

LEUKEMIA  
BOTH SEXES

TABLE 4A. -- Characteristics of persons reported to the Danish Cancer Registry with an initial leukemia, 1943-80+

Category	Male	Female	Total
No. with first primary cancer*	5,591	3,904	9,495
No. who developed a second primary cancer	152	66	218
Average age at diagnosis of first cancer, yr	54	54	54
Average yr of diagnosis of first cancer	1965	1965	1965
Person-yr of follow-up	11,985	9,183	21,168
Average follow-up, yr	2.1	2.4	2.2
Percent given radiotherapy for first cancer	23	20	22

+ ICD-7 code = 204.

\* Number excludes all persons who survived less than 2 mo after the diagnosis of their first primary cancer or who developed a simultaneous cancer during this period. First primary cancers diagnosed only at autopsy or by death certificate are also excluded as are in situ cancers.

TABLE 4B. -- Microscopic confirmation among persons who developed second primary cancers after an initial leukemia in Denmark, 1943-80

Microscopically confirmed	No.	Percent+
Both first and second cancers	168	77.1
Only the first cancer	29	13.3
Only the second cancer	13	6.0
Neither first nor second cancer	8	3.7
Total second primary cancers	218	100.0

+ Minor discrepancies between table entries, and row and column sums in this and subsequent tables are due to rounding.

LEUKEMIA  
BOTH SEXES

TABLE 4C. -- Observed (O) and expected (E) numbers of second primary cancers by years after diagnosis of an initial leukemia among males and females in Denmark, 1943-80+

