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Model type Report ID and locale	Service model name: brief description	Staffing details	Setting Population	Study type (arms) MMAT appraisal	Sample size and characteristics	Time points: outcome measures*	Key findings
A1a. Outpatient CAMHS, generic Worral Davies 2004 UK, England	Innovative Tier 2 service: staff with specialist training as first point of contact for anyone concerned about emotional-behavioural problems in CYP	CAMH workers (from social work, school nursing, MH nursing), clinical psychologist, team manager, administrator	community generic MH problems, ages up to 16	uncontrolled retrospective cohort study MMAT Group 4 	75 families no demographic information	at admission and discharge (routine dataset extraction): HoNOSCA	Median scores fell significantly from 10 at assessment to 3 post treatment; this suggests the Tier 2 service was effective.
A1b. Outpatient CAMHS, condition-specific Zima 2010 USA <i>see also B1</i>	Specialist ADHD clinic (vs. B1. management of ADHD in primary care)	unclear	setting unclear children with ADHD, ages 5-11	controlled retrospective cohort study (primary care vs. specialist MH care vs. no care) MMAT Group 3 	530 children (group allocation unclear) mean age 9.9, 68% male, 89% minority ethnic	at baseline, 6m and 12m (routine dataset extraction): NIMH-DISC (ADHD module), CDI, CIS, school achievement, school suspension/expulsion, MHI-5, CASA	Outcomes generally did not vary between children receiving and not receiving ADHD care or between those in primary care or specialty MH clinics.
A2. Specialist CAMHS day care Çakin Memik 2010 Turkey	Day clinic: providing mixture of activities and psychotherapies	recreation specialist, teacher, research assistant, specialist physicians	university psychiatry department generic, but mostly ADHD, ages 10-17	uncontrolled pre/post study MMAT Group 4 	31 YP mean age 13.6, 68% female, ADHD most common diagnosis	at intake and discharge: K-SADS-PL (Turkish version), CGI (Turkish version) at discharge only: study-specific treatment evaluation scale	Mean functioning score increased significantly at post-test. At discharge, significant improvements in disease severity in 78%. YP who completed the programme appeared to function better globally at discharge. Day treatment was perceived by families as helpful.


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A2. Specialist CAMHS day care Rey 1998 Australia	Day treatment: providing a range of psychotherapies	psychiatrists, teachers, nurses, psychologists	hospital disruptive behaviour disorders (mostly CD, ODD and ADHD), age range unclear	controlled study (day patient vs. matched non-day patient) MMAT Group 3 	63 CYP analysed: 38 day patient; 35 non-day patient study group mean age 12.9, 82% male control mean age 13.0, 86% male	at intake and 3y: CBCL, YSR, GAF, GFES	Only significant differences were for mean GAF scores and further use of services. YP attending the day programme functioned better overall and used fewer services. CBCL improvements could not be attributed to day programme attendance.
B1. Collaborative care Asarnow 2005 Asarnow 2009 USA	Youth Partners in Care: care managers provide support and co- ordination to primary care clinicians	care managers (psychotherapists with minimum master's degree in MH or nursing)	primary care YP with depression, ages 13-21	RCT (Youth Partners in Care vs. usual care) MMAT Group 2 	348 YP analysed: 174 Youth Partners in Care; 174 usual care mean age 17.2, 78% female, 56% Hispanic or Latino	at intake, 6m, 12m and 18m: CES-D, SF- 12	Statistically significant intervention effects on CES-D rates at 6 months. Intervention effects on SF-12 were significant only at 6 months. Depression (CES-D) and quality of life (SF-12) outcomes for depressed YP can be improved through primary care based collaborative care.
B1. Collaborative care Clarke 2005 USA	Collaborative care: on- site MH specialist and primary care provider jointly treat depressed YP in an integrated primary care clinic	primary care practitioner, MH professional	primary care YP with depression, ages 12-18	RCT (collaborative care inc. CBT + SSRI R vs. usual care inc. SSRI R) MMAT Group 2 	114-132 YP analysed; 56-67 collab. care; 58- 65 usual care mean age 15.3, 78% female, 14% ethnic minority	at intake, 6w, 12w, 26w and 52w: K- SADS-PL, CES-D, HAM-D, YSR, CGAS, SAS-SR, CBCL, SF-12, health care use data	Only weak evidence of effectiveness was found. Usual care control was a potent intervention alone, with nearly 75% depression recovery by 12 weeks. This collaborative care approach does not add much to a well-delivered primary care SSRI.
B1. Collaborative care Day 2006 UK, England	Primary care CAMH outreach clinic: each practitioner carries a caseload linked to specific GP practices or other community locations	child psychologists, child and family therapist	primary care generic MH problems, ages up to 18	controlled study (outreach clinic vs. waitlist) MMAT Group 3 	187 CYP analysed: 88 outreach clinic; 99 waitlist mean age 7.5 (clinic) 9.4 (waitlist), mostly male, mostly white	at referral, 4m (both groups) and 1y (outreach group): CBCL, PSI-SF, study- specific child and family impact measure (CFIM)	Significant improvements in the outreach group compared to the control at 4 months, including reductions in CBCL total problem, CBCL externalising, PSI impact and CFIM burden scores. These were maintained at 1 year though many CYP still had problems that reached caseness after intervention. There was no effect on CYP emotional problems or parental stress.

