Supplementary Table 1. Demographic and psychosocial characteristics of children with a mental disorder by MBS data-linkage consent status

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristic  | All Children with mental disordersa | Consented to Datalinkage | No Consent to Datalinkage |
|  | (n=675)b | (n=517) | (n=158) |
| Child sex |  |  |  |
|  Female  | 301 (44.6%) | 226 (43.7%) |  75 (47.5%) |
|  Male  | 374 (55.4%) | 291 (56.3%) |  83 (52.5%) |
| Age |  |  |  |
|  6-11 years | 356 (52.7%) | 310 (60.0%) |  46 (29.1%) |
|  14-17 years | 319 (47.3%) | 207 (40.0%) | 112 (70.9%) |
| Family structure |  |  |  |
|  Single parent | 224 (33.2%) | 167 (32.3%) |  57 (36.1%) |
|  Two parents | 451 (66.8%) | 350 (67.7%) | 101 (63.9%) |
| Family income |  |  |  |
|  <$52,000 | 235 (36.4%) | 186 (37.1%) |  49 (34.3%) |
|  $52,000-$129,999 | 271 (42.0%) | 215 (42.8%) |  56 (39.2%) |
|  ≥$130,000  | 139 (21.6%) | 101 (20.1%) |  38 (26.6%) |
| Location |  |  |  |
|  Non-metropolitan | 261 (38.7%) | 209 (40.4%) |  52 (32.9%) |
|  Metropolitan | 414 (61.3%) | 308 (59.6%) | 106 (67.1%) |
| Disorder |  |  |  |
|  Major Depressive Disorder | 181 (26.8%) | 126 (24.4%) |  55 (34.8%) |
|  Anxiety Disorder | 350 (51.9%) | 274 (53.0%) |  76 (48.1%) |
|  ADHD | 318 (47.1%) | 253 (48.9%) |  65 (41.1%) |
|  Conduct Disorder |  85 (12.6%) |  66 (12.8%) |  19 (12.0%) |
| Functional impairment |  |  |  |
|  Mild | 224 (33.2%) | 176 (34.0%) |  48 (30.4%) |
|  Moderate | 226 (33.5%) | 170 (32.9%) |  56 (35.4%) |
|  Severe | 225 (33.3%) | 171 (33.1%) |  54 (34.2%) |
| Symptom onset |  |  |  |
|  ≤ 2 years ago  | 220 (32.6%) | 169 (32.8%) |  51 (32.3%) |
|  > 2 years ago | 454 (67.4%) | 347 (67.2%) | 107 (67.7%) |
| Comorbid disorder |  |  |  |
|  One disorder | 464 (68.7%) | 350 (67.7%) | 114 (72.2%) |
|  ≥2 disorders  | 211 (31.3%) | 167 (32.3%) |  44 (27.8%) |
| Parental Perceived need |  |  |  |
|  No | 253 (37.6%) | 192 (37.2%) |  61 (39.1%) |
|  Yes | 419 (62.4%) | 324 (62.8%) |  95 (60.9%) |
| Family functioningc |  |  |  |
|  Healthy | 617 (91.4%) | 474 (91.7%) | 143 (90.5%) |
|  Unhealthy  |  58 (8.6%) |  43 (8.3%) |  15 (9.5%) |
| Parent distressd |  |  |  |
|  Normal  | 602 (89.5%) | 461 (89.2%) | 141 (90.4%) |
|  High  |  71 (10.5%) |  56 (10.8%) |  15 (9.6%) |

n indicates sample; % indicates weighted percentage. ADHD=attention-deficit/hyperactivity disorder; MBS=Medicare Benefits Schedule.

a Participants with missing characteristics: n=30 missing family income; n=1 missing duration of symptoms; n=3 missing parental perceived need; n=2 missing parent distress.

b n=3 missing consent status.

c Based on 6-item Family Assessment Device General Functioning Subscale score.

d Based on Kessler K6 score.

