

Cancer Type	Males		Females		Overall	
	Observed	Expected	Observed	Expected	SIR	95% CI
GASTROINTESTINAL and HEPATOBILIARY CANCERS						
Colorectal cancer	2.00	2.39	1.00	2.69	0.59	0.12 – 1.72
Small intestinal cancer	0.00	0.11	2.00	0.10	9.42	1.14 – 33.90
Biliary tract cancer	3.00	0.07	0.00	0.07	21.18	4.38 - 61.79
Hepatocellular cancer	0.00	0.24	1.00	0.13	2.73	0.07 – 15.15
Gallbladder cancer	0.00	0.03	0.00	0.08	0.00	0.00 – 35.06
Pancreatic cancer	1.00	0.50	1.00	0.54	1.91	0.23 – 6.88
Gastric cancer	0.00	0.30	0.00	0.18	0.00	0.00 - 7.65
Esophageal cancer	0.00	0.39	0.00	0.10	0.00	0.00 – 7.51
Anal cancer	0.00	0.04	0.00	0.11	0.00	0.00 – 24.91
TOBACCO-RELATED CANCER						
Lung cancer	3.00	3.30	2.00	3.01	0.79	0.26 – 1.85
Oral cancer	0.00	0.21	0.00	0.06	0.00	0.00 – 13.60
Head and neck cancer	0.00	0.46	2.00	0.24	2.85	0.35 – 10.27
Bladder cancer	3.00	1.43	0.00	0.52	1.54	0.32 – 4.50
Kidney cancer	1.00	0.89	1.00	0.63	1.32	0.16 – 4.76
MALE REPRODUCTIVE ORGAN CANCERS						
Testicular Cancer	0.00	0.30	-	-	0.00	0.00-12.28
Prostate cancer	7.00	5.62	-	-	1.25	0.50 – 2.56
FEMALE REPRODUCTIVE ORGAN CANCER						
Ovarian cancer	-	-	1.00	0.78	1.28	0.03 – 7.10
Cervical cancer	-	-	0.00	0.41	0.00	0.00 – 8.93
Breast cancer	-	-	7.00	7.05	0.99	0.40 – 2.04
Uterine cancer	-	-	4.00	1.67	2.40	0.65 – 6.15
MISCELLANEOUS EXTRA-INTESTINAL CANCER						
Brain cancer	2.00	0.32	1.00	0.29	4.93	1.02 – 14.38
Spinal cord cancer	0.00	0.34	0.00	0.31	0.00	0.00 – 5.70
Thyroid cancer	0.00	0.26	2.00	0.87	1.77	0.21 – 6.39
HEMATOLOGICAL CANCER						
Hodgkin's lymphoma	2.00	0.13	1.00	0.13	11.34	2.34 – 33.07
Non-Hodgkin's lymphoma	1.00	0.97	1.00	1.00	1.02	0.12 – 3.66
Acute and chronic leukemia	0.00	0.69	0.60	1.66	0.78	0.02 – 4.30
MELANOMA	4.00	0.88	1.00	0.95	2.72	0.88-6.33

SIR, standardized incidence ratio; 95% CI, 95% confidence interval.

Supplementary Table 1. Standardized incidence ratios of site-specific cancers in 377 patients with CD, compared with age- and sex-matched general population, in Olmsted County, Minnesota, 1940-2011.