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B1. Collaborative care Kolko 2012 USA	DOCC (Doctor-Office Collaborative Care): care managers provide support and co-ordination to primary care clinicians	paediatric primary care physicians, care managers (from social work, counselling, nursing), 'backup' child psychiatrist	primary care behavioural disorders with comorbid ADHD and/or emotional problems, ages 5-12	RCT, within a mixed methods design (DOCC vs. enhanced usual care) MMAT Group 5 	77 children analysed: 54 DOCC; 23 enhanced usual care predominantly young, male, white	at baseline and 6m: K-SADS-PL, VADRS, SCARED; at 6m only: CGI	Pre/post comparisons revealed both DOCC and enhanced usual care produced significant improvements on virtually all measures. In addition, DOCC was superior to enhanced usual care in reducing oppositional behaviour, inattention, hyperactivity and functional impairment. Neither group was superior for anxiety, depression or conduct disorder symptoms.
B1. Collaborative care Kolko 2014 USA	DOCC (Doctor-Office Collaborative Care): care managers provide support and co-ordination to primary care clinicians	care managers (master's level social workers)	primary care behaviour problems, ADHD, anxiety, age range unclear	RCT, clustered by paediatric centres (DOCC vs. enhanced usual care) MMAT Group 2 	8 paediatric centres/292 families analysed: 4/150 DOCC; 4/142 enhanced usual care mean age 8.0, most male, most white	at baseline, 6m, 12m, 18m: VADRS, PedsQL, PSI-SF, CGI, PBS	Compared to enhanced usual care, DOCC was associated with improvements in hyperactivity, behaviour problems, internalising problems, parental stress and higher rates of treatment initiation/completion. DOCC paediatricians reported greater perceived practice change, efficacy and skill use in treating ADHD. Collaborative care for behaviour problems in community paediatric practices is feasible and broadly effective.
B1. Collaborative care Power 2014 USA	PASS (Partnering to Achieve School Success): integrated primary care services to promote access and collaborative care with primary care clinicians	PASS therapists (postdoc fellows in clinical or school psychology), assisted by lay 'community health partners'	primary care children with ADHD, ages 5-10	controlled study (PASS vs. COMP = usual care + brief education and support) MMAT Group 3 	46 families analysed: 22 PASS; 24 COMP 31% of children female, 61% of families low income, 65% single parent households, 94% Black/African American	at baseline and post-treatment: DPICS, Conners, PTIQ	Because of the limited amount of outcome data collected from teachers, it was not possible to examine outcomes involving teacher-report data. The two groups did not differ significantly on any of the outcome measures.

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B1. Collaborative care Richardson 2009 USA	Collaborative care: involved case management, enhanced patient education, self-management support, enhanced antidepressant care or problem solving	depression case manager (registered nurse with MH experience)	primary care YP with depression, ages 12-18	uncontrolled pre/post study, within a mixed methods design MMAT Group 5 	35 YP analysed mean age 15.0, 90% female, 87% white	at each contact: PHQ-9 at baseline, 3m and 6m: MFQ-SF, CGAS, SCARED, CIS	There was a significant improvement in depression scores (PHQ-9 and MFQ-SF) and functional impairment (CIS) from baseline to 6m follow-up.
B1. Collaborative care Richardson 2014 USA	ROAD (Reaching Out to Adolescents in Distress): proprietary name for same collaborative care approach described in Richardson 2009 above	depression care managers (master's-level clinicians)	primary care YP with depression, ages 13-17	RCT (collaborative care vs. usual care) MMAT Group 2 	101 YP analysed; 50 collaborative care; 51 usual care mean age 15.3, 72% female, 31% non-white	at baseline, 6m and 12m: CDRS-R, CIS, PHQ-9	Regression analyses at all time points revealed ROAD youth had an 8.5-point greater decrease in mean CDRS-R from baseline than control youth. CIS differences between the groups were not significant at 6- and 12-month follow-ups. For YP with depression seen in primary care, ROAD resulted in significantly greater improvements in depressive symptoms at 12 months compared to usual care.
B1. Collaborative care Shippee 2018 USA	EMERALD (Early Management and Evidence-based Recognition of Adolescents Living with Depression): RN care coordinators trained in depression management and motivational interviewing embedded in paediatric primary care practices	registered nurse; primary care practitioner, psychiatrist	community YP with depression, ages 12-18	controlled retrospective cohort study (EMERALD vs. usual care) MMAT Group 3 	661 YP: 162 EMERALD; 499 usual care	at baseline and 6m (routine dataset extractions: PHQ-9 (6m PHQ score <5 = 6m treatment remission and 6m >50% reduction from baseline = 6m treatment response)	Differences in treatment response and remission indicated better outcomes for EMERALD youth. Compared with usual care, collaborative care for adolescent depression within a busy outpatient practice was associated with higher rates of improved mood at six months.




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B1. Collaborative care (2 x B1 models compared) Silverstein 2015 USA	Collaborative care: primary care clinicians working with MH specialists via care manager intermediaries Enhanced collaborative care: as above but care managers received additional training in motivational interviewing and Triple P parenting	lay care managers (bachelor's or master's level, without formal MH training or clinical experience, though trained in medical history taking)	primary care children suspected of ADHD, ages 6-12	RCT (basic vs. enhanced collaborative care) MMAT Group 2 	148-151 children analysed: 70-72 basic; 71-77 enhanced collaborative care mean age 8.6, 69% male, 60% black and 27% Latina	at baseline, 6m and 12m: SNAP-IV, SSRS, QIDS, ASRS, S-TOFHLA	For the entire sample, there were no differences in symptom trajectories between the study arms. However, among children with ADHD-consistent presentations, enhanced care children experienced better symptom trajectories than basic care children, especially in the second half of the follow-up period. The effectiveness of collaborative care could be improved by training care managers in motivational and parent management techniques.
B1. Collaborative care Zima 2010 USA <i>see also A1b</i>	Management of ADHD in primary care (vs. A1b. management in a specialist ADHD clinic): delivered collaboratively in primary care	unclear	primary care children with ADHD, ages 5-11	controlled retrospective cohort study (primary care vs. specialty care vs. no care) MMAT Group 3 	530 children (group allocation unclear) mean age 9.9, 68% male, 89% minority ethnic	at baseline, 6m and 12m (routine dataset extraction): NIMH-DISC (ADHD module), CDI, CIS, school achievement, school suspension/expulsion, MHI-5, CASA	Outcomes generally did not vary between children receiving and not receiving ADHD care or between those in primary care or specialty MH clinics.
B2. School-embedded MH service Beehler 2012 USA	CATS (Cultural Adjustment and Trauma Services): comprehensive school-based approach with relationship-building, outreach and clinical and case management services	bicultural and/or bilingual master's level clinicians, 'culture brokers' (ethnic paraprofessionals primarily responsible outreach and case management activities)	school immigrant children with significant trauma exposure and/or cultural adjustment needs, age range unclear	uncontrolled longitudinal study MMAT Group 4 	149 CYP mean age 14.4, 63% female, 29 different countries	at intake and every 3m: CAFAS, PTSD-RI	Results suggest CATS was effective. Data suggests that positive outcomes are enhanced when service components are used in combination.