Supplementary Table 2. Medicare Benefits Schedule (MBS) items describing attendances to health professionals for mental health problemsa

|  |  |  |
| --- | --- | --- |
| Health Professional | MBS Item Number/s | Description |
| General Practitioner | 2700 to 2725 | Preparation or review of a general practitioner mental health treatment plan; attendance pertaining to patient mental health. |
| Psychologist | 10968; 80000 to 80020; 80100 to 80120; 82000; 82015 | Attendance to a clinical or registered psychologist for the purpose of receiving assessment or treatment of a mental disorder or pervasive developmental disorder, where the patient is referred by a medical practitioner. |
| Psychiatrist | 288 to 353; 866 | Attendance to a consultant psychiatrist. |
| Paediatrician | 110, 116, 132, 133 | Items most commonly used by paediatricians for assessment and treatment of mental disorders.(Hiscock et al., 2017) |
| Social Worker | 80155 to 80165 | Attendance to a social worker to receive focussed psychological strategies services for an assessed mental disorder, where the patient is referred by a medical practitioner. |
| Occupational Therapist | 80125 to 80145 | Attendance to an occupational therapist to receive focussed psychological strategies services for an assessed mental disorder, where the patient is referred by a medical practitioner. |

MBS=Medicare Benefits Schedule.

a All items in the linked MBS data were assessed for their inclusion as an attendance to a health professional for mental health problems.

Supplementary Table 3. Medications used for management of emotional and behavioural problems identified from Pharmaceutical Benefits Scheme

| Drug |
| --- |
| Amitriptyline hydrochloride |
| Atomoxetine |
| Carbamazepine |
| Citalopram  |
| Clonidine  |
| Desvenlafaxine |
| Dexamphetamine sulphate |
| Diazepam |
| Duloxetine |
| Escitalopram |
| Fluoxetine hydrochloride |
| Fluvoxamine |
| Imipramine  |
| Lithium carbonate |
| Methylphenidate  |
| Mirtazapine  |
| Nortriptyline hydrochloride  |
| Olanzapine  |
| Paroxetine  |
| Pericyazine  |
| Prochlorperazine  |
| Propranolol hydrochloride  |
| Quetiapine  |
| Risperidone  |
| Sertraline  |
| Sodium valproate  |
| Temazepam  |
| Venlafaxine  |

Supplementary Table 4. Odds ratios for receiving minimally adequate treatment versus treatment not meeting these criteria (reference category) with mental health professionals in the 18 months after diagnosis (n=244)a

|  |  |  |
| --- | --- | --- |
| Characteristic  | Bivariable  | Multivariable |
|  | OR (95% CI) | OR (95% CI) |
| Child sex |  |  |
|  Female  | 1.00 | 1.00 |
|  Male  | 0.53 (0.29-0.96) | 0.70 (0.35-1.43) |
| Age |  |  |
|  6-11 years | 1.00 | 1.00 |
|  14-17 years | 3.04 (1.62-5.68) | 1.26 (0.54-2.90) |
| Family structure |  |  |
|  Single parent | 1.00 | 1.00 |
|  Two parents | 0.89 (0.46-1.74) | 0.57 (0.23-1.41) |
| Family income |  |  |
|  <$52,000 | 1.00 | 1.00 |
|  $52,000-$129,999 | 1.66 (0.83-3.31) | 1.42 (0.62-3.22) |
|  ≥$130,000  | 0.99 (0.39-2.50) | 0.91 (0.28-2.98) |
| Location |  |  |
|  Non-metropolitan | 1.00 | 1.00 |
|  Metropolitan | 1.18 (0.65-2.14) | 0.67 (0.34-1.32) |
| Disorderb |  |  |
|  Major Depressive Disorder | 3.39 (1.82-6.34) | 2.28 (0.64-8.17) |
|  Anxiety Disorder | 0.95 (0.52-1.75) | 0.54 (0.14-2.12) |
|  ADHD | 0.64 (0.34-1.19) | 0.97 (0.26-3.64) |
|  Conduct Disorder | 0.44 (0.14-1.33) | 0.26 (0.05-1.54) |
| Functional impairment |  |  |
|  Mild | 1.00 | 1.00 |
|  Moderate | 6.23 (2.20-17.67) | 7.08 (2.05-24.41) |
|  Severe | 7.10 (2.58-19.53) | 5.33 (1.39-20.53) |
| Symptom onset |  |  |
|  ≤ 2 years ago  | 1.00 | 1.00 |
|  > 2 years ago | 0.95 (0.47-1.90) | 1.36 (0.55-3.37) |
| Comorbid disorder |  |  |
|  One disorder | 1.00 | 1.00 |
|  ≥2 disorders  | 1.25 (0.69-2.25) | 1.03 (0.23-4.56) |
| Parental perceived need |  |  |
|  No | 1.00 | 1.00 |
|  Yes | 1.93 (0.90-4.11) | 0.83 (0.32-2.12) |
| Family functioningc |  |  |
|  Healthy | 1.00 | 1.00 |
|  Unhealthy  | 3.96 (1.38-11.38) | 4.11 (0.86-19.72) |
| Parent distressd |  |  |
|  Normal  | 1.00 | 1.00 |
|  High  | 0.92 (0.33-2.55) | 1.27 (0.38-4.19) |
| Previous mental health visitse  |  |  |
|  0  | 1.00 | 1.00 |
|  1-3 | 2.50 (0.93-6.73) | 2.38 (0.78-7.24) |
|  ≥ 4 | 3.37 (1.54-7.37) | 2.75 (1.12-6.75) |

