

APPENDIX 1 – Supplementary Tables

Appendix Table 1A. Cancer mortality and lung cancer mortality, standard and hierarchical estimates

Appendix Table 2A. Cancer mortality and incidence for all ICD-9 groups

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Appendix Table 1A. Cancer mortality and lung cancer mortality, standard and hierarchical estimates

All-cancer mortality

Study Period	Obs	Standard		Hierarchical		
		SMR	95% CI	SMR	95% CI	σ^2
1977 - 1980	266	1.51	1.33 - 1.70	1.51	1.32 - 1.71	5.4E-09
1981 - 1984	312	1.43	1.27 - 1.59	1.43	1.25 - 1.60	1.3E-05
1985 - 1988	382	1.52	1.36 - 1.67	1.52	1.35 - 1.68	9.1E-08
1989 - 1992	451	1.60	1.45 - 1.75	1.60	1.43 - 1.77	1.7E-04

Lung cancer mortality

Study Period	Obs	Standard		Hierarchical		
		SMR	95% CI	SMR	95% CI	σ^2
1977 - 1980	144	2.22	1.85 - 2.59	2.22	1.83 - 2.61	1.5E-09
1981 - 1984	147	1.86	1.56 - 2.17	1.86	1.54 - 2.19	2.6E-09
1985 - 1988	197	2.15	1.84 - 2.45	2.15	1.83 - 2.47	1.7E-08
1989 - 1992	217	2.24	1.93 - 2.54	2.24	1.92 - 2.56	5.6E-08

Obs = Observed, Exp = Expected, SMR = Standardized Mortality Ratio, CI = Confidence Interval

Appendix Table 2A. Cancer mortality and incidence for all ICD-9 groups

(ICD) Cancer Subtype	Cancer Mortality				Cancer Incidence			
	Obs	Exp	SMR	95%CI	Obs	Exp	SIR	95%CI
(140) Malignant neoplasm of lip	0	-	-	-	6	8.6	0.70	0.14 - 1.26
(141) Malignant neoplasm of tongue	9	6.4	1.41	0.48 - 2.33	12	7.6	1.58	0.68 - 2.48
(142) Malignant neoplasm of major salivary glands	2	1.8	1.14	0.00 - 2.73	2	3.1	0.64	0.00 - 1.53
(143) Malignant neoplasm of gum	0		-	-	2	1.6	1.21	0.00 - 2.90
(144) Malignant neoplasm of floor of mouth	3	2.4	1.27	0.00 - 2.72	3	4.1	0.73	0.00 - 1.57
(145) Malignant neoplasm of other and unspecified parts of mouth	1	1.2	0.81	0.00 - 2.40	4	2.8	1.43	0.02 - 2.83
(146) Malignant neoplasm of oropharynx	3	4.5	0.66	0.00 - 1.41	6	7.7	0.78	0.15 - 1.40
(147) Malignant neoplasm of nasopharynx	4	1.6	2.55	0.04 - 5.05	4	2.4	1.66	0.03 - 3.29
(148) Malignant neoplasm of hypopharynx	2	2.8	0.73	0.00 - 1.73	1	3.8	0.26	0.00 - 0.78
(149) Malignant neoplasm of other and ill-defined sites within the lip	1	1.2	0.83	0.00 - 2.47	1	0.3	3.29	0.00 - 9.76
(140 - 149) Lip, Oral Cavity, and Pharynx	25	21.8	1.14	0.75 - 1.65	41	42.1	0.98	0.71 - 1.31
(150) Malignant neoplasm of esophagus	23	15.0	1.53	0.90 - 2.16	19	14.0	1.36	0.74 - 1.97
(151) Malignant neoplasm of stomach	102	80.6	1.27	1.02 - 1.51	108	78.9	1.37	1.11 - 1.63
(152) Malignant neoplasm of small intestine, including duodenum	6	2.1	2.91	0.57 - 5.25	7	2.1	3.26	0.83 - 5.69
(153) Malignant neoplasm colon	54	59.7	0.90	0.66 - 1.15	80	75.7	1.06	0.82 - 1.29
(154) Malignant neoplasm of rectum, rectosigmoid junction, and anus	80	60.2	1.33	1.04 - 1.62	119	84.4	1.41	1.16 - 1.66
(155) Malignant neoplasm of liver and intrahepatic bile ducts	48	29.4	1.63	1.17 - 2.10	38	22.3	1.70	1.16 - 2.25
(156) Malignant neoplasm of gallbladder and extrahepatic bile ducts	13	14.7	0.88	0.40 - 1.37	9	14.8	0.61	0.21 - 1.00
(157) Malignant neoplasm of pancreas	53	44.6	1.19	0.87 - 1.51	54	41.3	1.31	0.96 - 1.66
(158) Malignant neoplasm of retroperitoneum and peritoneum	3	2.7	1.11	0.00 - 2.38	3	2.3	1.30	0.00 - 2.77
(159) Malignant neoplasm of other and ill-defined sites	14	7.7	1.82	0.86 - 2.77	16	4.9	3.29	1.67 - 4.91
(150 - 159) Digestive organs and peritoneum	396	316.7	1.25	1.13 - 1.38	453	340.8	1.33	1.21 - 1.46
(160) Malignant neoplasm of nasal cavities, middle ear, and accessory sinuses	2	1.4	1.41	0.00 - 3.38	1	2.2	0.46	0.00 - 1.38
(161) Malignant neoplasm of larynx	33	19.8	1.67	1.10 - 2.24	45	33.6	1.34	0.95 - 1.73
(162) Malignant neoplasm of trachea, bronchus, and lung	705	332.3	2.12	1.96 - 2.28	755	326.2	2.31	2.15 - 2.48