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B2. School-embedded MH service Finch 2018 USA	Recovery high schools (RHSs): offer a full range of academic services in a structured environment that promotes recovery from substance misuse	unclear	community; school YP with substance misuse problems, ages 14-19	controlled study (recovery high schools vs. non-recovery schools) MMAT Group 3 ①②③④⑤	194 YP: 134 recovery high schools; 60 usual schools mean age 16.4, 50% male, 86% white	at baseline and 6m: daily substance use, complete abstinence (yes/no), truancy, absenteeism	YP attending RHSs were significantly more likely to report being completely abstinent from substances at follow-up compared to those attending usual schools. There was lower marijuana but not alcohol or other drug use in RHSs and less absenteeism. Study provides initial evidence that RHSs have an effect on YP who use substances.
B2. School-embedded MH service McKenzie 2011 UK, Scotland	CAMHS counsellor embedded in school	Counsellor seconded from CAMHS	school generic MH problems, ages 11-18	uncontrolled pre/post study MMAT Group 4 ①②③④⑤	40 CYP mean age unclear, 63% female	at first and final session: YP-CORE	Results indicated that there was a significant change in YP-CORE scores on functioning, problems and well-being, with all three showing a large effect size.
B2. School-embedded MH service Wolpert 2013 UK, England	TaMHS (Targeted MH in Schools): money provided to fund training, support and consultancy for school staff and/or additional staff to work with staff and pupils	teachers and teaching assistants, sometimes external professionals	school generic MH problems, ages 5-13	mixed methods: 1. RCT, clustered by local authority areas (TaMHS vs. no TaMHS) 2. 'naturalistic' longitudinal observation study MMAT Group 5 ①②③④⑤	1. 15,241 CYP in the RCT: TaMHS (44 areas, CYP numbers unclear); no TaMHS (30 areas, CYP numbers unclear) 2. 5,993 CYP in the longitudinal study no demographic information	[timepoints unclear]: MH in both the RCT and the longitudinal study was assessed via pupil self-report, SDQ, 'Me & My School' (bespoke TaMHS measure)	1. The RCT found TaMHS provision benefitted children with behavioural difficulties in primary schools but no evidence of such for secondary schools or for emotional outcomes in primary schools. 2. Longitudinal work revealed decreases in both emotional and behavioural difficulties in primary schools; secondary school picture was mixed, with pupil reports showing a decrease in emotional but not behavioural difficulties, but no change in either according to teacher reports (SDQ).

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B3. Psychiatry-derived community hub O’Keeffe 2015 Ireland	Jigsaw Centres: early intervention community hub based on headspace centres	multi-disciplinary teams of allied health professionals	community YP with mild-moderate MH difficulties, ages 12-25	uncontrolled retrospective cohort study MMAT Group 4 	unclear: 709 CYP at first session and 315 at final session analysed most aged 15-17, 56% female	at first and final sessions (routine dataset extraction): CORE-10 or YP-CORE	Both age groups (12-16 and 17–25 year olds) showed a significant reduction in psychological distress (CORE-10 or YP-CORE) post-intervention.
B3. Psychiatry-derived community hub Rickwood 2015a Australia	Headspace Centres: one-stop hubs offering a mix of health and non-health services that YP need most	unclear	community generic MH problems (mostly depression and anxiety), ages 12-25	uncontrolled retrospective cohort study MMAT Group 4 	unclear: 23,034 YP from 55 Headspace Centres, for which 20,903 had follow-up data mean age 17.8, 63% female	at 1st, 3rd, 6th, 10th and 15th visits and 90 day follow-up (routine dataset extraction): K10, SOFAS	Psychological distress (K10) scores were significantly reduced in 36%, reliably improved in 26%, and clinically significantly improved in 21% of attendees. In 21% of clients, K10 scores significantly worsened or reliably deteriorated. Results show that psychological distress was significantly reduced in more than one-third of clients for whom data were available, and psychosocial functioning (SOFAS) improved in a similar proportion. Considering either measure, 60% experienced significant improvement.
C1. Primary care MH service Clark 2014 New Zealand	Your Choice: uses existing resources and expertise from primary care and community services for collaborative, multi-disciplinary triaging, coupled with funding for free coordination and counselling	one paid coordinator (social worker), a multidisciplinary team and cross-agency triage team, contract counsellors/therapists	community YP with mild to moderate MH concerns, ages 10-24	uncontrolled pre/post study, within a mixed methods design MMAT Group 5 	581 YP majority 10-19, 53% female, 51% NZ European, 31% Maori	at intake and completion: SDQ, SACS, CGAS	From intake to completion, those who completed Your Choice reported significant improvements in global social and psychiatric functioning (CGAS), a reduced risk of clinically significant MH concerns (SDQ) and reductions in the use of drugs and alcohol (SACS).