n indicates sample; OR indicates weighted odds ratio. CI=confidence interval; OR=odds ratio.

a Participants with missing characteristics: n=11 missing family income; n=1 missing duration of symptoms; n=1 missing parental perceived need.

b Reference category is children without the disorder.

c Based on 6-item Family Assessment Device General Functioning Subscale score.

d Based on Kessler K6 score.

e Number of visits to health professionals in the two years prior to the national survey.

Supplementary Table 5. Percentage (95% CI) of children meeting criteria for minimally adequate treatment between 12 months prior to the national survey and 18 months after the survey

|  |  |  |  |
| --- | --- | --- | --- |
| Nature of Contacta | All Children(n=517) | Severe Functional Impairment(n=171) | Severe Functional Impairment and Parental Perceived Need(n=146) |
|  |  |  |  |
| Met Criteriab | 19.1 (15.7-23.0) | 31.5 (24.4-39.6) | 33.0 (25.2-42.0) |
|  4-7 visits + medication |  7.6 (5.4-10.6) | 11.7 (7.2-18.2) | 12.7 (7.6-20.4) |
|  >8 visits + medication |  5.5 (3.9-7.9) |  8.1 (4.6-13.7) |  8.1 (4.4-14.5) |
|  >8 visits + no medication |  6.0 (4.2-8.5) | 11.7 (7.5-17.7) | 12.2 (7.7-18.9) |
|  |  |  |  |
| Did not meet criteriac | 37.0 (32.7-41.6) | 42.4 (34.3-50.8) | 44.9 (36.1-53.9) |
|  1-3 visits | 28.4 (24.3-32.8) | 30.0 (22.9-38.1) | 32.7 (24.8-41.8) |
|  4-7 visits + no medication |  8.7 (6.4-11.7) | 12.4 (8.1-18.6) | 12.1 (7.5-19.1) |
|  |  |  |  |
| No Contact | 43.8 (39.2-48.6) | 26.2 (19.5-34.2) | 22.1 (15.4-30.6) |

n indicates sample; % indicates weighted percentage. CI=confidence interval.

a Reports the highest level of treatment for children visiting more than one health professional; ≥8 visits + medication was deemed a higher level of treatment than ≥8 visits + no medication. Includes visits to psychologists, paediatricians, psychiatrists, general practitioners, occupational therapists, and social workers. b Within a 12 month period: 4-7 visits with a health professional plus medication, or ≥8 visits with or without medication.

c Within a 12 month period: 1-3 visits or 4-7 visits without medication.

Supplementary Table 6. Timeframe during which children began treatment in the 18 month follow-up period (n [%])

|  |  |  |
| --- | --- | --- |
| Months Until First Treatment Visit | Met Criteria(n=67) | Did Not Meet Criteria(n=177) |
| 0-3  | 34 (54.0%) | 64 (36.0%) |
| 3-6  | 12 (14.2%) | 32 (17.9%) |
| 6-9  |  4 (5.9%) | 23 (13.7%) |
| 9-12  | 13 (20.9%) | 14 (8.5%) |
| 12-15 |  4 (4.9%) | 27 (13.6%) |
| 15-18 |  0 (0.0%) | 17 (10.2%) |

n indicates sample; % indicates weighted percentage.