

Supplementary Tables

Supplementary Table 1

Medication used to define severe mental illness

Medication	
Ziprasidone (Sz and BPA)	Amisulpride (Sz)
Lurasidone (Sz)	Aripiprazole (Sz)
Asenapine (Sz and BPAD)	Paliperidone (Sz)
Olanzapine (Sz and BPAD)	Risperidone (Sz and BPAD)
Quetiapine (Sz and BPAD)	Clozapine (Sz)

Sz: authority medicine indicated for schizophrenia on the Pharmaceutical Benefits Scheme (PBS); BPAD: authority medicine indicated for Bipolar Affective Disorder on the PBS.

Supplementary Table 2

Item codes from the Medicare Benefits Scheme used to capture episodes of cancer screening

Medicare Benefits Scheme Item Code	Description
Colorectal Cancer Screening	
66764	Examination for faecal occult blood (including tests for haemoglobin and its derivatives in the faeces except by reagent strip or dip stick methods) with a maximum of 3 examinations on specimens collected on separate days in a 28 day period (Note: This item is claimed when one sample is collected within a 28 day period.)
66767	2 examinations described in item 66764 performed on separately collected and identified specimens (Note: This item is claimed when two samples are collected within a 28 day period.)
66770	3 examinations described in item 66764 performed on separately collected and identified specimens (Note: This item is claimed when three samples are collected within a 28 day period.)
Cervical Cancer Screening	
73053	Cytology of a smear from cervix where the smear is prepared by direct application of the specimen to a slide, excluding the use of liquid based slide preparation techniques, and the stained smear is microscopically examined by or on behalf of a pathologist
73055	Cytology of a smear from cervix, not associated with item 73053, where the smear is prepared by direct application of the specimen to a slide, excluding the use of liquid based slide preparation techniques, and the stained smear is microscopically examined
Prostate Cancer Screening	
66655	Prostate specific antigen - quantitation - 1 of this item in a 12 month period

Supplementary Table 3

Associations between severe mental illness (SMI) and Faecal Occult Blood testing (FOBT) by screening period

Exposure Group	Person Years	Years with Screens	Incidence Rate per 100 PY	IRR UV §	IRR MV %	IRR MV - with GP Visits §
<u>2004-2006</u>						
Non SMI	1,279,912	16,189	1.3	Ref	Ref	Ref
SMI	12,453	192	1.5	1.22 (1.06-1.41)	1.21 (1.05-1.40)	0.96 (0.83-1.10)
<u>2007-2014</u>						
Non SMI	3,909,395	100,376	2.6	Ref	Ref	Ref
SMI	72,495	1,995	2.8	1.07 (1.03-1.12)	1.08 (1.03-1.13)	0.85 (0.81-0.89)

§ Univariable model.

% Multivariable model adjusted for age at entry, state and gender.

§ Multivariable model adjusted for age at entry, state and gender, and average number of GP visits per year.

Supplementary Table 4

Associations between severe mental illness (SMI) and Faecal Occult Blood testing (FOBT) by FOBT item number type

Exposure Group	Person Years	Years with Screens	Incidence Rate per 100 PY	IRR UV ^{\$}	IRR MV %	IRR MV - with GP Visits [§]
ITEM 66764 - one sample is collected within a 28 day period						
Non SMI	5,189,307	18,832	0.4	Ref	Ref	Ref
SMI	84,948	503	0.6	1.63 (1.49-1.78)	1.71 (1.57-1.87)	1.15 (1.05-1.26)
ITEM 66767 -two samples collected within a 28 day period						
Non SMI	5,189,307	28,777	0.6	Ref	Ref	Ref
SMI	84,948	547	0.6	1.16 (1.07-1.26)	1.11 (1.02-1.21)	0.90 (0.82-0.98)
ITEM 66770 -three samples collected within a 28 day period						
Non SMI	5,189,307	70,873	1.4	Ref	Ref	Ref
SMI	84,948	1,191	1.4	1.03 (0.97-1.09)	1.03 (0.98-1.09)	0.84 (0.79-0.89)

^{\$} Univariable model.

[%] Multivariable model adjusted for age at entry, state and gender.