Second primary cancer site	Yr after first primary cancer diagnosis														
	<1 yr			1-4 yr			5-9 yr			10+ yr			Total		
	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E
No. starting interval	9,495			4,987			1,147			293			9,495		
Person-yr in interval	6,868			9,942			2,980			1,378			21,168		
All second cancers	56	60.00	0.9	98	96.80	1.0	42	31.08	1.4	22	17.10	1.3	218	204.98	1.1
All excluding site of initial cancer	53	58.26	0.9	98	94.05	1.0	42	30.21	1.4*	22	16.62	1.3	215	199.14	1.1
Buccal cavity, pharynx	4	1.52	2.6	7	2.38	2.9*	1	0.72	1.4	2	0.35	5.7	14	4.97	2.8*
Lip	2	0.71	2.8	5	1.11	4.5*	0	0.31	0.0	0	0.14	0.0	7	2.28	3.1*
Tongue	0	0.14	0.0	0	0.22	0.0	0	0.07	0.0	0	0.04	0.0	0	0.48	0.0
Salivary gland	1	0.16	6.3	0	0.26	0.0	0	0.08	0.0	1	0.04	25.0	2	0.54	3.7
Gum, other mouth	0	0.25	0.0	2	0.41	4.9	1	0.13	7.7	0	0.08	0.0	3	0.88	3.4
Pharynx	1	0.24	4.2	0	0.38	0.0	0	0.12	0.0	1	0.06	16.7	2	0.81	2.5
Digestive system	18	22.28	0.8	27	35.23	0.8	12	11.00	1.1	7	6.35	1.1	64	74.86	0.9
Esophagus	1	0.86	1.2	0	1.33	0.0	2	0.39	5.1	0	0.21	0.0	3	2.80	1.1
Stomach	6	6.66	0.9	7	10.05	0.7	0	2.89	0.0	0	1.60	0.0	13	21.20	0.6
Colon	3	5.68	0.5	7	9.24	0.8	6	3.05	2.0	2	1.90	1.1	18	19.87	0.9
Rectum	3	4.60	0.7	10	7.28	1.4	1	2.22	0.5	0	1.21	0.0	14	15.29	0.9
Liver, biliary	2	1.44	1.4	1	2.40	0.4	1	0.83	1.2	3	0.52	5.8*	7	5.19	1.3
Pancreas	1	2.26	0.4	2	3.75	0.5	0	1.23	0.0	2	0.72	2.8	5	7.96	0.6
Respiratory system	5	8.76	0.6	17	14.67	1.2	15	4.68	3.2*	0	2.18	0.0	37	30.29	1.2
Nasal cavities, sinuses	0	0.14	0.0	1	0.22	4.5	0	0.07	0.0	0	0.03	0.0	1	0.46	2.2
Larynx	0	0.56	0.0	0	0.93	0.0	1	0.29	3.4	0	0.13	0.0	1	1.90	0.5
Trachea, bronchus, lung	5	7.61	0.7	14	12.79	1.1	12	4.10	2.9*	0	1.91	0.0	31	26.42	1.2
