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Kravdal, O.

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Table 1. Estimates (with 95% confidence intervals) of differentials in "normal" mortality

and excess mortality from colorectal cancer among Norwegian men, according to register and

census data for 1960-1991

		Number of deaths	Estin	nates
"Nor	mal" mortality			
CONST	TANT		0.0025	leaths per person per month
EDUC	ATIONAL LEVEL			
	7 -9 years ^a	282421	1	
	10-12 years	80673	0.86*	(0.85-0.86)
	13-16	17114	0.75*	(0.74-0.77)
	17-	6521	0.64*	(0.62-0.66)
AGE				
AGE	50-54	22402	0 24*	(0.23-0.24)
	55-59	35849	0.39*	(0.38-0.39)
	60-64	54194	0.63*	(0.62-0.63)
	65-69ª	75718	1	· /
	70-74	94996	1.60*	(1.59-1.62)
	75-79	103570	2.53*	(2.51-2.55)
DEDIO	D			
PERIO	1060 608	111560	1	
	1900-09	111309	1 03*	(1.02, 1.03)
	1970-79	66898	0.99*	(1.02 - 1.03) (0.98 - 1.00)
	1986-91	77742	0.95*	(0.94-0.96)
<u>Exce</u>	ess mortality			
CONST	TANT		0.0051	deaths pr. person pr. month ^b
EDUC	ATIONAL LEVEI			
LDUC	7 -9 vears ^a	7089	1	
	10-12 years	2555	0.95*	(0.90-1.00)
	13-16	665	0.87*	(0.80-0.96)
	17-	292	0.83*	(0.73-0.95)
AGE	50.54		0.67	(0.04.1.05)
	50-54	539	0.95	(0.86-1.05)
	55-59 60 64	921	0.93	(0.86-1.01)
	0U-04 65 60ª	1496	0.96	(0.89-1.03)
	70-74	2194	1 1 00*	(1.02-1.16)
	75-79	2000	1.19*	(1.11-1.27)
		2171)	(
PERIO	D			
	1960-69 ^a	2284	1	
	1970-79	3376	0.80*	(0.75-0.85)
	1980-85	2161	0.65*	(0.61-0.70)
	1986-91	2780	0.65*	(0.60-0.69)
SUR-C	ITF			
500-5	caecum, ascendence ^a	1789	1	
	transverse, descendence	1412	1.09*	(1.01-1.18)
	sigmoideum	2839	1.03	(0.96-1.10)
	rectum	4561	1.27*	(1.19-1.35)

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(Table 1 continued from previous page)

STAGE				
	local ^a	2630	1	
	regional	3735	2.42*	(2.26-2.59)
	distant	4080	12.61*	(11.82-13.44)
	unknown	156	5.24*	(4-39-6.28)
HISTOL	OGICAL TYPE/GRADE	270	1	
	adenocarc., well differentiated."	3/9	1 20*	(1.05, 1.20)
	adenocarc., moderately diff.	1911	1.20*	(1.05 - 1.39)
	(adeno)carc., poorly diff.	830	2.3/*	(2.04-2.75)
	other	/481	1.50*	(1.31-1./1)

^a Arbitrarily chosen reference category
 ^b This excess mortality, which is experienced for men in the reference categories, corresponds to a 5-year relative survival of 74%

Table 2. Estimates (with 95% confidence intervals) of educational differentials in excess mortality from cancer among Norwegian men and women, by cancer site, according to register and census data for 1960-1991^a

