



Supporting Information

Supplementary methods and results

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Watkeys OJ, Dean K, Laurens KR, et al. Medicare-subsidised mental health service use during the first 15 years of life in New South Wales: a population cohort study. *Med J Aust* 2024; doi: 10.5694/mja2.52498.

Table 1. Medicare Benefits Schedule (MBS) codes used to define types of mental health services and the year-ranges in which they were recorded

Mental health service type	MBS Aggregated Item Codes	First year of use	Last year of use
GP mental health plan	2710	2006	2011
GP mental health plan	2713	2006	2018
GP mental health plan	2712	2007	2018
GP mental health plan	2702	2010	2011
GP mental health plan	2719	2011	2012
GP mental health plan	02700, 02701, 02715, 02717	2011	2018
GP mental health plan	00272, 00276, 00277, 00279, 00281, 00282	2018	2018
Psychologist therapy	10968	2005	2018
Psychologist therapy	80010, 80110	2006	2018
Psychologist therapy	80000, 80100, 80105, 80115	2007	2018
Psychologist therapy	82000	2008	2017
Psychologist therapy	80020, 80120, 82015	2008	2018
Psychologist therapy	81355	2010	2018
Psychologist therapy	80001	2017	2018
Psychologist therapy	80011, 80101, 80111	2018	2018
Psychiatrist consultation	00306, 00322, 00326, 00342	2003	2018
Psychiatrist consultation	00302, 00324, 00344, 00346	2004	2018
Psychiatrist consultation	00304, 00308	2005	2018
Psychiatrist consultation	00296, 00300, 00348	2006	2018
Psychiatrist consultation	00291, 00352	2007	2018
Psychiatrist consultation	00297, 00328, 00350	2008	2018
Psychiatrist consultation	289	2009	2017
Psychiatrist consultation	355	2010	2018
Psychiatrist consultation	00293, 00858	2011	2018
Psychiatrist consultation	353	2012	2012
Psychiatrist consultation	314	2012	2013
Psychiatrist consultation	338	2012	2015
Psychiatrist consultation	288	2012	2018
Psychiatrist consultation	00319, 00336	2013	2018
Psychiatrist consultation	330	2014	2014
Psychiatrist consultation	00320, 00855	2014	2018
Psychiatrist consultation	357	2015	2015
Psychiatrist consultation	00334, 00356	2015	2018
Psychiatrist consultation	857	2016	2017
Psychiatrist consultation	00332, 00866	2017	2017
Psychiatrist consultation	861	2017	2018
Psychiatrist consultation	361	2018	2018
Occupational therapy or social worker therapy	80015, 80135, 80140, 80145, 80160	2007	2018
Occupational therapy or social worker therapy	80155	2008	2017
Occupational therapy or social worker therapy	80125	2008	2018
Occupational therapy or social worker therapy	80130	2009	2017
Occupational therapy or social worker therapy	80150, 80165	2009	2018
Occupational therapy or social worker therapy	80170	2010	2018

Mental health service type	MBS Aggregated Item Codes	First year of use	Last year of use
Occupational therapy or social worker therapy	80005	2011	2018
Other mental health interventions	00170, 00171	2003	2018
Other mental health interventions	00172, 02725	2004	2018
Other mental health interventions	2723	2006	2007
Other mental health interventions	82010	2008	2016
Other mental health interventions	00135, 82005	2008	2017
Other mental health interventions	02721, 82020, 82025	2008	2018
Other mental health interventions	139	2011	2015
Other mental health interventions	137	2011	2016
Other mental health interventions	2727	2012	2012
Other mental health interventions	82030	2012	2016
Other mental health interventions	82035	2014	2016

Table 2. Associations between socio-demographic and Medical Benefits Schedule-subsidised mental health care use by before their 15th birthday, 2002–18: univariable (unadjusted) regression analyses