Female breast	3	4.30	0.7	2	7.07	0.3	0	2.73	0.0	2	1.77	1.1	7	15.86	0.4*
Female genital tract	1	3.84	0.3	1	6.27	0.2*	1	2.35	0.4	1	1.34	0.7	4	13.79	0.3*
Cervix uteri	1	1.21	0.8	1	1.89	0.5	1	0.66	1.5	0	0.34	0.0	3	4.11	0.7
Corpus uteri	0	1.10	0.0	0	1.86	0.0	0	0.71	0.0	0	0.40	0.0	0	4.08	0.0*
Uterus, NOS	0	0.09	0.0	0	0.14	0.0	0	0.05	0.0	0	0.04	0.0	0	0.33	0.0
Ovary, fallopian tubes	0	1.16	0.0	0	1.93	0.0	0	0.75	0.0	1	0.43	2.3	1	4.27	0.2
Prostate gland	4	5.39	0.7	17	8.65	2.0*	3	2.40	1.3	1	1.22	0.8	25	17.66	1.4
Testis	0	0.17	0.0	0	0.24	0.0	0	0.07	0.0	0	0.03	0.0	0	0.51	0.0
Kidney, renal pelvis, ureter	4	1.82	2.2	12	2.98	4.0*	1	0.96	1.0	1	0.52	1.9	18	6.28	2.9*
Bladder, other urinary	5	3.70	1.4	5	6.16	0.8	1	1.95	0.5	4	0.99	4.0*	15	12.82	1.2
Melanoma of the skin	1	0.59	1.7	1	0.96	1.0	2	0.34	5.9	1	0.18	5.6	5	2.06	2.4
Eye	0	0.18	0.0	0	0.29	0.0	0	0.09	0.0	0	0.04	0.0	0	0.59	0.0
Brain, central nervous system	3	1.04	2.9	1	1.67	0.6	0	0.55	0.0	0	0.26	0.0	4	3.51	1.1
Thyroid gland	0	0.26	0.0	0	0.42	0.0	0	0.15	0.0	0	0.09	0.0	0	0.91	0.0
Bone	0	0.12	0.0	0	0.17	0.0	0	0.05	0.0	1	0.02	50.0	1	0.36	2.8
Connective tissue	1	0.21	4.8	1	0.32	3.1	1	0.09	11.1	0	0.04	0.0	3	0.67	4.5
Lymphatic, hematopoietic system	6	3.73	1.6	5	6.00	0.8	3	1.92	1.6	2	1.06	1.9	16	12.70	1.3
Non-Hodgkin's lymphoma	3	0.99	3.0	1	1.61	0.6	3	0.53	5.7*	2	0.30	6.7	9	3.43	2.6*
Hodgkin's disease	0	0.27	0.0	3	0.42	7.1*	0	0.13	0.0	0	0.06	0.0	3	0.88	3.4
Multiple myeloma	0	0.70	0.0	1	1.15	0.9	0	0.38	0.0	0	0.21	0.0	1	2.43	0.4
Leukemias	3	1.74	1.7	0	2.75	0.0	0	0.87	0.0	0	0.48	0.0	3	5.84	0.5
Chronic lymphocytic	1	0.90	1.1	0	1.43	0.0	0	0.44	0.0	0	0.25	0.0	1	3.02	0.3
Acute nonlymphocytic	2	0.43	4.7	0	0.70	0.0	0	0.24	0.0	0	0.14	0.0	2	1.51	1.3

+ ICD-7 code = 204.

\* P<.05.