[§] Multivariable model adjusted for age at entry, state and gender, and average number of GP visits per year.

Supplementary Table 5

Associations between severe mental illness (SMI) and Faecal Occult Blood testing (FOBT), Pap smears and Prostate specific antigen (PSA) testing stratified by age group

Exposure Group	Person Years	Years with Screens	Incidence Rate per 100 PY	IRR UV \$	IRR MV %	IRR MV - with GP Visits §
<u>FOBT</u>						
Ages 50-59						
No SMI	2,987,150	54,871	1·8	Ref	Ref	Ref
SMI	49,236	1,131	2·3	1·25 (1·18-1·33)	1·20 (1·13-1·28)	0·92 (0·87-0·98)
Ages 60-69						
No SMI	2,202,415	61,756	2·8	Ref	Ref	Ref
SMI	35,454	1,055	3·0	1·06 (0·999-1·13)	1·03 (0·97-1·09)	0·89 (0·84-0·95)
<u>Pap smears</u>						
Age 18-29						
No SMI	1,903,537	391,977	20·6	Ref	Ref	Ref
SMI	20,445	4,059	19·9	0·96 (0·93-0·99)	0·99 (0·96-1·02)	0·74 (0·72-0·76)
Age 30-39						
No SMI	1,699,989	436,320	25·7	Ref	Ref	Ref
SMI	28,493	5,838	20·5	0·80 (0·78-0·82)	0·81 (0·78-0·83)	0·70 (0·68-0·72)
Age 40-49						
No SMI	1,689,896	418,262	24·8	Ref	Ref	Ref
SMI	31,692	6,053	19·1	0·77 (0·75-0·79)	0·78 (0·76-0·80)	0·71 (0·69-0·73)
Age 50-59						
No SMI	1,498,389	320,032	21·4	Ref	Ref	Ref
SMI	28,248	4,738	16·8	0·79 (0·76-0·81)	0·78 (0·76-0·81)	0·75 (0·72-0·77)
Age 60-69						
No SMI	1,099,267	185,970	16·9	Ref	Ref	Ref
SMI	19,600	2,528	12·9	0·76 (0·73-0·79)	0·76 (0·73-0·79)	0·74 (0·71-0·77)

<u>PSA testing</u>						
Ages 50-59						
No SMI	1,486,864	268,193	18·0	Ref	Ref	Ref
SMI	22,885	3,470	15·2	0·84 (0·81-0·87)	0·86 (0·83-0·88)	0·86 (0·83-0·88)
Ages 60-69						
No SMI	1,103,148	245,953	22·3	Ref	Ref	Ref
SMI	15,854	2,751	17·4	0·78 (0·75-0·81)	0·78 (0·75-0·81)	0·78 (0·75-0·81)

\$ Univariable model.

% Multivariable model adjusted for age at entry, state and gender.

§ Multivariable model adjusted for age at entry, state and gender, and average number of GP visits per year.

Supplementary Table 6

Associations between severe mental illness (SMI) and Faecal Occult Blood testing (FOBT), Pap smears and Prostate specific antigen (PSA) testing extending person years to two and three years from the first and last date on the Medicare Benefits Scheme (MBS) record

Exposure Group	Person Years	Years with screens	IR per 100 PY	IRR UV ^{\$}	IRR MV %	IRR MV - with GP Visits ^{\$}
<u>FOBT</u>						
Including 2 years from last MBS date						
No SMI	5,257,210	116,570	2.2	Ref	Ref	Ref
SMI	86,256	2,182	2.5	1.14 (1.09-1.19)	1.14 (1.09-1.19)	0.89 (0.85-0.93)
Including 3 years from last MBS date						
No SMI	5,309,154	116,570	2.2	Ref	Ref	Ref
SMI	87,469	2,182	2.5	1.14 (1.09-1.19)	1.13 (1.09-1.18)	0.88 (0.84-0.92)
<u>Pap smears</u>						
Including 2 years from last MBS date						
No SMI	8,043,906	1,749,561	21.8	Ref	Ref	Ref
SMI	129,822	23,220	17.9	0.82 (0.81-0.83)	0.83 (0.82-0.85)	0.73 (0.72-0.74)
Including 3 years from last MBS date						
No SMI	8,170,668	1,749,561	21.4	Ref	Ref	Ref
SMI	130,744	23,220	17.8	0.83 (0.82-0.84)	0.84 (0.83-0.85)	0.72 (0.72-0.73)
<u>PSA testing</u>						
Including 2 years from last MBS date						
No SMI	2,629,765	514,136	19.6	Ref	Ref	Ref
SMI	39,615	6,228	15.7	0.80 (0.78-0.82)	0.82 (0.80-0.84)	0.70 (0.69-0.72)
Including 3 years from last MBS date						
No SMI	2,659,768	514,136	19.3	Ref	Ref	Ref
SMI	40,288	6,228	15.5	0.80 (0.78-0.82)	0.82 (0.80-0.84)	0.69 (0.68-0.71)