		WO	MEN		MEN	1		
		Num of de	lber eaths		Number of deaths			
Edu leve	Educational level		Estimates			Estimates		
STOMACH ^b	7- 9 10-12 13-	5361 1079 135	1 1.00 0.96	(0.93-1.07) (0.80-1.14)	8809 2113 408 128	1 0.95* 0.94 0.85	(0.90-0.99) (0.84-1.04) (0.71-1.03)	
COLON / RECTUM ^c	7- 9 10-12 13-16 17-	6923 1871 328 24	1 0.87* 0.92 0.65*	(0.82-0.92) (0.82-1.04) (0.42-1.00)	7089 2555 665 292	1 0.95* 0.87* 0.83*	(0.90-1.00) (0.80-0.96) (0.73-0.95)	
PANCREAS ^d	7- 9 10-12 13-	2597 707 119	1 1.04 0.78*	(0.95-1.13) (0.65-0.95)	3105 1029 256 85	1 0.93* 0.80* 1.04	(0.87-1.00) (0.71-0.92) (0.83-1.30)	
LUNG ^e	7- 9 10-12 13-	2798 961 185	1 1.04 1.15	(0.96-1.12) (0.99-1.34)	11252 3635 705 254	1 0.93* 0.87* 0.82*	(0.89-0.97) (0.81-0.94) (0.72-0.93)	
BREAST	7-9 10-12 13-16 17-	8170 2721 514 34	1 0.91* 0.76*' 0.77	(0.86-0.96) (0.69-0.84) (0.52-1.12)				
CERVIX ^g	7-9 10-12 13-	2650 624 89	1 1.05 0.91	(0.95-1.16) (0.72-1.14)				
CORPUS UTERI ^h	7- 9 10-12 13-	1766 507 95	1 0.96 0.89	(0.95-1.08) (0.69-1.13)				
OVARIES ⁱ	7- 9 10-12 13-	4540 1538 298	1 1.00 0.91	(0.93-1.06) (0.81-1.03)				
PROSTATE	7- 9 10-12 13-16 17-				9310 3054 693 314	1 0.90* 0.96 0.66*	(0.85-0.95) (0.87-1.06) (0.56-0.76)	
BLADDER ^k	7-9 10-12 13-16 17-	1176 252 47	1 0.82* 0.73	(0.70-0.96) (0.52-1.04)	3018 1094 215 91	1 0.88* 0.79* 0.58*	(0.80-0.97) (0.66-0.94) (0.43-0.78)	

(continued on next page)

(Table2 continued from previous page)

MALIGNANT							
MELANOMA ¹	7-9	606	1		895	1	
	10-12	298	1.01	(0.85-1.20)	487	0.72*	(0.63-0.83)
	13-16	71	0.77	(0.56 - 1.05)	153	0.58*	(0.47 - 0.72)
	17-				63	0.60*	(0.44-0.83)
LEUKEMIA ^m	7-9	2518	1		3091	1	
	10-12	773	0.94	(0.86-1.02)	1093	0.90*	(0.83-0.97)
	13-16	121	0.84	(0.69 - 1.02)	261	0.81*	(0.70 - 0.93)
	17-				117	0.72*	(0.59 - 0.88)

- a The models also included age, period, sub-site, stage, and histological type/grade (the latter three only in the excess mortality term).
- b The sub-site control variable had 4 categories: i) pars pylorica, canalis, angulus, antrum, corpus, ii) previously recessed due to benignant ulcer, iii) several locations, and not specified, iv) all other. The histologic control variable had 4 categories: i) well differentiated adenocarcinoma, ii) moderately well differentiated adenocarcinoma, iii) poorly differentiated adenocarcinoma, iv) all other
- c The sub-site control variable had 4 categories: i) caecum and colon ascendence, ii) colon transversum and colon descendence,
 iii) sigmoideum, iv) rectum. The few other colon subsites and the anal channel were excluded. The histologic control variable had 4 categories:
 i) well differentiated adenocarcinoma, ii) moderately well differentiated adenocarcinoma, iii) poorly differentiated adenocarcinoma, iv) all other
- d The sub-site control variable had 3 categories: i) caput (head), ii) pancreas not specified, iii) all other. The histologic control variable had 4 categories: i) well differentiated adenocarcinoma, ii) moderately well differentiated adenocarcinoma, iii) poorly differentiated adenocarcinoma, iv) all other
- e Two histologic control variables were included. One of them was grade: i) well differentiated, ii) moderately well differentiated, iii) poorly differentiated, iv) all other. The other was type: i) squamous cell carcinoma, ii) small-cell carcinoma, iii) adenocarcinoma, iv) all other.
- f The histologic control variable had 4 categories, referring only to grade: i) well differentiated, ii) moderately well differentiated, iii) poorly differentiated, iv) all other
- g Two histologic control variables were included. One of them was grade: i) well differentiated, ii) moderately well differentiated, iii) poorly differentiated, iv) all other. The other was type i) adenocarcinoma, ii) squamous cell carcinoma, iii) all other
- h Two histologic control variables were included. One of them was grade: i) well differentiated, ii) moderately well differentiated, iii) poorly differentiated, iv) all other. The other was type i) adenocarcinoma, ii) adenosquamous carcinoma, adenocanthoma, iii) leiomyoma, iv) all other
- i Two histologic control variables were included. One of them was grade: i) well differentiated, ii) moderately well differentiated, iii) poorly differentiated, iv) all other. The other was type i) adenocarcinoma, ii) serous cystadenocarcinoma, ii) mucinoust cystadenoma, iv) all other
- j The histologic control variable had 4 categories: i) well differentiated adenocarcinoma or carcinoma, ii) moderately well differentiated adenocarcinoma or carcinoma, iii) poorly differentiated adenocarcinoma or carcinoma, iv) all other
- k The few cancers in urethra were excluded. The histologic control variable had 4 categories: i) slightly atypical transitional and papillary tumor or (in older classification) well differentiated adenocarcinoma or squamous cell carcinoma, ii) somewhat atypical transitional or papillary tumor or (in older classification) moderately well differentiated adenocarcinoma or squamous cell carcinoma, iii) markedly atypical transitional or papillary tumor or (in older classification) poorly differentiated adenocarcinoma or squamous cell carcinoma, iv) all other
- 1 The sub-site control variable had 4 categories: i) head and neck, ii) body excl. breast, iii) upper-extremeties/lower extremeties except feet, iii) all other. The histologic control variable had 4 categories: i) malignant melanoma with superficial spread, invasive, ii) nodular malignant melanoma, iii) lentigo malignant melanoma, iv) all other
- m The histology/sub-site variable had 7 categories: i) myelomatosis, ii) chronic lymphoctyic leukemia, iii) chronic myelocytic leukemia, iv) acute leukemia/blast leukemia, v) acute lymphocytic leukemia, vi) acute myelocytic leukemia, vii) all other leukemia. No control for stage was included.

