

Appendix 1 (as supplied by the author): Supplemental tables

Supplemental Table S1. 9th/10th Edition International Classification of Diseases (ICD) and OHIP billing codes used for the identification of relevant psychiatric exposures, confounders, and procedural outcomes.

Exposures		
	ICD9	ICD10
Bipolar Disorder	F296.0-296.16; 296.4-296.89	F31.x
Major Depressive Disorder	F296.2-296.36	F33.x
Schizophrenia	F295.x	F20.x
Schizoaffective disorder	N/A	F25.x
Comorbidities (Potential Confounders)		
	ICD9	ICD10
Congestive Heart Failure	428	I150
Cerebrovascular Diseases	436	I60-I69
Ischemic Heart Disease	412	I25
Dyslipidemia	272	E78
Asthma	493	J45
Emphysema	492	J43
Osteoarthritis	715	M160, M170, M171, M180, M181, M190
Rheumatoid Arthritis	714	M06
Crohn's Disease/Ulcerative Colitis	555	K50
Osteoporosis	730	M80/M81
Obesity	278	E66
Polycystic Ovarian Syndrome	256	E282
Outcomes		
	OHIP	
Papanicolaou Smear	G365	
Papanicolaou Smear Outside of Hospital Environment	E430	

Additional or Follow-up Papanicolaou Smear	G394
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Supplemental Table S2. Subgroups with and without attachment to a family physician. Incidence of screening and average screening frequency over the first 3 years of cohort entry and the entire follow-up period (2003-2015) among women with bipolar disorder or schizophrenia (SBP) and those without that exposure.

	Exposure	Analytical Period	Number of Screens	Person-years	Incidence (95% CI) per person-years	Average Years per Screen
Women attached to a family physician	Overall	3 years	705,594	5,589,886	0.379 (0.378-0.380)	7.92
	Women with SBP	3 years	59,472	608,347	0.293 (0.291-0.296)	10.23
	Women without SBP	3 years	646,122	4,981,539	0.389 (0.388-0.390)	7.71
	Overall	All follow-up	931,136	4,212,548	0.663 (0.662-0.664)	4.52
	Women with SBP	All follow-up	82,072	472,719	0.521 (0.517-0.524)	5.76
	Women without SBP	All follow-up	849,064	3,739,829	0.681 (0.680-0.683)	4.40
Women not attached to a family physician	Overall	3 years	13,646	481,403	0.085 (0.084-0.086)	35.28
	Women with SBP	3 years	964	53,323	0.054 (0.051-0.058)	55.31
	Women without SBP	3 years	12,682	428,080	0.089 (0.087-0.090)	33.75
	Overall	All follow-up	27,113	403,247	0.202 (0.199-0.204)	14.87
	Women with SBP	All follow-up	2,156	46,630	0.139 (0.133-0.145)	21.63
	Women without SBP	All follow-up	24,957	356,617	0.210 (0.207-0.213)	14.29

Supplemental Table S3. Subgroups with and without attachment to a family physician. Odds ratios from conditional logistic regression of screening likelihood within the first 3 years and over all available follow-up (2003-2015) for women with schizophrenia or bipolar disorder vs. women without that exposure, adjusted for comorbidities