Appendix Table 2A. Cancer mortality and incidence for all ICD-9 groups

(ICD) Cancer Subtype	Cancer Mortality				Cancer Incidence			
	Obs	Exp	SMR	95%CI	Obs	Exp	SIR	95%CI
(163) Malignant neoplasm of pleura	5	2.4	2.06	0.25 - 3.87	5	2.5	1.97	0.24 - 3.71
(164) Malignant neoplasm of thymus, heart, and mediastinum	2	1.9	1.03	0.00 - 2.46	2	2.6	0.78	0.00 - 1.87
(165) Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs	2	0.6	3.22	0.00 - 7.71	0	-	-	-
(160 - 165) Respiratory and Intrathoracic	749	358.5	2.09	1.95 - 2.25	808	367.0	2.20	2.05 - 2.36
(170) Malignant neoplasm of bone and articular cartilage	4	4.5	0.88	0.01 - 1.74	4	2.8	1.44	0.02 - 2.87
(171) Malignant neoplasm of connective and other soft tissue	3	2.8	1.07	0.00 - 2.28	5	6.9	0.72	0.09 - 1.36
(172) Malignant melanoma of skin	14	11.9	1.18	0.56 - 1.80	18	23.3	0.77	0.41 - 1.13
(173) Other malignant neoplasm of skin	1	2.6	0.39	0.00 - 1.16	129	190.3	0.68	0.56 - 0.80
(175) Malignant neoplasm of male breast	0	-	-	-	1	1.7	0.60	0.00 - 1.78
ICD 170 - 175: Bone, Connective tissue, Skin, and Breast	22	21.8	1.00	0.64 - 1.49	157	224.9	0.70	0.59 - 0.81
(185) Malignant neoplasm of prostate	30	45.1	0.67	0.43 - 0.90	57	65.9	0.86	0.64 - 1.09
(186) Malignant neoplasm of testis	4	3.8	1.05	0.02 - 2.09	10	11.7	0.85	0.32 - 1.38
(187) Malignant neoplasm of penis and other male genital organs	4	1.4	2.81	0.04 - 5.57	6	3.4	1.76	0.35 - 3.18
(188) Malignant neoplasm of bladder	29	27.7	1.05	0.67 - 1.43	54	50.8	1.06	0.78 - 1.35
(189) Malignant neoplasm of kidney and other and unspecified urinary organs	41	40.9	1.00	0.69 - 1.31	49	55.9	0.88	0.63 - 1.12
ICD 185 - 189: Genitourinary Organs	108	118.9	0.91	0.75 - 1.09	176	187.8	0.94	0.81 - 1.08
(190) Malignant neoplasm of eye	1	0.7	1.49	0.00 - 4.42	1	2.7	0.37	0.00 - 1.09
(191) Malignant neoplasm of brain	13	17.0	0.76	0.35 - 1.18	13	15.6	0.83	0.38 - 1.29
(192) Malignant neoplasm of other and unspecified parts of nervous system	1	0.9	1.07	0.00 - 3.18	0	-	-	-
(193) Malignant neoplasm of thyroid gland	2	2.2	0.91	0.00 - 2.19	5	4.3	1.17	0.14 - 2.20
(194) Malignant neoplasm of other endocrine glands and related structures	0	-	-	-	3	1.3	2.35	0.00 - 5.02
(195) Malignant neoplasm of other and ill-defined sites	5	4.3	1.17	0.14 - 2.19	3	3.4	0.87	0.00 - 1.86
(196) Secondary and unspecified malignant neoplasm of lymph nodes	3	0.1	21.39	0.00 - 45.70	4	3.8	1.06	0.02 - 2.10
(197) Secondary malignant neoplasm of respiratory and digestive systems	8	0.1	71.70	21.81 - 121.60	7	5.4	1.29	0.33 - 2.25
(198) Secondary malignant neoplasm of other specified sites	6	0.1	52.86	10.39 - 95.33	13	4.5	2.86	1.30 - 4.42
(199) Malignant neoplasm without specification of site	14	13.8	1.02	0.48 - 1.55	19	8.0	2.36	1.30 - 3.43
(190 - 199) Other and unspecified sites	53	39.2	1.36	1.03 - 1.76	68	49.1	1.38	1.09 - 1.75