^{\$} Univariable model.

[%] Multivariable model adjusted for age at entry, state and gender.

§ Multivariable model adjusted for age at entry, state and gender, and average number of GP visits per year.

Supplementary Table 7

Associations between severe mental illness (SMI) and Faecal Occult Blood testing (FOBT), Pap smears and Prostate specific antigen (PSA) testing with different treatment for Lithium only users

Exposure Group	Person Years	Years with screens	IR per 100 PY	IRR UV \$	IRR MV %	IRR MV - with GP Visits §
<u>FOBT</u>						
1. Treat Lithium users as exposed from 2012 onwards						
No SMI	5,187,785	116,512	2.2	Ref	Ref	Ref
SMI	86,471	2,240	2.6	1.15 (1.11-1.20)	1.15 (1.11-1.20)	0.91 (0.87-0.95)
2. Include Lithium only users as exposed for the whole study period						
No SMI	5,180,846	116,350	2.2	Ref	Ref	Ref
SMI	93,410	2,402	2.6	1.15 (1.10-1.19)	1.15 (1.10-1.19)	0.91 (0.87-0.95)
3. Exclude Lithium only users entirely						
No SMI	5,180,846	116,350	2.2	Ref	Ref	Ref
SMI	84,948	2,187	2.6	1.14 (1.10-1.20)	1.15 (1.10-1.20)	0.90 (0.86-0.94)
<u>Pap smears</u>						
1. Treat Lithium users as exposed from 2012 onwards						
No SMI	7,888,929	1,749,168	22.2	Ref	Ref	Ref
SMI	130,626	23,613	18.1	0.82 (0.80-0.83)	0.83 (0.82-0.84)	0.74 (0.73-0.75)
2. Include Lithium only users as exposed for the whole study period						
No SMI	7,878,034	1,746,886	22.2	Ref	Ref	Ref
SMI	141,520	25,894	18.3	0.83 (0.82-0.84)	0.84 (0.83-0.85)	0.75 (0.74-0.76)
3. Exclude Lithium only users entirely						
No SMI	7,878,034	1,746,886	22.2	Ref	Ref	Ref
SMI	128,877	23,278	18.1	0.81 (0.80-0.83)	0.83 (0.82-0.84)	0.74 (0.73-0.75)
<u>PSA testing</u>						
1. Treat Lithium users as exposed from 2012 onwards						
No SMI	2,589,125	513,991	19.9	Ref	Ref	Ref
SMI	39,627	6,373	16.1	0.81 (0.79-0.83)	0.83 (0.81-0.85)	0.72 (0.70-0.74)

2. Include Lithium only users as exposed for the whole study period							
No SMI	2,585,584	513,254	19·9	Ref	Ref	Ref	
SMI	43,167	7,110	16·5	0·83 (0·81-0·85)	0·85 (0·83-0·87)	0·74 (0·72-0·76)	
3. Exclude Lithium only users entirely							
No SMI	2,585,584	513,254	19·9	Ref	Ref	Ref	
SMI	38,904	6,250	16·1	0·81 (0·79-0·83)	0·83 (0·81-0·85)	0·72 (0·70-0·74)	

\$ Univariable model.

% Multivariable model adjusted for age at entry, state and gender.

§ Multivariable model adjusted for age at entry, state and gender, and average number of GP visits per year.