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C1. Primary care MH service Rapee 2017 Australia	Stepped care for anxious youth: (1) low intensity self-help; (2) 'Cool Kids' programme; (3) individual CBT	psychology trainees (step 1), trained psychologists (step 2), postgrad clinical psychologists (step 3)	specialised university clinic CYP with a (diagnosed) anxiety disorder, ages 7-17	RCT (stepped care vs. Cool Kids alone) MMAT Group 2 	262 YP/parents analysed: 127 stepped care; 155 Cool Kids mean age 9.6, most European-Australian, well-educated and middle class	at baseline and 12m: diagnosis via ADIS-IV-CP, study-specific clinical severity rating, SCAS-C, SCAS-P, CALIS	There was no difference between stepped care and comparison on SCAS-C or SCAS-P, nor on CALIS. It is possible that stepping treatment intensity may not deliver significant benefits in either efficacy or cost-effectiveness, although stepped care required 14% less therapist time.
D1. Outreach to home Duffy 2014 UK, Scotland	Lothian CAMHS intensive treatment service: responsive, planned care through case management and multidisciplinary packages of care	MH nurses, assistant psychologist, clinical psychologist, psychiatrist, occupational therapist, dietetic and social work input	community, home CYP with severe MH difficulties (mostly mood disorders and self-harm), ages 7-17	uncontrolled pre/post study MMAT Group 4 	26-49 YP analysed mean age 14.8, 66% female	at intake and discharge: CGAS, HoNOSCA, WHOQOL-BREF, BYI-II at intake only: PCS	Following intervention, functioning scores (CGAS) significantly improved. Mean HoNOSCA scores decreased by an average of 7 points and 65% of YP showed a clinically relevant change of 4 or more points. There were significant improvements within the Psychological, Physical and Environment domains of the WHOQOL-BREF but not the Social Relationship domain. The Self Concept and Depression scales of the BYI-II both showed significant improvements at discharge.
D1. Outreach to home (3 x D1 models compared) Evans 1997 Evans 2003 USA	Home-based crisis intervention (HBCI) Enhanced home-based crisis intervention (HBCI+): as HBCI plus training in cultural competence and supporting families affected by violence Crisis case management (CCM): intensive short-term approach; small caseloads	HCBI: counsellors (trained in the model), counselling supervisor, psychiatrist HBCI+: bilingual/bicultural 'family advocate' in addition to HCBI staff CCM: case managers	community, home CYP in psychiatric crisis, ages 5-17	RCT (HBCI vs. HBCI+ vs. CCM) MMAT Group 2 	238 analysed: 90 HBCI; 85 HBCI+; 63 CCM mean age 12.3 (58% over 13), 53% male, 60% Hispanic	at intake, discharge and 6m: Piers-Harris, FACES II, PSES, ISSB, CBCL, CAFAS	All three interventions were successful in maintaining a great majority of the enrolees in the community. YP in all three interventions experienced positive outcomes in their self-concept that were sustained at 6-month follow-up. No firm conclusions can be drawn over the superiority of the models.

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D1. Outreach to home Tischler 2002 UK, England	MH outreach service for homeless families: a designated community MH nursing post to provide outreach MH cover to family hostels	community MH nurse	community, home generic MH problems, ages 3-16	nonrandomised controlled study, within a mixed methods design (outreach vs. no outreach) MMAT Group 5 ①②③④⑤	54 children analysed: 27 outreach; 27 no outreach 70% of families single mothers, average of three children	at intake and 6m: GHQ, SDQ	Outreach had no significant impact on parental wellbeing – total GHQ scores decreased in both groups. However, outreach children had a significantly higher reduction in SDQ scores compared to the control group.
D1. Outreach to home Wilmshurst 2002 Canada	Family preservation programme: intensive home support, with workers available 24/7	psychologist, psychiatrist, family therapists	community, home generic MH problems, age range unclear	RCT (family preservation vs. 5-day residential programme, 5DR) MMAT Group 2 ①②③④⑤	63-69 children analysed: 38-39 family preservation; 27-30 5DR mean age 10.7, 85% male, 95% Caucasian	at intake, 12w discharge and 1y: SCIS, SSRS	A significant treatment x programme interaction was evident for internalising disorders. At 1 year follow-up, significantly higher percentages of children from family preservation showed a reduction of symptoms for ADHD, anxiety and depression, whereas a significant proportion of 5DR children showed clinical deterioration and increased anxiety and depression.
D2. Schools outreach Atkins 2006 USA	PALS (Positive Attitudes toward Learning in School): community members work with clinicians to design/implement educational and MH services that are acceptable to users	PALS clinicians, parent advocates	community, school disruptive behaviour disorders (CD, ODD, ADHD), ages 5-10	RCT, clustered by classrooms (PALS vs. usual clinic referral) MMAT Group 2 ①②③④⑤	90 families analysed: 60 PALS; 30 usual clinic referral 47% female, 97% African-American	at intake, 3m, 9m and 12m: Conners, SSRS	Results indicated significant service engagement and retention for PALS families compared to usual clinic referrals, with over 80% of PALS families retained in services for 12 months. PALS services were correlated with positive changes in parent-rated child behaviour (Conners) and improvements in teacher-rated social skills (SSRS).