Variables	Women attached to a family physician		Women NOT attached to a family physician	
	Adjusted OR (95% CI) Within the first 3 years	Adjusted OR (95% CI) All follow-up	Adjusted OR (95% CI) Within the first 3 years	Adjusted OR (95% CI) All follow-up
Schizophrenia/ Bipolar Disorder	0.72 (0.71-0.73) (p < 0.0001)	0.65 (0.64-0.66) (p < 0.0001)	0.55 (0.51-0.59) (p < 0.0001)	0.55 (0.52-0.58) (p < 0.0001)
Vascular Diseases	0.47 (0.45-0.49) (p < 0.0001)	0.44 (0.43-0.46) (p < 0.0001)	0.46 (0.26-0.84) (p = 0.0108)	0.47 (0.31-0.71) (p = 0.0004)
Hypertension	0.92 (0.90-0.94) (p < 0.0001)	0.92 (0.90-0.95) (p < 0.0001)	0.51 (0.29-0.90) (p = 0.0202)	0.64 (0.41-1.01) (p = 0.0559)
Diabetes	0.73 (0.71-0.76) (p < 0.0001)	0.73 (0.70-0.76) (p < 0.0001)	0.83 (0.47-1.49) (p = 0.5404)	0.67 (0.41-1.09) (p = 0.1063)
Dyslipidemia	0.87 (0.81-0.94) (p = 0.0002)	0.91 (0.85-0.98) (p = 0.0156)	0.00 (0.00-1E71) (p = 0.9080)	0.28 (0.08-1.02) (p = 0.0536)
Respiratory Diseases	0.59 (0.56-0.62) (p < 0.0001)	0.52 (0.49-0.55) (p < 0.0001)	0.71 (0.25-2.00) (p = 0.5189)	0.45 (0.20-1.03) (p = 0.0585)
Arthritis	0.76 (0.69-0.84) (p < 0.0001)	0.86 (0.78-0.95) (p = 0.0023)	2.60 (0.28-23.9) (p = 0.3985)	0.58 (0.09-3.69) (p = 0.5614)
Crohn's/Colitis	0.75 (0.69-0.83) (p < 0.0001)	0.77 (0.68-0.86) (p < 0.0001)	0.26 (0.03-2.33) (p = 0.2269)	0.73 (0.12-4.57) (p = 0.7383)
Osteoporosis	0.53 (0.44-0.63) (p < 0.0001)	0.43 (0.36-0.52) (p < 0.0001)	NA*	0.11 (0.01-1.16) (p = 0.0669)
Obesity	0.57 (0.53-0.61) (p < 0.0001)	0.54 (0.50-0.58) (p < 0.0001)	1.02 (0.40-2.62) (p = 0.9620)	0.86 (0.36-2.02) (p = 0.7251)
Pelvic Inflammatory Diseases	0.66 (0.56-0.77) (p < 0.0001)	0.58 (0.49-0.69) (p < 0.0001)	0.83 (0.15-4.70) (p = 0.8352)	0.40 (0.07-2.17) (p = 0.2872)
Polycystic Ovarian Syndrome	0.93 (0.63-1.38) (p = 0.7194)	1.03 (0.59-1.80) (p = 0.9061)	NA*	NA*

* Error in computing the variance function, likely due to small sample size for the outcome in this subgroup of women.

Supplemental Table S4. Subgroups with and without attachment to a family physician. Rate ratios from Poisson regression of cervical cancer screening rates over 3 years and over all available follow-up (2003-2015) comparing women with schizophrenia or bipolar disorder to women without that exposure, adjusted for comorbidities

	Women attached to a family physician		Women NOT attached to a family physician	
Variables	Adjusted RR (95% CI) Within the first 3 years	Adjusted RR (95% CI) All follow-up	Adjusted RR (95% CI) Within the first 3 years*	Adjusted RR (95% CI) All follow-up
Schizophrenia/ Bipolar Disorder	0.81 (0.81-0.82) (p < 0.0001)	0.85 (0.85-0.86) (p < 0.0001)	NA*	0.67 (0.64-0.70) (p < 0.0001)
Vascular Diseases	0.42 (0.41-0.43) (p < 0.0001)	0.56 (0.54-0.57) (p < 0.0001)	NA*	0.42 (0.29-0.61) (p < 0.0001)
Hypertension	0.87 (0.86-0.88) (p < 0.0001)	0.91 (0.90-0.91) (p < 0.0001)	NA*	0.67 (0.49-0.93) (p = 0.0159)
Diabetes	0.74 (0.72-0.76) (p < 0.0001)	0.81 (0.80-0.82) (p < 0.0001)	NA*	0.89 (0.63-1.24) (p = 0.4857)
Dyslipidemia	0.78 (0.73-0.82) (p < 0.0001)	0.82 (0.78-0.85) (p < 0.0001)	NA*	0.25 (0.08-0.82) (p = 0.0227)
Respiratory Diseases	0.64 (0.62-0.67) (p < 0.0001)	0.73 (0.71-0.75) (p < 0.0001)	NA*	0.61 (0.31-1.22) (p = 0.1620)
Arthritis	0.64 (0.59-0.68) (p < 0.0001)	0.74 (0.71-0.78) (p < 0.0001)	NA*	1.56 (0.40-6.10) (p = 0.5223)
Crohn's/Colitis	0.87 (0.82-0.93) (p < 0.0001)	0.91 (0.88-0.95) (p < 0.0001)	NA*	0.41 (0.14-1.20) (p = 0.1050)
Osteoporosis	0.57 (0.49-0.66) (p < 0.0001)	0.67 (0.60-0.75) (p < 0.0001)	NA*	0.12 (0.01-1.21) (p = 0.0721)
Obesity	0.61 (0.58-0.65) (p < 0.0001)	0.71 (0.69-0.74) (p < 0.0001)	NA*	1.00 (0.60-1.67) (p = 0.9940)
Pelvic Inflammatory Diseases	0.83 (0.74-0.92) (p = 0.0008)	0.91 (0.84-0.97) (p = 0.0070)	NA*	1.13 (0.35-3.64) (p = 0.8379)
Polycystic Ovarian Syndrome	1.06 (0.84-1.33) (p = 0.6281)	1.07 (0.94-1.20) (p = 0.3125)	NA*	NA*