Cancer Type	Males		Females		Overall	
	Observed	Expected	Observed	Expected	SIR	95% CI
GASTROINTESTINAL and HEPATOBILIARY CANCERS						
Colorectal cancer	3.00	5.40	3.00	3.73	0.66	0.24 – 1.43
Small intestinal cancer	0.00	0.24	1.00	0.13	2.66	0.07 – 14.78
Biliary tract cancer	2.00	0.16	1.00	0.11	11.37	2.35 – 33.16
Hepatocellular cancer	0.00	0.52	0.00	0.17	0.00	0.00 – 5.35
Gallbladder cancer	0.00	0.06	0.00	0.11	0.00	0.00 – 21.33
Pancreatic cancer	0.00	1.13	1.00	0.76	0.53	0.01 – 2.93
Gastric cancer	0.00	0.68	0.00	0.24	0.00	0.00 – 4.00
Esophageal cancer	1.00	0.85	0.00	0.14	1.01	0.03 – 5.60
Anal cancer	0.00	0.08	1.00	0.13	4.61	0.12 – 25.57
TOBACCO RELATED CANCER						
Lung cancer	3.00	7.60	1.00	4.08	0.34	0.09 – 0.88
Oral cancer	1.00	0.42	0.00	0.07	2.03	0.05 – 11.29
Head and neck cancer	0.00	0.96	0.00	0.32	0.00	0.00 – 2.88
Bladder cancer	5.00	3.38	2.00	0.71	1.71	0.69 – 3.52
Kidney cancer	3.00	1.86	0.00	0.83	1.11	0.23 – 3.25
MALE REPRODUCTIVE ORGAN CANCER						
Testicular cancer	0.00	0.41	-	-	0.00	0.00-8.94
Prostate cancer	14	12.56	-	-	1.11	0.61 – 1.87
FEMALE REPRODUCTIVE ORGAN CANCER						
Ovarian cancer	-	-	2.00	0.99	2.01	0.24 – 7.24
Cervical cancer	-	-	0.00	0.46	0.00	0.00 – 8.09
Breast cancer	-	-	12	8.85	1.36	0.70 – 2.37
Uterine cancer	-	-	1.00	2.15	0.46	0.01 – 2.58
MISCELLANEOUS EXTRA-INTESTINAL CANCER						
Brain cancer	0.00	0.63	1.00	0.36	1.02	0.03 – 5.65
Spinal cord cancer	1.00	0.65	0.00	0.38	0.97	0.02 – 5.37
Thyroid cancer	1.00	0.47	2.00	0.94	2.13	0.44 – 6.20
HEMATOLOGICAL CANCER						
Hodgkin's lymphoma	0.00	0.22	0.00	0.13	0.00	0.00 – 10.47
Non-Hodgkin's lymphoma	2.00	2.07	1.00	1.33	0.88	0.18 – 2.57
Acute and chronic leukemia	3.00	1.52	2.00	0.80	2.16	0.70 – 5.02
MELANOMA	4.00	1.82	2.00	1.10	2.05	0.75-4.46

SIR, standardized incidence ratio; 95% CI, 95% confidence interval.

Supplementary Table 2. Standardized incidence ratios of site-specific cancers in 462 patients with UC, compared with age- and sex-matched general population, in Olmsted County, Minnesota, 1940-2011.

	Cancer category	Observed	Expected	SIR	95% CI
5-ASA-treated v. general population	Intestinal cancers	5	3.8	1.32	0.43-3.07
	Tobacco-related cancers	5	4.7	1.06	0.34-2.48
	Male reproductive organ cancers	2	2.7	0.74	0.09-2.68
	Female reproductive organ cancers	4	3.8	1.05	0.29-2.70
	Miscellaneous extra-intestinal solid organ cancers	1	1.3	0.77	0.02-4.28
	Hematological cancers	1	1.6	0.62	0.02-3.48
Corticosteroid-treated v. general population	Intestinal cancers	1	0.7	1.43	0.04-7.96
	Tobacco-related cancers	2	0.9	2.22	0.27-8.03
	Male reproductive organ cancers	0	0.6	0.00	0.0-6.15
	Female reproductive organ cancers	0	0.7	0.00	0.0-5.27
	Miscellaneous extra-intestinal solid organ cancers	2	0.4	5.00	0.60-18.06
	Hematological cancers	2	0.3	6.67	0.81-24.08
IMM-treated v. general population	Intestinal cancers	0	0.5	0.00	0.0-7.38
	Tobacco-related cancers	1	0.7	1.43	0.04-7.96
	Male reproductive organ cancers	1	0.5	2.00	0.05-11.14
	Female reproductive organ cancers	1	0.6	1.67	0.04-9.29
	Miscellaneous extra-intestinal solid organ cancers	2	0.3	6.67	0.81- 24.08
	Hematological cancers	2	0.2	10.00	1.21-36.12
Anti-TNF-treated v. general population	Intestinal cancers	0	0.1	0.00	0.0-36.12
	Tobacco-related cancers	0	0.2	0.00	0.0-18.44
	Male reproductive organ cancers	0	0.1	0.00	0.0-36.89
	Female reproductive organ cancers	0	0.3	0.00	0.0-12.30
	Miscellaneous extra-intestinal solid organ cancers	0	0.1	0.00	0.0-36.89
	Hematological cancers	1	0.1	10.00	0.25-55.72

SIR, standardized incidence ratio; 5-ASA, 5-aminosalicylate; IMM, immunomodulator; anti-TNF, anti-tumor necrosis factor.

Supplementary Table 3. Standardized incidence ratio of category-specific cancer in 5-ASA, corticosteroid, immunomodulator and anti-TNF treated patients with IBD, compared with age- and sex-matched general population. Text in bold represents statistically significant results.