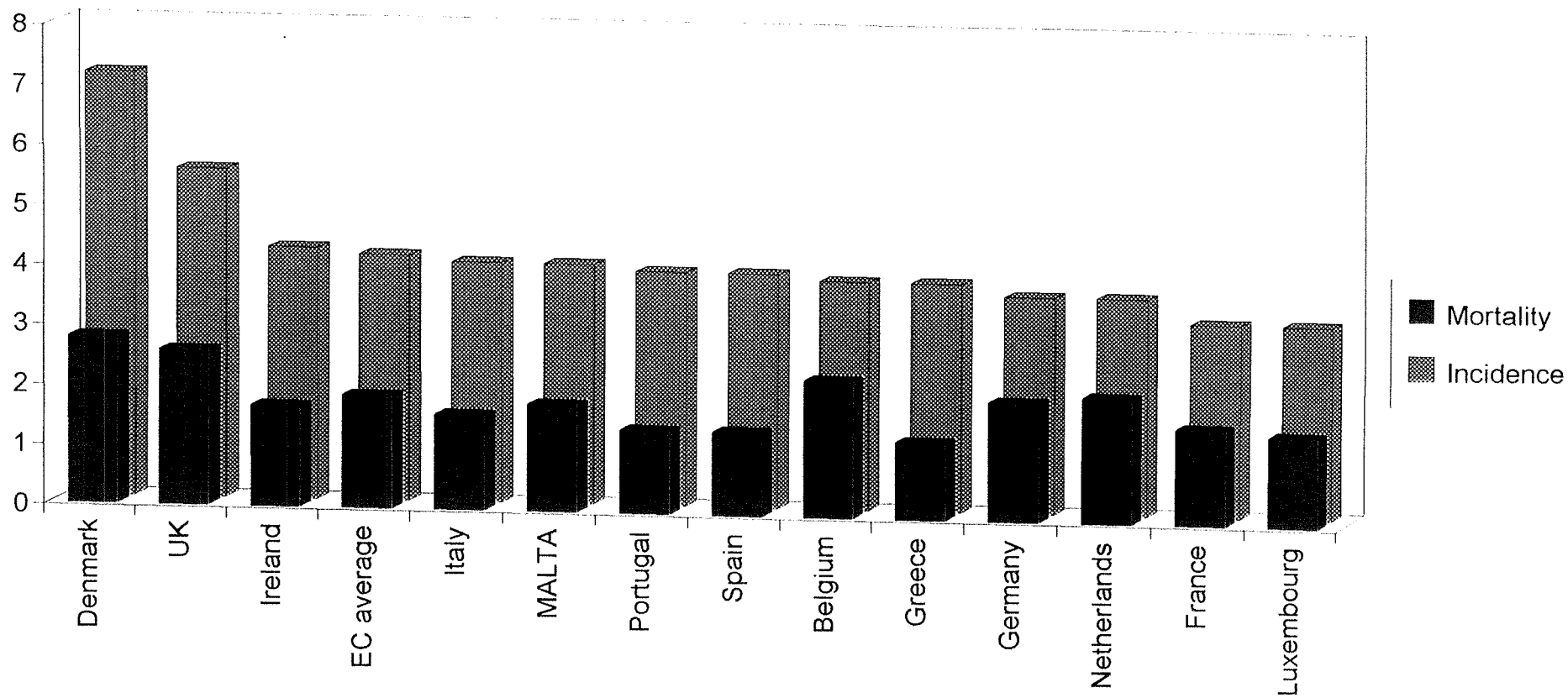


Cancer of the prostate

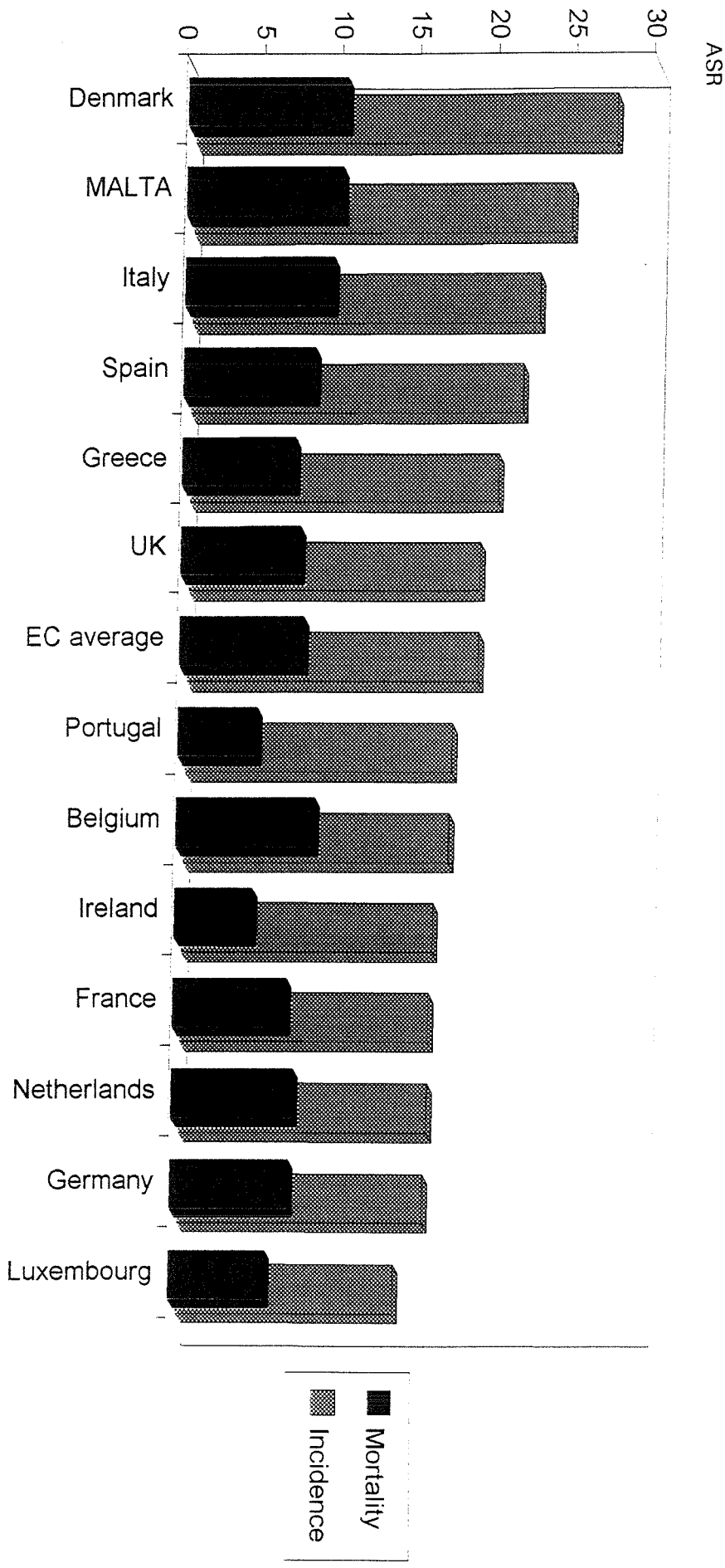


Cancer of the bladder - females

ASR



Cancer of the bladder - males



SECTION 3: SPECIFIC RISK FACTORS FOR SELECTED CANCERS

The following information on known risk factors is being included to help focus discussion on these statistics. This information has been derived from IARC publications and the medical literature and *is not specific to Malta*. However, there is no reason to believe that most of this medical knowledge does not apply in the Maltese situation.

Full explanations of the similarities or differences between Malta and Europe's cancer situation are only possible in the wake of specific epidemiological studies as well as detailed evaluations of diagnostic and therapeutic procedures and of cancer registration techniques.

Cancer of the colon and rectum

Diet and energy intake: It has been fairly consistently found that energy intake is higher in cases of colorectal cancer than in control groups. This effect does not appear to be merely the result of over-eating, and may reflect differences in metabolic efficiency. Thus individuals who utilize energy more efficiently may be at a lower risk. Intake of dietary fat has been found to be positively related to colorectal cancer risk in studies of all types. Studies have found a protective effect of fibre from vegetable and, perhaps, fruit sources, but not of fibre from cereals. Coffee consumption appears to have a protective effect.

Physical activity: Recent studies suggest that physical activity reduces colorectal cancer risk.

Cancer of the lung

Smoking: The overwhelming role of tobacco smoking in the causation of lung cancer has been repeatedly demonstrated over the past fifty years. Current lung cancer rates do not necessarily reflect current smoking patterns, since there is an interval of several decades between a change in smoking habits in a population and its consequences on lung cancer rates.

A proportion of lung cancers may be due to exposures at work, and a small proportion to atmospheric pollution. There are, however, good reasons to believe that the effect of atmospheric pollution in increasing lung cancer risk is chiefly confined to smokers.

Cancer of the female breast

Parity: The risk of breast cancer is increased by around 50% in nulliparous compared to parous women.

Age at first birth: Risk increases with increasing age at first birth until a first birth occurring after the age of around 35 years carries a higher risk than nulliparity, indicating that first childbirth after this age no longer confers protection against breast cancer. It has been estimated that a 3.5% increase in relative risk is associated with every year of increase in age at first birth.

Breast-feeding: There is a reduction in the risk of premenopausal breast cancer among women who have lactated. Lactation at early ages and for long periods was associated with more substantial risk reduction (*New England Journal of Medicine*, 13 Jan 1994).