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D2. Schools outreach Atkins 2015 USA	L2L (Links to Learning): updated version of PALS (Atkins 2006); collaborative delivery of universal and targeted interventions by community MH practitioners, parent advocates and 'key opinion leader' teachers	community MH practitioners, parent advocates, teacher 'key opinion leaders'	community, school African American children with disruptive behaviour disorders, age range unclear	RCT, clustered by schools (L2L vs. usual MH services) MMAT Group 2 	6 schools/171 children analysed: 3/104 L2L; 3/67 usual MH services mean age 7.5, 73% male, 94% African-American	at intake and periodically over 3 years: BOSS, SSRS, SDQ, HSUP, standardised reading ability, ACES, HCP	L2L children were significantly more likely than usual services children to use MH services. L2L led to improved behaviour at home and school compared to usual services. L2L was associated with small but significant increases in teacher-rated academic competence (ACES) and teacher- and parent-rated social skills (SSRS), particularly for children in lower grades or less severely impaired.
D2. Schools outreach Cai 2016 Lim 2017 Singapore	REACH (Response, Early Assessment and Intervention in Community MH): outreach CAMH service involving a consultation clinic, teacher training and parent psychoeducation	nurses, psychologists, social workers, occupational therapists, administrators, supported by a psychiatrist	community, school generic MH problems (mostly ADHD and emotional disorders), ages 6-20	uncontrolled retrospective cohort study MMAT Group 4 	3,156 children (little further information)	at baseline, 3m and 6m (routine dataset extraction): CGI, SDQ, CGAS	After 6 months, CGI scores of students referred to REACH were significantly lower and student significantly improved on all subscales of the SDQ. Initial severity scores on the CGAS were not significantly lower six months later, however.
D2. Schools outreach Gilliam 2016 USA	ECCP (Early Childhood Consultation Partnership): qualified MH practitioners act as classroom-based consultants to early childhood teachers and professionals	consultants (master's degree in a MH, psychology or social work)	school preschool internalizing /externalizing behaviours, ages 3 to 5	RCT, clustered by classrooms (ECCP vs. delayed ECCP) MMAT Group 2 	88 classroom/176 children analysed: 44/88 ECPP; 44/88 delayed ECCP mean age 4.1	at intake and completion: CLASS, SSRS, Conners, study-specific school expulsion measure	ECCP treatment effects were found only on externalising scales. ECCP resulted in significant decreases across several domains of teacher-rated externalising and problem behaviours. ECCP had no impact on expulsion risk factors. ECCP is a viable way of infusing MH services into early childhood settings.




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D2. Schools outreach Holmes 2015 USA	Head Start Trauma Smart: involves consultation to preschool settings and training staff in early identification of trauma, use of trauma-focussed CBT	master's level, licensed clinicians from a trauma-informed background and/or with early childhood training	community, school children/families requiring trauma specific support, ages 3-5	uncontrolled pre/post study MMAT Group 4 	81 children child mean age 4.3, 64% male, majority non-white	CTES, CBCL, TRF, CLASS	The TRF showed significant reductions on attention, externalising behaviours and ODD and ADHD scores from pre to post test. Parents similarly reported significant improvements in externalising problems, attention/hyperactivity and internalising behaviours.
D3. Community outreach and liaison Callaghan 2004 UK, England	Primary MH team for looked after children: workers acting as a bridge between Tiers 1 and Tiers 2-3 of UK CAMHS	primary MH workers, psychologists, psychiatrist	community looked after CYP, ages up to 18	uncontrolled pre/post study within a mixed-method design MMAT Group 5 	37 CYP and their carers means age 11.7, 56% male, 89% white British	at referral and 5m: HoNOSCA, SDQ	Total HoNOSCA scores were found to decrease significantly. At 5 month follow-up, the adult-rated SDQs showed significant improvement in emotional problems. There was no significant change in conduct, hyperactivity or peer relationship problems. Child-rated SDQs showed significant improvement in peer relationship problems, while the other scales remained unchanged.
D3. Community outreach and liaison Window 2004 Vostanis 2006 UK, England	Child behaviour intervention initiative (aka FSS: Family support service): workers provide interventions to families at home and consultation to community groups such as primary care staff, school-based children's groups and parents	family support workers, educational psychologists, primary MH workers	community children with behavioural problems (mainly ODD) and children with less complex emotional problems, ages up to 12	matched controlled study (open referral FSS A vs. accessed via social services FSS B vs. usual services) MMAT Group 3 	107 children analysed: 32 FSS A; 44 FSS B; 31 usual services children mostly male, mostly white	at entry and 5m: HoNOSCA, SDQ, service utilisation checklist	Despite matching, children presenting to usual services had more severe problems than FSS groups. All 3 groups were associated with a decrease in child behaviour scores. The two FSS groups provided an earlier response and resulted in significantly higher reduction of HoNOSCA and SDQ scores. Of the two FSS models, open referral FSS A was more accessible. However, social services facilitated FSS B was associated with significantly more positive outcomes in child behaviour and family life.

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D4. Paediatric liaison Holder 2017 USA	Paediatric emergency department (ED) programme: social workers working with paediatric emergency physicians in the ED	social workers, psychiatrist	hospital CYP presenting at the emergency department, ages 5-18	uncontrolled retrospective cohort study MMAT Group 4 ①②③④⑤	unclear: data for 1,048 CYP pre- and 1,613 post-programme mean age 14.9, most white males	at intake and discharge: length of ED stay in hours (routine dataset extraction)	The length of ED stay significantly reduced from 14.7 to 12.1 hours. Targeted training of ED staff and provision of specialised MH services can reduce length of stay in the paediatric emergency department.
D4. Paediatric liaison Parker 2003 Canada	Rapid response model: offers urgent phone consultations with child MH specialists or emergency appointments with CYP and families as well as training for referrers	psychiatrist	hospital children with MH emergencies, age range unclear	uncontrolled 'natural experiment' (resulting from the arrival, departure and return of the psychiatrist) MMAT Group 4 ①②③④⑤	unclear	[timepoints unclear]: number of A&E consultations and admissions from A&E and other sources to inpatient units; length of stay on inpatient unit	The rapid response model (RRM) had a clear impact on admissions from A&E to adolescent inpatient psychiatry units. When RRM was available, the proportion of inpatient admissions from A&E dropped, when it was suspended, the proportion rose. On its reintroduction, the proportion of inpatient admissions from A&E was reduced again.
E1. Wraparound Cordell 2017a USA	Full service partnerships (FSPs): a 'whatever it takes' 24/7 approach that couples multidisciplinary MH treatment with comprehensive support from health, human, and social services	unclear	community seriously emotionally disturbed YP (includes self-harm, anxiety, depression), ages 11-18	retrospective interrupted time series MMAT Group 3 ①②③④⑤	unclear: FSPs (17,878 records) vs usual care (542,707 records) no demographic information	monthly: no of days in which a CYP received MH emergency services (routine dataset extraction)	Full service partnerships reduce crisis service use, though the study was unable to pinpoint which components of the programmes were responsible for its effectiveness.