LEUKEMIA  
MALES

TABLE 4D. -- Observed (O) and expected (E) numbers of second primary cancers by years after diagnosis of an initial leukemia among males in Denmark, 1943-80+

Second primary cancer site	Yr after first primary cancer diagnosis														
	<1 yr			1-4 yr			5-9 yr			10+ yr			Total		
	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E
No. starting interval	5,591			2,949			630			143			5,591		
Person-yr in interval	4,060			5,765			1,547			614			11,985		
All second cancers	37	38.85	1.0	70	62.00	1.1	31	17.46	1.8*	14	8.00	1.8	152	126.31	1.2*
All excluding site of initial cancer	36	37.61	1.0	70	60.06	1.2	31	16.92	1.8*	14	7.75	1.8	151	122.33	1.2*
Buccal cavity, pharynx	3	1.23	2.4	4	1.91	2.1	0	0.53	0.0	2	0.22	8.9*	9	3.89	2.3*
Lip	2	0.67	3.0	3	1.04	2.9	0	0.28	0.0	0	0.12	0.0	5	2.11	2.4
Tongue	0	0.09	0.0	0	0.14	0.0	0	0.04	0.0	0	0.02	0.0	0	0.29	0.0
Salivary gland	0	0.10	0.0	0	0.16	0.0	0	0.04	0.0	1	0.02	53.8	1	0.32	3.1
Gum, other mouth	0	0.17	0.0	1	0.27	3.7	0	0.08	0.0	0	0.04	0.0	1	0.56	1.8
Pharynx	1	0.19	5.2	0	0.30	0.0	0	0.09	0.0	1	0.04	28.2	2	0.62	3.2
Digestive system	12	14.75	0.8	14	22.89	0.6	8	6.10	1.3	5	2.83	1.8	39	46.57	0.8
Esophagus	0	0.65	0.0	0	0.99	0.0	0	0.26	0.0	0	0.11	0.0	0	2.01	0.0
Stomach	5	4.69	1.1	4	6.96	0.6	0	1.72	0.0	0	0.78	0.0	9	14.16	0.6
Colon	3	3.36	0.9	2	5.36	0.4	5	1.48	3.4*	1	0.72	1.4	11	10.92	1.0
Rectum	1	3.29	0.3	6	5.12	1.2	1	1.37	0.7	0	0.63	0.0	8	10.40	0.8
Liver, biliary	1	0.80	1.3	1	1.31	0.8	0	0.38	0.0	3	0.18	16.3*	5	2.67	1.9
Pancreas	1	1.51	0.7	1	2.47	0.4	0	0.70	0.0	1	0.33	3.0	3	5.01	0.6
Respiratory system	5	7.69	0.7	17	12.84	1.3	14	3.92	3.6*	0	1.68	0.0	36	26.13	1.4
Nasal cavities, sinuses	0	0.11	0.0	1	0.17	5.9	0	0.05	0.0	0	0.02	0.0	1	0.34	2.9
Larynx	0	0.52	0.0	0	0.86	0.0	1	0.26	3.8	0	0.11	0.0	1	1.74	0.6
Trachea, bronchus, lung	5	6.71	0.7	14	11.24	1.2	12	3.45	3.5*	0	1.48	0.0	31	22.89	1.4
Prostate gland	4	5.39	0.7	17	8.65	2.0*	3	2.40	1.3	1	1.22	0.8	25	17.66	1.4
Testis	0	0.17	0.0	0	0.24	0.0	0	0.07	0.0	0	0.03	0.0	0	0.51	0.0
Kidney, renal pelvis, ureter	3	1.26	2.4	6	2.04	2.9*	1	0.58	1.7	1	0.27	3.8	11	4.15	2.6*
Bladder, other urinary	4	3.11	1.3	5	5.15	1.0	1	1.53	0.7	3	0.70	4.3	13	10.50	1.2
Melanoma of the skin	1	0.32	3.2	1	0.51	2.0	1	0.16	6.4	0	0.07	0.0	3	1.05	2.9
Eye	0	0.12	0.0	0	0.19	0.0	0	0.05	0.0	0	0.02	0.0	0	0.38	0.0
Brain, central nervous system	2	0.64	3.1	1	1.01	1.0	0	0.30	0.0	0	0.12	0.0	3	2.06	1.5
Thyroid gland	0	0.11	0.0	0	0.18	0.0	0	0.05	0.0	0	0.02	0.0	0	0.36	0.0
Bone	0	0.08	0.0	0	0.11	0.0	0	0.03	0.0	1	0.01	77.2*	1	0.23	4.3
Connective tissue	0	0.14	0.0	0	0.21	0.0	1	0.05	18.4	0	0.02	0.0	1	0.42	2.4
Lymphatic, hematopoietic system	2	2.58	0.8	4	4.09	1.0	1	1.15	0.9	1	0.53	1.9	8	8.34	1.0
Non-Hodgkin's lymphoma	1	0.65	1.5	1	1.05	1.0	1	0.30	3.3	1	0.14	7.4	4	2.14	1.9
Hodgkin's disease	0	0.19	0.0	2	0.29	6.9	0	0.08	0.0	0	0.03	0.0	2	0.59	3.4
Multiple myeloma	0	0.47	0.0	1	0.76	1.3	0	0.22	0.0	0	0.10	0.0	1	1.55	0.6
Leukemias	1	1.24	0.8	0	1.94	0.0	0	0.54	0.0	0	0.25	0.0	1	3.98	0.3
Chronic lymphocytic	0	0.68	0.0	0	1.07	0.0	0	0.29	0.0	0	0.14	0.0	0	2.19	0.0
Acute nonlymphocytic	1	0.29	3.4	0	0.47	0.0	0	0.14	0.0	0	0.07	0.0	1	0.97	1.0