* Error in computing the variance function, likely due to small sample size for the outcome in this subgroup of women.

Supplemental Table S5. Subgroups with and without attachment to a family physician. Hazard ratios from Cox proportional hazards regression for time to first cervical cancer screen over 3 years and over all available follow-up (2003-2015) in for women with schizophrenia or bipolar disorder vs. those without, adjusted for comorbidities.

Variables	Women attached to a family physician		Women NOT attached to a family physician	
	Adjusted HR (95% CI) Within the first 3 years	Adjusted HR (95% CI) All follow-up	Adjusted HR (95% CI) Within the first 3 years	Adjusted HR (95% CI) All follow-up
Schizophrenia/ Bipolar Disorder	0.81 (0.80, 0.81) (p-value: <0.0001)	0.81 (0.80, 0.81) (p-value: <0.0001)	0.60 (0.56, 0.64) (p-value: <0.0001)	0.64 (0.61, 0.67) (p-value: <0.0001)
Vascular Diseases	0.58 (0.56, 0.60) (p-value: <0.0001)	0.61 (0.60, 0.63) (p-value: <0.0001)	0.49 (0.27, 0.83) (p-value: 0.0123)	0.53 (0.36, 0.75) (p-value: 0.0006)
Hypertension	0.94 (0.93, 0.96) (p-value: <0.0001)	0.94 (0.93, 0.96) (p-value: <0.0001)	0.58 (0.34, 0.93) (p-value: 0.0341)	0.68 (0.47, 0.95) (p-value: 0.0278)
Diabetes	0.80 (0.78, 0.82) (p-value: <0.0001)	0.82 (0.80, 0.84) (p-value: <0.0001)	0.98 (0.58, 1.58) (p-value: 0.9440)	0.87 (0.59, 1.25) (p-value: 0.4714)
Dyslipidemia	0.86 (0.82, 0.92) (p-value: <0.0001)	0.88 (0.84, 0.93) (p-value: <0.0001)	NA*	0.22 (0.03, 0.76) (p-value: 0.0424)
Respiratory Diseases	0.71 (0.68, 0.74) (p-value: <0.0001)	0.73 (0.70, 0.75) (p-value: <0.0001)	0.72 (0.25, 1.70) (p-value: 0.5052)	0.60 (0.27, 1.17) (p-value: 0.1618)
Arthritis	0.81 (0.75, 0.86) (p-value: <0.0001)	0.85 (0.80, 0.90) (p-value: <0.0001)	1.50 (0.21, 7.25) (p-value: 0.6352)	0.64 (0.10, 2.53) (p-value: 0.5679)
Crohn's/Colitis	0.82 (0.77, 0.87) (p-value: <0.0001)	0.85 (0.80, 0.90) (p-value: <0.0001)	0.31 (0.02, 1.75) (p-value: 0.2796)	0.38 (0.08, 1.19) (p-value: 0.1363)
Osteoporosis	0.65 (0.56, 0.75) (p-value: <0.0001)	0.63 (0.55, 0.72) (p-value: <0.0001)	NA*	0.30 (0.02, 1.72) (p-value: 0.2700)
Obesity	0.67 (0.63, 0.70) (p-value: <0.0001)	0.68 (0.65, 0.71) (p-value: <0.0001)	0.90 (0.35, 2.02) (p-value: 0.8139)	0.82 (0.41, 1.50) (p-value: 0.5395)
Pelvic Inflammatory Diseases	0.77 (0.68, 0.86) (p-value: <0.0001)	0.81 (0.74, 0.90) (p-value: <0.0001)	0.60 (0.14, 1.85) (p-value: 0.4334)	0.55 (0.13, 1.64) (p-value: 0.3393)
Polycystic Ovarian Syndrome	0.91 (0.71, 1.15) (p-value: 0.4485)	0.95 (0.76, 1.18) (p-value: 0.6721)	NA*	NA*

* Error in computing the variance function, likely due to small sample size for the outcome in this subgroup of women.