Table 3. Estimates (with 95% confidence intervals) of educational and income differentials in

"normal" and excess mortality from colorectal cancer among Norwegian men, according to

register and census data for 1970-1991^a

			=========			
	Number of deaths	Estir mode only	Estimates from model including only education		Estimates from model including education and income	
				meor		
"Normal" mortality						
EDUCATIONAL LEVEL						
7 -9 years ^b	188923	1		1		
10-12 years	66361	0.86*	(0.85 - 0.87)	0.93*	(0.92 - 0.94)	
13-16	13355	0.73*	(0.72-0.74)	0.86*	(0.85-0.88)	
17-	6521	0.64*	(0.62-0.65)	0.80*	(0.78-0.82)	
INCOME (100 NOK 1970-value)						
0 ^b	113334			1		
1-99	34342			0.69*	(0.69-0.70)	
100-199	20299			0.57*	(0.56-0.58)	
200-299	28445			0.53*	(0.52-0.54)	
300-399	40284			0.48*	(0.48 - 0.49)	
400	38456			0.43*	(0.43-0.44)	
ALTERNATIVE INCOME MEASURE	S, STILL WITH C	ONTROL	FOR EDUCATIC)N :		
INCOME - trend effect				0.85*	(0.84-0.85)	
INCOME - trend effect when the				0.91*	(0.91-0.92)	
group with zero income was excluded						
Excess mortality						
EDUCATIONAL LEVEL						
7 -9 years ^b	5237	1		1		
10-12 years	2229	0.99	(0.93-1.05)	1.01	(0.96-1.08)	
13-16	559	0.87*	(0.79-0.96)	0.93	(0.83-1.03)	
17-	292	0.83*	(0735-0952)	0.90	(0.78-1.03)	
INCOME (100 NOK 1970-value)						
0 ^b	2747			1		
1-99	982			0.96	(0.87-1.05)	
100-199	619			0.96	(0.86-1.06)	
200-299	927			0.89*	(0.81-0.98)	
300-399	1396			0.81*	(0.75-0.88)	
400	1646			0.79*	(0.72-0.86)	
ALTERNATIVE INCOME MEASURE	S, STILL WITH C	ONTROL	FOR EDUCATIC)N :		
INCOME - trend effect				0.95*	(0.94-0.97)	
INCOME - trend effect when the				0.95*	(0.93-0.97)	
group with zero income was excluded						

^a Controlled also for age, year, sub-site and stage (the latter two only in the excess mortality term). The men were followed only from 1970. ^b Arbitrarily chosen reference category