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E1. Wraparound McKay-Brown 2019 Australia	In2School: provided within a specialised school, working in partnership with MH services; underpinned by wraparound philosophy	senior social worker (with CBT and systemic therapy skills), teachers	community YP with school refusal, ages 11-15	uncontrolled pre/post, within an action research project MMAT Group 4 	7 CYP mean age 13.0, 3/7 male	at baseline and 6m: school attendance, HoNOSCA, CGAS, SDQ, MES-HS, KIDSCREEN-27	6 of the 7 CYP returned to mainstream schooling. At 6 months, attendance ranged 69-95% (with 70% attendance deemed 'success'). SDQ and HoNOSCA scores decreased and KIDSCREEN scores increased. However, CGAS scores showed minimal changes and MES-HS scores improved for some and worsened for others. Wraparound may have promise in helping school-refusing CYP return to mainstream school.
E1. Wraparound Painter 2012 USA	Wraparound	wraparound facilitators (bachelor's level staff from social work, psychology, or criminal justice)	community CYP with serious emotional disturbance (includes CD and ADHD), ages 5-17	uncontrolled longitudinal study MMAT Group 4 	160 CYP mean age 11.0, 76% male, 41% were White (non-Hispanic), 33% African-American, 24% Hispanic/Latino	at baseline, 6m, 12m, 18m and 24M: BERS-2, CBCL, RADS2, RCMAS-2, CIS, CSQ, YSS	Study reported a high level of fidelity in adherence to wraparound. Statistically and clinically significant improvements were found on most of the MH measures reported but some did not achieve clinical significance until 12-18 months after intake. CYP experienced a significant level of improvement in overall functioning and caregivers experienced a significant decrease in strain within 6 months. Wraparound can improve functioning, strengths and MH symptoms for CYP; however, it is not known which factors contribute to improvements.

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E2. MST Painter 2009 USA	MST (Multi-Systemic Therapy)	a qualified MH professional trained in MST	community YP with serious emotional disturbance (including ADHD) and juvenile justice history, aged up to 18	controlled study (MST vs. usual care) MMAT Group 3 ①②③④⑤	174 YP analysed: 87 MST; 87 usual care mean age 13.6 (MST) usual care (10.1), 47% male, 34% African American, 54% Caucasian	at intake, every 3m and on completion of a level of care: CA-TRAG	Compared to youth who received usual services, MST youth experienced a significantly higher level of improvement on combined CA-TRAG domain scores of school behaviour, family functioning, MH symptoms, youth functioning, substance abuse, severe aggressive-disruptive behaviour, and self-harm. However, MST youth had almost twice as many treatment hours as usual community services youth.
E2. MST Rowland 2005 USA	Adapted MST: multi-systemic therapy adapted specifically for use with CYP with MH problems	therapists, supervisor, psychiatrist, administrator, crisis caseworkers	Community CYP with serious emotional disturbance (including ADHD, PTSD, CD, depression), ages 9-17	RCT (Adapted MST vs. usual services) MMAT Group 2 ①②③④⑤	31 YP analysed: 15 adapted MST; 16 services as usual mean age 14.5, 58% male, 84% 'multiracial'	at pre-treatment and 6m: CBCL, YRBS, PEI, arrest records, SRDS, school attendance FACES-III, SSQ, days in out-of-home placements	Trial halted early because of recruitment issues and lack of buy-in from providers. Compared to usual services youths, MST youths reported significantly greater decreases in CBCL externalising and internalising symptoms at 6 months and in self-reported minor criminal activity. MST youths spent 42% more days per month in general education settings compared to usual services youths. MST was significantly more effective at maintaining youths in the community. There was no effect on substance use, family functioning or social support.
E2. MST Sundell 2008 Löfholm 2009 Sweden	MST (Multi-Systemic Therapy)	clinical supervisor, therapists (from social work, psychology or educational sociology)	community YP with conduct disorder ages 12-17	RCT (MST vs. usual care) MMAT Group 2 ①②③④⑤	156 analysed; 79 MST; 77 usual care mean age 15.0, 61% male, 47% families not of Swedish heritage	at intake, 7m and 24m: CBCL, YSR, SOCS, SRDS, AUDIT, DUDIT, PYS 'Bad Friends' subscale, SCPQ, SSRS, school attendance, social services use, SCL-90	Young people in both treatment and control conditions decreased their problem behaviour, showed improved relations within the family and improved their social skills. MST is not superior to usual care.

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F2. Patient-level demand management Barwick 2013 Canada	West End Walk-In Counselling Centre: based on a systemic and brief therapy orientation that emphasises already existing client resources	therapist	community generic MH problems, age range unclear	controlled study (walk-in service vs. usual care) MMAT Group 3 ①②③④⑤	86-100 analysed: 60-68 walk in; 26-32 usual care mean age 10.4, majority male, majority born in Canada	at baseline, 2w and 3m: BCFPI	Walk-in group participants had lower total MH problems and internalising behaviours after 2 weeks. At 3 months follow-up the walk-in group exhibited fewer problems than the usual care group for all 5 BCFPI scales. Moreover, internalising behaviours and child and family functioning worsened in the usual care group at follow-up.
F2. Patient-level demand management Heywood 2003 UK, England	2+1 brief consultation and advice: 2 initial sessions approximately 2 weeks apart with 1 follow-up session	psychologists, psychiatrists	unclear generic MH problems, ages 5-16	uncontrolled pre/post study within a mixed methods design MMAT Group 5 ①②③④⑤	50 CYP mean age 10.3, 66% male	at referral, sessions 1, 2 and 3, and 6m: study-specific engagement and complexity measures, SDQ, CGAS	There was a decrease in symptoms (total SDQ scores) between the first and final consultations and an increase in functioning (CGAS). Parents reported significant positive changes in conduct and emotional problems. For most families with non-complex problems, brief consultation and advice was sufficient to produce change. Study suggests brief consultation and advice could act as triage for more specialist intervention.
F2. Patient-level demand management McGarry 2008 Ireland	Brief consultation and advice (BCA): single session with option for a second follow-up session	clinician, therapists trained in brief consultation and advice, clinical psychologist or social worker	unclear CYP with mostly behaviour problems and anxiety/sadness, ages 3-16	RCT (BCA vs. usual care) MMAT Group 2 ①②③④⑤	24-32 analysed: 12-17 BCA; 12-15 usual care mean age 9.0, 73% male, 45% in higher social classes	at intake, 3m and 6m: SDQ, SBI, PSI-SF, GHQ-12, FAD (general functioning subscale), CQOL, study-specific measures of parent management of child, therapist perceptions, service model preference and satisfaction	Between intake and 3 months, the BCA group showed statistically significant improvements on mean total scores for the SDQ, PSI, GHQ, SBI and CQOL; usual care did not show statistically significant improvement on any scales. BCA was also found to be significantly more effective than usual care at 6 months follow-up.