Appendix Table 2A. Cancer mortality and incidence for all ICD-9 groups

(ICD) Cancer Subtype	Cancer Mortality				Cancer Incidence			
	Obs	Exp	SMR	95%CI	Obs	Exp	SIR	95%CI
(200) Lymphosarcoma and reticulosarcoma	7	4.5	1.57	0.40 - 2.73	7	7.4	0.94	0.24 - 1.64
(201) Hodgkin's disease	8	6.8	1.18	0.36 - 2.00	15	9.5	1.57	0.77 - 2.37
(202) Other malignant neoplasms of lymphoid and histiocytic tissue	10	10.2	0.98	0.37 - 1.58	10	14.1	0.71	0.27 - 1.15
(203) Multiple myeloma and immunoproliferative neoplasms	8	7.5	1.07	0.33 - 1.82	16	9.2	1.75	0.89 - 2.61
(204) Lymphoid leukemia	11	10.6	1.03	0.42 - 1.65	21	13.3	1.57	0.90 - 2.25
(205) Myeloid leukemia	12	8.8	1.36	0.59 - 2.14	14	8.8	1.58	0.75 - 2.42
(207) Other specified leukemia	1	1.4	0.70	0.00 - 2.07	1	0.8	1.31	0.00 - 3.88
(208) Leukemia of unspecified cell type	1	2.9	0.34	0.00 - 1.02	1	1.5	0.67	0.00 - 1.98
ICD 200 - 208: Lymphatic and Hematopoietic	58	52.8	1.09	0.84 - 1.41	85	64.7	1.31	1.05 - 1.61
(230) Carcinoma in situ of digestive organs	0	-	-	-	3	1.7	1.76	0.00 - 3.76
(231) Carcinoma in situ of respiratory system	0	-	-	-	1	0.6	1.71	0.00 - 5.06
(232) Carcinoma in situ of skin	0	-	-	-	2	3.1	0.64	0.00 - 1.54
(140 - 232) All cancer types	1411	929.6	1.52	1.44 - 1.60	1788	1276.5	1.40	1.34 - 1.47

Obs = Observed, Exp = Expected, SMR/SIR = Standardized Mortality/Incidence Ratio, CI = Confidence Interval

Table 3A. Mortality by hiring period and duration of employment

All-cause mortality			
1946 - 1952 Hiring Period	Obs	SMR	95%CI
< 2 years	157	1.37	1.16 - 1.59
2 - <10 years	274	1.43	1.26 - 1.60
≥ 10 years	390	1.34	1.21 - 1.48
1953 - 1962 Hiring Period	Obs	SMR	95%CI
< 2 years	745	1.24	1.15 - 1.33
2 - <10 years	971	1.25	1.17 - 1.33
≥ 10 years	863	1.12	1.04 - 1.10
1963-1976 Hiring Period	Obs	SMR	95%CI
< 2 years	279	1.30	1.14 - 1.45
2 - <10 years	334	1.37	1.22 - 1.52
≥ 10 years	198	0.92	0.79 - 1.05

Obs = Observed, Exp = Expected, SMR = Standardized Mortality Ratio, CI = Confidence Interval