	Adjusted odds ratios (99.924% confidence intervals*)					
	Any mental health service	Better Access plan	Psychologist	Psychiatrist	Occupational therapist or social worker	Other services
Sex (boys)	1.02 (0.97-1.08)	0.94 (0.89-0.99)	1.06 (1.00-1.12)	1.15 (0.99-1.32)	1.20 (1.03-1.41)	2.83 (2.42-3.33)
Aboriginal/Torres Strait Islander people	1.52 (1.38-1.66)	1.53 (1.40-1.68)	1.10 (0.99-1.22)	1.48 (1.17-1.85)	1.18 (0.89-1.54)	1.18 (0.92-1.50)
Age (31 December 2018, per year)	1.32 (1.24-1.42)	1.26 (1.18-1.35)	1.34 (1.24-1.45)	1.46 (1.20-1.76)	1.26 (1.02-1.55)	2.23 (1.85-2.69)
Socio-economic position (IRSD quintile)						
1 (most disadvantaged)	1	1	1	1	1	1
2	1.12 (1.03-1.21)	1.11 (1.03-1.21)	1.17 (1.07-1.29)	1.18 (0.93-1.48)	1.10 (0.86-1.41)	1.04 (0.83-1.29)
3	1.11 (1.03-1.21)	1.13 (1.04-1.23)	1.23 (1.11-1.35)	1.20 (0.94-1.52)	1.12 (0.87-1.44)	1.08 (0.87-1.35)
4	1.18 (1.09-1.28)	1.18 (1.09-1.29)	1.34 (1.22-1.48)	1.27 (1.00-1.62)	1.12 (0.86-1.45)	1.15 (0.92-1.44)
5 (least disadvantaged)	1.22 (1.13-1.31)	1.21 (1.12-1.31)	1.45 (1.33-1.59)	1.63 (1.32-2.01)	1.11 (0.88-1.41)	1.07 (0.87-1.32)
Geographic remoteness						
Major cities	1	1	1	1	1	1
Inner regional	1.15 (1.08-1.23)	1.15 (1.08-1.23)	1.08 (1.00-1.16)	1.13 (0.95-1.34)	1.44 (1.19-1.73)	1.08 (0.91-1.29)
Outer regional/remote/very remote	0.82 (0.73-0.91)	0.83 (0.74-0.92)	0.62 (0.54-0.71)	0.71 (0.50-0.97)	1.19 (0.87-1.60)	0.77 (0.56-1.04)

IRSD = Index of Relative Disadvantage.

* Bonferroni-adjusted for multiple testing.

Table 3. Annual and cumulative incidence and numbers of service events for 86 759 New South Wales children who received Medicare Benefits Schedule (MBS)-subsidised mental health care before their 15th birthday, 2002–18, by service type*

Age (years)	Type	Service events		Incidence (%)	
		Annual number	Cumulative number	Annual	Cumulative
0	Any mental health	74	74	0.06	0.1
1	Any mental health	56	130	0.04	0.1
2	Any mental health	131	261	0.07	0.2
3	Any mental health	984	1245	0.38	0.5
4	Any mental health	3478	4723	1.06	1.4
5	Any mental health	7570	12293	1.97	2.9
6	Any mental health	12079	24372	2.94	4.9
7	Any mental health	16893	41265	3.95	7.1
8	Any mental health	19468	60733	4.70	9.4
9	Any mental health	22036	82769	5.37	11.9
10	Any mental health	22656	105425	5.93	14.5
11	Any mental health	24590	130015	6.45	17
12	Any mental health	27720	157735	7.35	19.8
13	Any mental health	34244	191979	8.71	23.1
14	Any mental health	42029	234008	10.50	26.9
0	Better access plan	0	0	0.00	0
1	Better access plan	0	0	0.00	0
2	Better access plan	18	18	0.02	0
3	Better access plan	224	242	0.24	0.3
4	Better access plan	668	910	0.68	0.9
5	Better access plan	1151	2061	1.16	1.9
6	Better access plan	1955	4016	1.91	3.4
7	Better access plan	2756	6772	2.64	5.3
8	Better access plan	3466	10238	3.26	7.4
9	Better access plan	4097	14335	3.84	9.7
10	Better access plan	4888	19223	4.52	12.3
11	Better access plan	5456	24679	4.95	14.8
12	Better access plan	6630	31309	5.82	17.6
13	Better access plan	8795	40104	7.16	20.9
14	Better access plan	11246	51350	8.70	24.8
0	Psychologist therapy	0	0	0.00	0
1	Psychologist therapy	<15	<15	<15	<15
2	Psychologist therapy	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
3	Psychologist therapy	521	574	0.19	0.2
4	Psychologist therapy	1815	2389	0.58	0.7
5	Psychologist therapy	3960	6349	1.09	1.6
6	Psychologist therapy	6961	13310	1.76	2.8
7	Psychologist therapy	10181	23491	2.49	4.4
8	Psychologist therapy	12303	35794	2.94	6
9	Psychologist therapy	14175	49969	3.45	7.8
10	Psychologist therapy	14440	64409	3.69	9.6