Age at menopause: Risk is increased by a late age at menopause.

Genetics: A positive family history has the effect of increasing the risk of breast cancer, with the maximum effect apparent in premenopausal women who have a first-degree relative with breast cancer at premenopausal ages.

Use of oral contraceptives: The use of oral contraceptives for over five years by 'young' women (less than 35 and perhaps less than 45) has been associated with increased risk, but the issue remains controversial. There appears to be no evidence to date that use of oral contraceptives influences the risk of breast cancer at the older ages at which the disease is commoner.

Hormone replacement therapy: The risk for breast cancer is elevated by 30 to 50% among long-term (i.e. 5-10 year) users of unopposed oestrogens as menopausal hormone replacement therapy.

Obesity: The risk of breast cancer appears to rise with increasing body mass index among postmenopausal women.

Diet: Some studies suggest that green vegetable consumption indicates a dietary pattern that is low-risk for breast cancer. There is a suggestion from several case-control studies that a diet rich in fat and protein of animal origin increases the risk for breast cancer.

Alcohol: A number of studies have suggested that alcohol consumption of more than 30g per day is associated with a 1.5- to 2-fold increase in the risk for breast cancer.

Cancer of the cervix

The main cause of cancer of the cervix is infection of the cervix with human papilloma virus (HPV) particularly types 16 and 18. This infection is acquired most commonly by sexual intercourse, thus explaining the association which has been observed with number of sexual partners and age at first intercourse. In the presence of HPV infection, oral contraceptives may further increase the risk of cancer of the cervix.

Cancer of the body of the uterus

Hormones and obesity: Cancer of the body of the uterus is related to anovularity, obesity and replacement therapy with unopposed oestrogens at the menopause. Other determinants of endometrial cancer include nulliparity, late menopause and perhaps early menarche, diabetes and hypertension, but these risk factors may partly be mediated through a mutual association with overweight.

Oral contraceptives: The use of combined oral contraceptives considerably decreases the risk of the disease, giving approximately 50% protection in women who have ever used them, and the risk appears inversely related to duration of use.

Diet: There are positive dietary correlations with consumption of meat, eggs, milk, proteins, fats and oils and total calorie intake, while green vegetables may be protective.

Cancer of the prostate

The aetiology of this cancer remains obscure. Sexual factors have been proposed as important. Dietary factors may also be associated with increased risk, especially high fat and protein consumption.

Cancer of the bladder

Smoking: The evidence for an association of bladder cancer with cigarette smoking is overwhelming.

Several other factors have been related to cancer of the urinary bladder, including occupational exposure to aromatic amines and to coal tar, infection with *Schistosoma haematobium* and some other agents (particularly in North Africa), and use of some drugs such as chlornaphazine and cyclophosphamide.

Diet: A number of studies have reported increased risks associated with coffee consumption. There is some evidence that a diet rich in fresh fruit and vegetables is protective.

References for information on risk factors

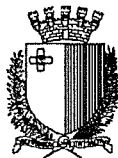
1. IARC. Cancer: Causes, Occurrence and Control. IARC Scientific Publications No 100. 1990
2. IARC: Atlas of Cancer Mortality in the EEC. IARC Scientific Publications No 107. 1992
3. IARC: Facts and Figures of Cancer in the European Community. 1993

SECTION 4: THE TEN-POINT CODE AGAINST CANCER

1. Do not smoke
2. Moderate your consumption of alcoholic drinks
3. Avoid excessive exposure to the sun
4. Follow health and safety instructions
5. Eat fresh fruits and vegetables frequently
6. Avoid becoming overweight
7. See a doctor if you notice a lump, or a change in a mole, or abnormal bleeding
8. See a doctor if you have a persistent problem, such as unexplained weight loss
9. Have a cervical smear regularly
10. Check your breasts regularly

(Abridged from 1988 EEC material, as reproduced in IARC Scientific Publication No 107; points 1 to 6 concern prevention; points 7 to 10 concern early detection)

**DIPARTIMENT TA'
L-INFORMAZZJONI FUQ IS-SAHHA**



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3 June, 1994.

Dr. J.L. Grech
Department of Pathology
St. Luke's Hospital
G'Mangia

Dear Dr. Grech

Enclosed is a report of a recent study carried out at the Department of Health Information, whereby the incidence and mortality of certain cancers was compared to that of other E.C. countries.

Several interesting facts were noted, as apparent from the report. Further study is still being carried out and it is hoped that a more comprehensive report will be issued in the near future.

If further information is required, please do not hesitate to contact the Department.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'HGatt', written over a horizontal line.

Dr. Miriam Gatt
Medical Officer
Department of Health Information.