Supplemental Table S6. Baseline demographics and health characteristics for all matched women without a diagnosis of MDD in the general Ontario population aged 19-69 between July 2003 and July 2012, comparing those with bipolar disorder or schizophrenia to those without.

Characteristic	Overall	Exposure	Matched	Standardized Difference	p-value
	N=1,158,712	N=111,432	N=1,047,280		
Demographics					
Age (Median, IQR)	41 (29-52)	42 (29-52)	41 (29-52)	0.02	<.0001
Income quintile, n (%)					
1 - Lowest	274,639 (23.7%)	27,448 (24.6%)	247,191 (23.6%)	0.02	<.0001
2	274,639 (23.7%)	27,448 (24.6%)	247,191 (23.6%)	0.02	
3	245,544 (21.2%)	23,630 (21.2%)	221,914 (21.2%)	0.00	
4	221,564 (19.1%)	20,974 (18.8%)	200,590 (19.2%)	0.01	
5 - Highest	209,491 (18.1%)	19,792 (17.8%)	189,699 (18.1%)	0.01	
Geographic Data					
Urban Residence, n (%)	1,052,860 (90.9%)	100,741 (90.4%)	952,119 (90.9%)	0.01	<.0001
Rural Residence, n (%)	105,450 (9.1%)	10,633 (9.5%)	94,817 (9.1%)	0.02	
Charlson Comorbidity Index n(%)					
Missing	963,437 (83.1%)	85,508 (76.7%)	877,929 (83.8%)	0.18	<.0001
0	161,852 (14.0%)	21,114 (18.9%)	140,738 (13.4%)	0.15	
1	16,400 (1.4%)	2,853 (2.6%)	13,547 (1.3%)	0.09	
2	9,674 (0.8%)	1,093 (1.0%)	8,581 (0.8%)	0.02	
3+	7,349 (0.6%)	864 (0.8%)	6,485 (0.6%)	0.02	
Adjusted Diagnostic Group, n(%)					
0	30,828 (2.7%)	2,855 (2.6%)	27,973 (2.7%)	0.01	<.0001
1-3	131,226 (11.3%)	12,178 (10.9%)	119,048 (11.4%)	0.01	
4-6	300,764 (26.0%)	27,763 (24.9%)	273,001 (26.1%)	0.03	

7-9	347,287 (30.0%)	32,022 (28.7%)	315,265 (30.1%)	0.03	
10+	348,607 (30.1%)	36,614 (32.9%)	311,993 (29.8%)	0.07	
Comorbidities, n (%)				χ^2	
Vascular Diseases	13,631 (1.18)	1,682 (1.51)	11,949 (1.14)	117.03	<.0001
Hypertension	40,602 (3.50)	3,417 (3.07)	37,185 (3.55)	69.83	<.0001
Diabetes	16,749 (1.45)	1,939 (1.74)	14,810 (1.41)	75.11	<.0001
Dyslipidemia	4,028 (0.35)	523 (0.47)	3,505 (0.33)	52.73	<.0001
Respiratory Diseases	7,373 (0.64)	1,396 (1.25)	5,977 (0.57)	741.06	<.0001
Arthritis	2,308 (0.20)	261 (0.23)	2,047 (0.20)	7.61	.0058
Crohn's/Ulcerative Colitis	1,940 (0.17)	173 (0.16)	1,767 (0.17)	1.09	.2957
Osteoporosis	651 (0.06)	118 (0.11)	533 (0.05)	54.26	<.0001
Obesity	4,050 (0.35)	749 (0.67)	3,301 (0.32)	368.45	<.0001
Pelvic Inflammatory Diseases	798 (0.07)	105 (0.09)	693 (0.07)	11.52	.0007
Polycystic Ovarian Syndrome	113 (0.01)	21 (0.02)	92 (0.01)	10.45	.0012