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F2. Patient-level demand management Wagner 2017 Australia	Brief intervention: maximum of 6 sessions over a 3 month period, focussing on client/family strengths	postgrad clinical psychology students, supervised by senior MH clinicians	unclear severe and complex MH disorders (including depression, ages up to 18)	controlled retrospective cohort study (brief intervention vs. usual care) MMAT Group 3 	158 YP mean age 12.7, 57% female	at first and last appointment, then every 3m (routine dataset extraction): HoNOSCA	No significant differences between brief intervention (BI) and usual care in overall symptomatology, and both interventions significantly reduced symptomatology. Usual care typically required more contact hours, more experienced clinicians and a longer duration. BI needed fewer paid resources than usual care, was accessed faster and produced significant symptom improvement. Only 28% of BI YP went on to access usual care later, thus reducing demands on formal CYP MH services.
G1. Systems of care Champine 2018 USA	Early childhood systems of care	master's level clinicians	hospital, community children with disruptive behaviours (including ADHD), age range unclear	uncontrolled pre/post study MMAT Group 4 	158 caregivers child mean age 3.9, 73% male; caregiver mean age 33.0, 98% female, 85% white	at baseline, then every 6m for 36m: DECA-SE, CBCL, FLQ, PSI-SF, ASI, CCSP; 'System of Care dosage' = total services hours received	From baseline to 6 months post intervention, no significant change in children's social and emotional competencies (DECA-SE). There were significant decreases in children's internalising and externalising behaviours (CBCL), significant reductions in the quality of family functioning (FLQ) and significant decreases in caregiver stress (PSI-SF).
G1. Systems of care Lambert 1996 USA	Fort Bragg demonstration: system of (SoC) care involving the residential-intermediate-outpatient continuum of care	unclear	hospital, community generic MH problems, age range unclear	controlled study (Fort Bragg SoC vs. Forts Stewart and Campbell usual services) MMAT Group 3 	984 CYP, allocation unclear no demographic information reported	at intake, 6m and 1y: CBCL, P-CAS, BCQ, YSR, CAS, CAFAS, GLOF, overall outcome = weighted average from P-CAS, CAFAS and BCQ	Both groups improved. No statistical or clinical differences between groups. Neither produced superior results.

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G1. Systems of care Manteuffel 2002 USA	Systems of care	unclear	hospital, community serious emotional disturbance (mostly disruptive disorders, depression and anxiety), ages up to 22	uncontrolled longitudinal study MMAT Group 4 ①②③④⑤	18,884 CYP mean age 12.1, 62% male, 55% White, 26% in custody of two parents, 60% low income	at intake, 6m, 12m, and annually up to 36m (longitudinal analyses limited to outcomes at 24m): CBCL, YSR, CAFAS, ROLES	Intake to 24 months saw significant decreases in CBCL scores, increases in the stability of living arrangements, improvements in school performance and attendance and decreases in law enforcement contacts. Children entering this programme had considerable challenges but nonetheless made significant improvements in both behaviour and functioning.
G5. ARC Glisson 2012 USA	ARC (Availability, Responsiveness, and Continuity): ARC views service effectiveness as a fit between social context (the culture and climate of an organisation) and technology (meaning the application of theory)	clinicians with a variety of levels of training and educational backgrounds (mainly psychology and social work)	hospital, community generic MH problems, ages 8-24	RCT, clustered by organisations (ARC vs. non-ARC) MMAT Group 2 ①②③④⑤	26 programmes/ 198 clinicians analysed: 13/109 ARC; 13/89 non- ARC clinician mean age 33, mostly white and female	at intake and 18m: OSC	All OSC work attitudes dimensions (morale, job satisfaction, and organisational commitment) were significantly improved in the hypothesized direction with the ARC intervention. ARC clinicians reported higher morale, job satisfaction and commitment than usual service clinicians.
G5. ARC Glisson 2013 USA	ARC (Availability, Responsiveness, and Continuity)	clinicians with a variety of levels of training and educational backgrounds (mainly psychology and social work)	hospital, community generic MH problems, ages 8-24	RCT, clustered by organisations (ARC vs. non-ARC) MMAT Group 2 ①②③④⑤	18 programmes/ 355 youth analysed: 9/222 ARC; 9/133 non- ARC no demographic information	measured at intake and monthly for 6m: OSC, SAC	ARC youth had significantly better outcomes compared to control youth. Improving organisational social context within MH services can have an impact on youth outcomes.

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G5. ARC Glisson 2016 USA	ARC (Availability, Responsiveness, and Continuity)	trained ARC specialists	hospital, community CYP with behavioural or MH symptoms requiring intervention (excluding psychosis), ages 5-18	RCT, clustered by organisations (ARC vs. non-ARC) MMAT Group 2 ① ② ③ ④ ⑤	14 MH agencies/ 385-603 youth analysed: 17/194-304 ARC; 7/191-301 non-ARC youth mean age 11.9, most male, 66% white, 26% African-American	at phase 1 start and phase 2 start: OSC at middle of phase 1: APQ at intake and at 6m intervals: SAC	Improvement in youths' total problem scores (SAC) for Phase 2 ARC agencies was 1.6 times the rate of improvement in control agencies. MH service organisations can improve both service and youth outcomes by using a collaborative, participative process to enact consistent priorities aligned with the five principles of effective service organisations. Organisational priorities could explain why some community MH agencies are more effective than others.