Table 5. Estimates (with 95% confidence intervals) of educational and occupational

differentials in "normal" and excess mortality from colorectal cancer among Norwegian men,

according to register and census data for 1960-1991^a

	Number of deaths	Estir	mates
"Normal" mortality			
<u>Homai mortanty</u>			
COMBINED OCCUPATION / EDUCAT	ION		
low education (7-12 years)			
manual (except ¤) ^b	177062	1	
non-manual (except ¤)	60714	0.96*	(0.95-0.97)
¤: hotel and restaurant			
workers, ship officers, de	eck		
and engine-room crew	11956	1.24*	(1.22-1.26)
farmer	43785	0.78*	(0.77-0.79)
fisherman	13089	1.07*	(1.05-1.08)
no occupation recorded	56488	1.36*	(1.35-1.38)
medium education (13-16)			
(largely) manual ^c	1899	0.91*	(0.87-0.95)
non-manual, low level	2560	0.84*	(0.81-0.88)
non-manual, high level,			
(except teacher)	8856	0.75*	(0.74-0.77)

non-manual, nigh level,			
(except teacher)	8856	0.75*	(0.74 - 0.77)
teacher	2853	0.69*	(0.67-0.72)
high education (17 or more)			
teacher	994	0.59*	(0.55-0.63)
physician	846	0.72*	(0.67 - 0.77)
others	4593	0.66*	(0.64 - 0.68)
medium or high education,			
no occupation recorded	1034	1.23*	(1.16-1.31)

Excess mortality

COMBINED OCCUPATION / EDUCATION

Tow education (7-12 years)			
manual (except ¤) ^b	4975	1	
non-manual (except ¤)	1963	0.90*	(0.85 - 0.96)
¤: hotel and restaurant			
workers, ship officers, de	ck		
and engine-room crew	298	0.94	(0.82 - 1.07)
farmer	1146	1.07	(0.99-1.05)
fisherman	250	0.89	(0.77 - 1.04)
no occupation recorded	1012	1.09	(0.99-1.20)
medium education (13-16)			
(largely) manual °	55	0.68*	(0.49-0.93)
non-manual, low level	92	0.92	(0.73 - 1.17)
non-manual, high level,			
(except teacher)	396	0.86*	(0.77 - 0.97)
teacher	94	0.84	(0.67 - 1.06)
high education (17 or more)			
teacher	43	0.98	(0.70 - 1.36)
physician	36	0.76	(0.52-1.13)
other groups	213	0.80^{*}	(0.69-0.94)
medium or high education,			
no occupation recorded	28	1.34	(0.86-2.11)

^aModel included also age, year, sub-site and stage (the latter two only in the excess mortality term).

^b Arbitrarily chosen reference category

^c Included also the following small groups: farmers and fishermen, ship officers (who are usually reckoned as non-manual workers), and hotel and restaurant workers (also usually reckoned as non-manual workers).

Table 4. Estimates of educational and income differentials in excess mortality from cancer

among Norwegian men, by cancer site, according to register and census data for 1970-1991^a

	STO- MACH	COLO- RECTA	PAN- CREAS L	LUNG	PROS- TATE	BLAD- DER	MAL. MEL.	LEUKE- MIA
Model including only education								
EDUCATIONAL LEVEL 7 -9 years ^b 10-12 years 13-16 17-	1 0.94* 0.98 0.92	1 0.99 0.87* 0.83*	1 0.91* 0.75* 1.02	1 0.91* 0.87* 0.82*	1 0.90* 0.95 0.66*	1 0.83* 0.76* 0.61*	1 0.74* 0.60* 0.57*	1 0.90* 0.80* 0.77*
Model including education and inc	<u>ome</u>							
EDUCATIONAL LEVEL 7 -9 years ^b 10-12 years 13-16 17-	1 0.95 1.00 0.94	1 1.01 0.93 0.90	1 0.92* 0.78* 1.06	1 0.93* 0.92 0.88	1 0.92* 0.99 0.71*	1 0.85* 0.82 0.69*	1 0.78* 0.67* 0.65*	1 0.91* 0.81* 0.79*
INCOME (100 NOK 1970-value) 0 ^b 1-99 100-199 200-299 300-399 400	1 0.90* 0.89* 0.89* 0.84* 0.85*	1 0.96 0.96 0.89* 0.81* 0.79*	1 0.99 0.81* 1.00 1.00 0.91	1 0.86* 0.90* 0.91* 0.83* 0.78*	1 0.86* 0.95 0.86* 0.80* 0.80*	1 0.76* 1.00 0.74* 0.79* 0.72*	1 0.59* 1.32 1.15 0.89 0.78	1 0.96 0.82* 0.88 0.88 0.88
INCOME - trend effect INCOME - trend effect when the group with zero income was excluded	0.97* 0.97*	0.95* 0.95*	0.99 1.01	0.96* 0.97*	0.95* 0.97*	0.94* 0.97	0.97 0.98	0.98* 0.98