Age (years)	Type	Service events		Incidence (%)	
		Annual number	Cumulative number	Annual	Cumulative
11	Psychologist therapy	15653	80062	4.06	11.3
12	Psychologist therapy	17017	97079	4.46	13.3
13	Psychologist therapy	20253	117332	5.11	15.5
14	Psychologist therapy	23584	140916	5.95	18.1
0	Psychiatrist consultation	<15	<15	<15	<15
1	Psychiatrist consultation	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
2	Psychiatrist consultation	20	76	0.02	0
3	Psychiatrist consultation	50	126	0.03	0.1
4	Psychiatrist consultation	171	297	0.06	0.1
5	Psychiatrist consultation	201	498	0.11	0.2
6	Psychiatrist consultation	327	825	0.15	0.3
7	Psychiatrist consultation	444	1269	0.19	0.4
8	Psychiatrist consultation	674	1943	0.26	0.6
9	Psychiatrist consultation	988	2931	0.35	0.8
10	Psychiatrist consultation	1097	4028	0.39	0.9
11	Psychiatrist consultation	1429	5457	0.52	1.2
12	Psychiatrist consultation	2034	7491	0.65	1.5
13	Psychiatrist consultation	3279	10770	0.91	2
14	Psychiatrist consultation	5213	15983	1.34	2.7
0	Social worker/occupational therapist	0	0	0.00	0
1	Social worker/occupational therapist	0	0	0.00	0
2	Social worker/occupational therapist	<15	<15	<15	<15
3	Social worker/occupational therapist	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>	<i>Suppressed</i>
4	Social worker/occupational therapist	472	578	0.08	0.1
5	Social worker/occupational therapist	837	1415	0.13	0.2
6	Social worker/occupational therapist	1113	2528	0.20	0.3
7	Social worker/occupational therapist	1681	4209	0.27	0.5
8	Social worker/occupational therapist	1506	5715	0.32	0.7
9	Social worker/occupational therapist	1492	7207	0.33	0.9
10	Social worker/occupational therapist	1363	8570	0.32	1.1
11	Social worker/occupational therapist	1217	9787	0.30	1.3
12	Social worker/occupational therapist	1302	11089	0.37	1.5
13	Social worker/occupational therapist	1551	12640	0.45	1.8
14	Social worker/occupational therapist	1693	14333	0.49	2.1
0	Other	50	50	0.04	0
1	Other	22	72	0.02	0.1
2	Other	34	106	0.03	0.1
3	Other	91	197	0.06	0.1
4	Other	352	549	0.15	0.3
5	Other	1421	1970	0.44	0.7
6	Other	1723	3693	0.50	1
7	Other	1831	5524	0.59	1.4
8	Other	1519	7043	0.52	1.8
9	Other	1284	8327	0.43	2
10	Other	868	9195	0.33	2.2

Age (years)	Type	Service events		Incidence (%)	
		Annual number	Cumulative number	Annual	Cumulative
11	Other	835	10030	0.32	2.4
12	Other	737	10767	0.33	2.6
13	Other	366	11133	0.15	2.7
14	Other	293	11426	0.15	2.8

Note: Cell sizes of less than 15 cannot be reported; suppressed cells are required to ensure that cells <15 cannot be determined by subtraction.

STROBE Statement—checklist of items that should be included in reports of observational studies (note: the page numbers refer to those of the submitted manuscript, not the published article or its Supporting Information file)

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	2
Objectives	3	State specific objectives, including any prespecified hypotheses	2
Methods			
Study design	4	Present key elements of study design early in the paper	2
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	2
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants	2
		(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	2
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	2
Bias	9	Describe any efforts to address potential sources of bias	?
Study size	10	Explain how the study size was arrived at	2
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	2
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	2
		(b) Describe any methods used to examine subgroups and interactions	N/A
		(c) Explain how missing data were addressed	2
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	N/A
		(e) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	2
		(b) Give reasons for non-participation at each stage	2
		(c) Consider use of a flow diagram	
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	2 (Table 1)
		(b) Indicate number of participants with missing data for each variable of interest	2
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	2-3
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	2 (Table 1)
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	N/A
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	N/A
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Table 2 and

	Item No	Recommendation	Page No
			Suppl. Table 2
		(b) Report category boundaries when continuous variables were categorized	Table 2 and Suppl. Table 2
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Table 1
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N/A
Discussion			
Key results	18	Summarise key results with reference to study objectives	3
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	3
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	3
Generalisability	21	Discuss the generalisability (external validity) of the study results	3
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	4

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.