***Outcome measures:** **ACES** = Academic Competence Evaluation Scales; **ADIS-IV-CP** = Anxiety Disorders Interview Schedule for DSM-IV, Child/Parent version; **ASI** = Addiction Severity Index; **ASRS** = Adult ADHD Self-Report Scale; **AUDIT** = Alcohol Use Disorders Identification Test; **BCFPI** = Brief Child and Family Phone Interview; **BCQ** = Burden of Care Questionnaire; **BERS-2** = Behavioural and Emotional Rating Scale, second edition; **BOSS** = Behavioral Observation of Students in Schools; **BYI-II** = Beck Youth Inventories - second edition; **CA-TRAG** = Child and Adolescent Texas Recommended Assessment Guideline; **CAFAS** = Child and Adolescent Functional Assessment Scales; **CALIS** = Child Anxiety Life Interference Scale; **CAS** = Child Assessment Schedule; **CASA** = Child and Adolescent Services Assessment; **CBCL** = Child Behavior Checklist (Achenbach system; see also TRF, YSR); **CCSP** = Cultural Competence and Service Provision questionnaire; **CDI** = Child Depression Inventory; **CDRS-R** = Children's Depression Rating Scale, Revised; **CES-D** = Center for Epidemiological Studies – Depression; **CGAS** = Children's Global Assessment Scale; **CGI** = Clinical Global Impressions scale; **CLASS** = Classroom Assessment Scoring System; **Columbia IS** = Columbia Impairment Scale; **Connors** = IOWA Connors Rating Scale; **CORE-10** = Clinical Outcomes in Routine Evaluation (see also YP-CORE); **CQOL** = Child Health-Related Quality of Life Questionnaire; **CSQ** = Caregiver Strain Questionnaire; **CTES** = Childhood Trust Events Survey; **DECA-SE** = Devereux Early Childhood Assessment - Social Emotional; **DPICS** = Dyadic Parent–Child Interaction Coding System; **DUDIT** = Drug Use Disorders Identification Test; **FACES II/III** = Family Adaptability and Cohesion Scales, version 2/3; **FAD** = Family Assessment Device; **FLQ** = Family Life Questionnaire; **GAF** = Global Assessment of Functioning; **GFES** = Global Family Environment Scale; **GHQ/GHQ-12** = General Health Questionnaire/12-item version; **GLOF** = Global Level of Functioning; **HAM-D** = Hamilton Rating Scale for Depression; **HoNOSCA** = Health of the Nation Outcome Scales for Children and Adolescents; **HPC** = Homework Problem Checklist; **HSUP** = Hassles and Uplifts scales; **ISSB** = Inventory of Socially Supported Behaviors; **K10** = Kessler Psychological Distress Scale; **K-SADS-PL** = Kiddie Schedule for Affective Disorders and Schizophrenia - Present and Lifetime version; **KIDSCREEN-27** = KIDSCREEN quality of life measure; **MES-HS** = Motivation and Engagement Scale - High School version; **MFQ-SF** = Mood and Feelings Questionnaire - Short Form; **MHI-5** = Mental Health Inventory - 5; **NIMH-DISC** = NIMH Diagnostic Interview Schedule for Children; **OSC** = Organizational Social Context measure; **P-CAS** = Parent–Child Assessment Schedule; **PBS** = Physician Belief Scale; **PCS** = Paddington Complexity Scale; **PedsQL** = Pediatric Quality of Life inventory; **PEI** = Personal Experience Inventory; **PHQ-9** = Patient Health Questionnaire – 9; **Piers-Harris** = Piers-Harris Children's Self-Concept Scale; **PSES** = Parent Self-Efficacy Scale; **PSI-SF** = Parenting Stress Index - Short Form; **PTIQ** = Parent-Teacher Involvement Questionnaire; **PTSD-RI** = UCLA PTSD Reaction Index; **PYS** = Pittsburgh Youth Study; **QIDS** = Quick Inventory of Depressive Symptoms; **RADS2** = Reynolds Adolescent Depression Scale, second edition; **RCMAS-2** = Revised Children's Manifest Anxiety Scale; **ROLES** = Residential Living Environments and Placement Stability Scale; **S-TOFLA** = Short-Test of Functional Health Literacy in Adults; **SAC** = Shortform Assessment for Children; **SACS** = Substance Abuse Choices Scale; **SAS-SR** = Social Adjustment Scale - Self-Report; **SBI** = Symptom Behaviour Inventory; **SCARED** = Screen for Child Anxiety Related Disorders; **SCAS-C/SCAS-P** = Spence Children's Anxiety Scale, child and parent versions; **SCIS** = Standardized Client Information System; **SCL-90** = Symptom Checklist – 90; **SCPQ** = Social Competence with Peers Questionnaire; **SDQ** = Strengths and Difficulties Questionnaire; **SF-12** = Short Form survey, 12-item version; **SNAP-IV** = Swanson, Nolan, and Pelham Scale,

version IV; **SOCS** = Sense of Coherence Scale; **SOFAS** = Social and Occupational Functioning Assessment Scale; **SRDS** = Self Report Delinquency Scale; **SSQ** = Social Support Questionnaire; **SSRS** = Social Skills Rating System; **TRF** = Teacher Report Form (Achenbach system; see also CBCL, YSR); **VADRS** = Vanderbilt ADHD Diagnostic Rating Scale; **WHOQOL-BREF** = World Health Organisation Quality of Life Instrument; **YP-CORE** = Young Person's CORE (see also CORE-10); **YRBS** = Youth Risk Behaviour Survey; **YSR** = Youth Self Report (Achenbach system; see also CBCL, TRF); **YSS** = Youth Services Survey