+ ICD-7 code = 204.

\* P<.05.

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FEMALES

TABLE 4E. -- Observed (O) and expected (E) numbers of second primary cancers by years after diagnosis of an initial leukemia among females in Denmark, 1943-80+

Second primary cancer site	Yr after first primary cancer diagnosis														
	<1 yr			1-4 yr			5-9 yr			10+ yr			Total		
	No. starting interval	3,904		2,038			517			150			3,904		
Person-yr in interval	2,807		4,178			1,433			764			9,183			
	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E	O	E	O/E
All second cancers	19	21.15	0.9	28	34.80	0.8	11	13.62	0.8	8	9.10	0.9	66	78.67	0.8
All excluding site of initial cancer	17	20.65	0.8	28	33.99	0.8	11	13.29	0.8	8	8.87	0.9	64	76.81	0.8
Buccal cavity, pharynx	1	0.29	3.5	3	0.47	6.3*	1	0.19	5.4	0	0.13	0.0	5	1.08	4.6*
Lip	0	0.04	0.0	2	0.07	27.5*	0	0.03	0.0	0	0.02	0.0	2	0.17	12.1*
Tongue	0	0.05	0.0	0	0.08	0.0	0	0.03	0.0	0	0.02	0.0	0	0.19	0.0
Salivary gland	1	0.06	16.3	0	0.10	0.0	0	0.04	0.0	0	0.02	0.0	1	0.22	4.6
Gum, other mouth	0	0.08	0.0	1	0.14	7.3	1	0.05	18.2	0	0.04	0.0	2	0.32	6.3
Pharynx	0	0.05	0.0	0	0.08	0.0	0	0.03	0.0	0	0.02	0.0	0	0.19	0.0
Digestive system	6	7.53	0.8	13	12.34	1.1	4	4.90	0.8	2	3.52	0.6	25	28.29	0.9
Esophagus	1	0.21	4.7	0	0.34	0.0	2	0.13	15.0*	0	0.10	0.0	3	0.79	3.8
Stomach	1	1.97	0.5	3	3.09	1.0	0	1.17	0.0	0	0.82	0.0	4	7.04	0.6
Colon	0	2.32	0.0	5	3.88	1.3	1	1.57	0.6	1	1.18	0.8	7	8.95	0.8
Rectum	2	1.31	1.5	4	2.16	1.9	0	0.85	0.0	0	0.58	0.0	6	4.89	1.2
Liver, biliary	1	0.64	1.6	0	1.09	0.0	1	0.45	2.2	0	0.34	0.0	2	2.52	0.8
Pancreas	0	0.75	0.0	1	1.28	0.8	0	0.53	0.0	1	0.39	2.6	2	2.95	0.7
Respiratory system	0	1.07	0.0	0	1.83	0.0	1	0.76	1.3	0	0.50	0.0	1	4.16	0.2
Nasal cavities, sinuses	0	0.03	0.0	0	0.05	0.0	0	0.02	0.0	0	0.01	0.0	0	0.12	0.0
Larynx	0	0.04	0.0	0	0.07	0.0	0	0.03	0.0	0	0.02	0.0	0	0.16	0.0
Trachea, bronchus, lung	0	0.90	0.0	0	1.55	0.0	0	0.65	0.0	0	0.43	0.0	0	3.53	0.0
Female breast	3	4.30	0.7	2	7.07	0.3	0	2.73	0.0	2	1.77	1.1	7	15.86	0.4*
Female genital tract	1	3.84	0.3	1	6.27	0.2*	1	2.35	0.4	1	1.34	0.7	4	13.79	0.3*
Cervix uteri	1	1.21	0.8	1	1.89	0.5	1	0.66	1.5	0	0.34	0.0	3	4.11	0.7
Corpus uteri	0	1.10	0.0	0	1.86	0.0	0	0.71	0.0	0	0.40	0.0	0	4.08	0.0*
Uterus, NOS	0	0.09	0.0	0	0.14	0.0	0	0.05	0.0	0	0.04	0.0	0	0.33	0.0
Ovary, fallopian tubes	0	1.16	0.0	0	1.93	0.0	0	0.75	0.0	1	0.43	2.3	1	4.27	0.2
Kidney, renal pelvis, ureter	1	0.56	1.8	6	0.94	6.4*	0	0.38	0.0	0	0.25	0.0	7	2.13	3.3*
Bladder, other urinary	1	0.59	1.7	0	1.01	0.0	0	0.42	0.0	1	0.29	3.4	2	2.32	0.9
Melanoma of the skin	0	0.27	0.0	0	0.45	0.0	1	0.18	5.6	1	0.11	8.9	2	1.01	2.0
Eye	0	0.06	0.0	0	0.10	0.0	0	0.04	0.0	0	0.02	0.0	0	0.21	0.0
Brain, central nervous system	1	0.40	2.5	0	0.66	0.0	0	0.25	0.0	0	0.14	0.0	1	1.45	0.7
Thyroid gland	0	0.15	0.0	0	0.24	0.0	0	0.10	0.0	0	0.07	0.0	0	0.55	0.0
Bone	0	0.04	0.0	0	0.06	0.0	0	0.02	0.0	0	0.01	0.0	0	0.13	0.0
Connective tissue	1	0.07	14.0	1	0.11	8.8	0	0.04	0.0	0	0.02	0.0	2	0.25	7.9
Lymphatic, hematopoietic system	4	1.15	3.5	1	1.91	0.5	2	0.77	2.6	1	0.53	1.9	8	4.36	1.8
Non-Hodgkin's lymphoma	2	0.34	6.0	0	0.56	0.0	2	0.23	8.7	1	0.16	6.3	5	1.29	3.9*
Hodgkin's disease	0	0.08	0.0	1	0.13	7.5	0	0.05	0.0	0	0.03	0.0	1	0.29	3.4
Multiple myeloma	0	0.23	0.0	0	0.39	0.0	0	0.16	0.0	0	0.11	0.0	0	0.88	0.0
Leukemias	2	0.50	4.0	0	0.81	0.0	0	0.33	0.0	0	0.23	0.0	2	1.86	1.1
Chronic lymphocytic	1	0.22	4.6	0	0.36	0.0	0	0.15	0.0	0	0.11	0.0	1	0.83	1.2
Acute nonlymphocytic	1	0.14	7.0	0	0.23	0.0	0	0.10	0.0	0	0.07	0.0	1	0.54	1.9

+ ICD-7 code = 204.

\* P<.05.