^a Model included also age, year, sub-site and stage (the latter two only in the excess mortality term). The men were followed only from 1970. ^b Arbitrarily chosen reference category

Table 6. Estimates of educational and occupational differentials in excess mortality from cancer

among Norwegian men, by cancer site, according to register and census data for 1960-1991 ^a

	STO- MACH	COLO- RECTA	PAN- CREAS	LUNG	PROS- TATE	BLAD- DER	MAL. MEL.	LEUKE- MIA
COMBINED OCCUPATION / EDUCATION								
low education (7-12 years)								
manual (except ¤) ^b	1	1	1	1	1	1	1	1
non-manual (except ¤)	0.97	0.90*	1.08*	0.96*	0.93*	0.95	0.76*	0.94
¤: hotel and restaurant								
workers, ship officers, deck								
and engine-room crew	0.95	0.94	1.46*	0.92*	1.03	1.02	1.16	1.02
farmer	1.02	1.07	1.03	1.08*	1.04	1.11	0.98	1.01
fisherman	1.03	0.89	1.29*	0.97	1.01	0.91	0.52	1.10
no occupation recorded	1.12*	1.09	1.04	1.18*	1.16*	1.09	1.12	1.12
medium education (13-16)								
(largely) manual ^c	1.16	0.68*	1.26	1.15	1.19	0.55	0.81	0.94
non-manual, low level	1.07	0.92	1.19	0.95	1.03	1.08	0.53	0.90
non-manual, high level,								
(except teacher)	1.02	0.86^{*}	0.98	0.84*	0.93	0.81	0.65*	0.76*
teacher	0.72*	0.84	0.46*	0.93	1.09	0.91	0.77	0.84
high education (17 or more)								
teacher	0.63	0.98	0.53*	0.90	0.87	0.60	(0.84)	0.96
physician	0.83	0.76	1.29	0.73	0.46*	0.49	(0.06)	0.75
other groups	1.02	0.80*	1.39*	0.85*	0.69*	0.68*	0.67	0.72*
medium or high education,								
no occupation recorded	1.55	1.34	(2.59)	0.68	0.80	1.35	(1.13)	1.86*

^aModel included also age, year, sub-site and stage (the latter two only in the excess mortality term).

 ^b Arbitrarily chosen reference category
 ^c Included also the following small groups: farmers and fishermen, ship officers (who are ususally reckoned as non-manual workers), and hotel and restaurant workers (also usually reckoned as non-manual workers).

* significant at the 0.05 level

() estimates based on groups with less than 10 deaths

Table 7. Estimates (with 95% confidence intervals) of educational and occupational

differentials in excess mortality from cancer among Norwegian men, according to register and

census data for 1960-1991^a

Number	Estimates
of	
deaths	

COMBINED OCCUPATION / EDUCATION

low edu	ucation (7-12 years)			
	manual (except ¤) ^b	30403	1	
	non-manual (except ¤)	10572	0.95*	(0.93-0.97)
	¤: hotel and restaurant			
	workers, ship officers, deck			
	and engine-room crew	2018	0.99	(0.95 - 1.05)
	farmer	6872	1.04*	(1.00-1.07)
	fisherman	2089	1.02	(0.97 - 1.07)
	no occupation recorded	6696	1.13*	(1.09-1.17)
	1			
mediur	n education (13-16)			
	(largely) manual ^c	372	1.25*	(1.10-1.41)
	non-manual, low level	442	1.13*	(1.01 - 1.27)
	non-manual, high level,			
	(except teacher) ²	1695	1	
	teacher	500	0.95	(0.85-1.06)
high ad	wastion (17 or more)			
nign eo	teacher	100	0.96	(0.72.1.04)
	teacner	188	0.86	(0.72 - 1.04)
	physician	151	0.79*	(0.65-0.97)
	other groups ²	900	1	

^a One model was estimated for all cancers, and stratified by educational level. The model included age, year, site and stage (the latter two only in the excess mortality term).

^b Arbitrarily chosen reference category

^c Included also the following small groups: farmers and fishermen, ship officers (who are usually reckoned as non-manual workers), and hotel and restaurant workers (also usually reckoned as non-manual workers).