

On-Line Supplement, MS #AJP-11-11-1616-R2, Woltmann et al “Comparative Effectiveness of Collaborative Chronic Care Models for Mental Health...”

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e-Figure 1: Adapted PRISMA Flow Diagram

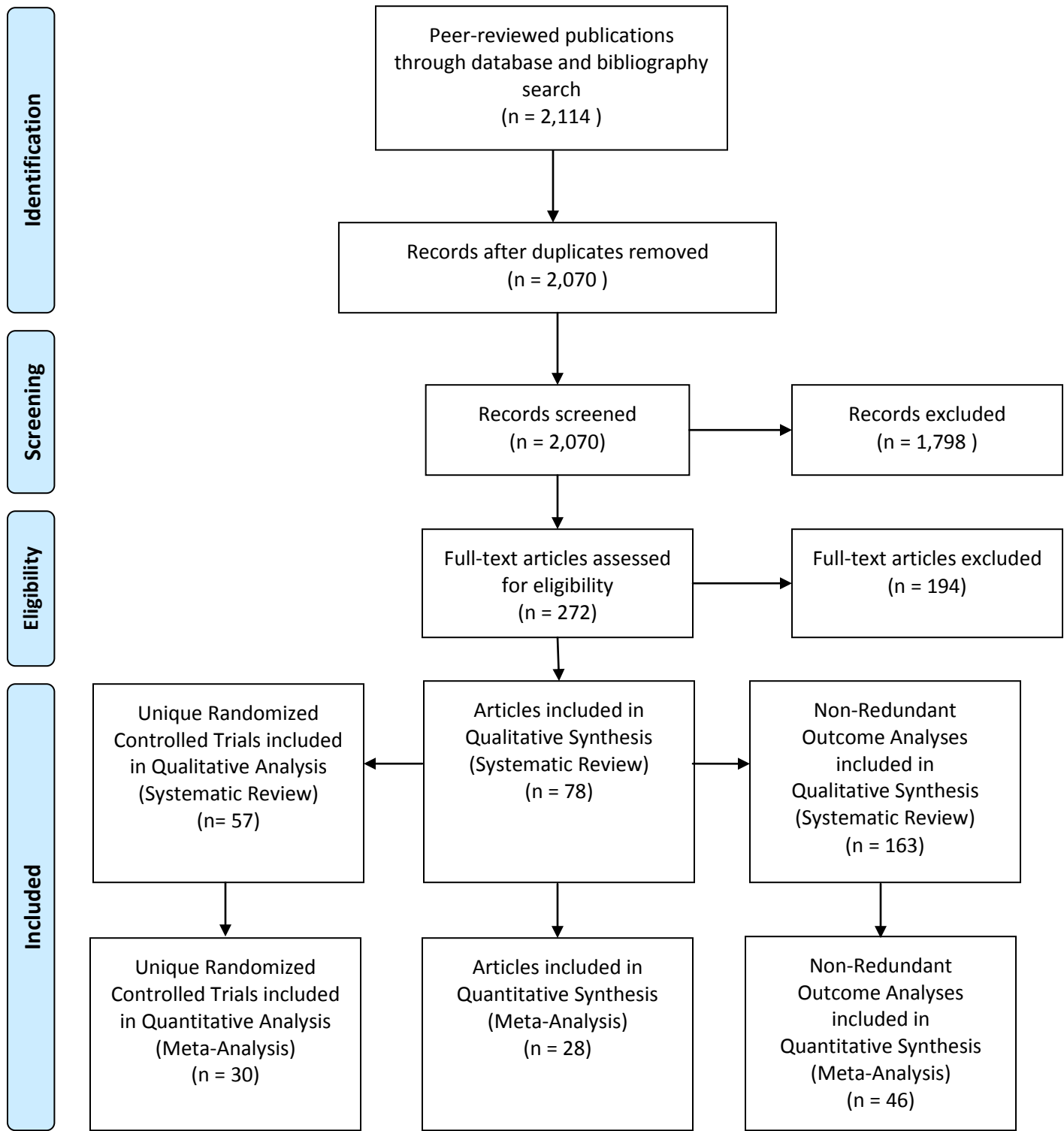


Figure 1 Legend: Search yield according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) rubric (39).

e-Table 1: Summary of Trial Designs

Parent RCT	Diagnoses	Recruitment Locus (Target Population)	System^b	Total CCM Components^c	Control Condition	N Randomized	Age (mean)	Women (%)	Minority (%)
DEPRESSION									
Callahan, 1994 (40)	Depression screen (CES-D) positive + Hamilton Depression Rating Scale > 15	Primary Care	VA	3	Usual Care	175	65.5 (CCM), 65.1 (control)	76.0% (CCM), 75.7% (control)	50.0% (CCM), 52.7% (control)
Katon, 1995 (41) ^a	Probable major depression	Primary Care	Staff Model HMO	4	Primary Care Clinician Notification	91	43.2 (CCM), 42.3 (control)	77.5% (CCM), 88.1% (control)	not reported
Katon, 1995 (41) ^a	Probable minor depression	Primary Care	Staff Model HMO	4	Primary Care Clinician Notification	126	52.2 (CCM), 50.3 (control)	76.3% (CCM), 68.7% (control)	not reported
Katon, 1996 (42) ^a	Probable major depression	Primary Care	Staff Model HMO	4	Primary Care Clinician Notification	65	43.1 (CCM), 44.8 (control)	77.4% (CCM), 73.5% (control)	22.6% (CCM), 8.8% (control)
Katon, 1996 (42) ^a	Probable minor depression	Primary Care	Staff Model HMO	3	Primary Care Clinician Notification	88	49.2 (CCM), 47.2 (control)	71.7% (CCM), 73.8% (control)	8.7% (CCM), 14.3% (control)

Mann, 1998 (43)	Depressed for at least 4 weeks, either new or ongoing treatment	Primary Care	Non-Integrated	3	Usual Care	419	41.3 (women), 48.3 (men)	78%	not reported
Katon, 1999 (44)	Depression or dysthymia	Primary Care	Staff Model HMO	4	Primary Care Clinician Notification	228	47.2 (CCM), 46.7 (control)	67.5% (CCM), 81.6% (control)	20.2% (CCM), 19.3% (control)
Katzelnick, 2000 (45)	Major depression, current or partial remission	Registry of all service utilizers	Non-Integrated	4	Patient notification of depression diagnosis and resources	407	45.6 (CCM), 45.4 (control)	76.6% (CCM), 78.3% (control)	23.4% (CCM), 21.7% (control)
Simon, 2000 (46)	New antidepressant prescription and clinical diagnosis of depression	Primary Care	Staff Model HMO	3	Usual Care	613	46.3 (CCM), 46.5 (feedback only), 46.8 (control)	not reported	not reported
Wells, 2000 (47)	Probable depressive disorder	Primary Care	Staff Model HMO	5	Usual Care	1356	43.7	71%	43%
Katon, 2001 (48)	Minor depression or major depression or dysthymia remitted for > 8 weeks	Primary Care	Staff Model HMO	3	Primary Care Clinician Notification	386	46.4 (CCM), 45.6 (control)	75.4% (CCM), 71.9% (control)	7.7% (CCM), 12% (control)
Rost, 2001 (49)	Major depression	Primary Care	Non-Integrated	3	Usual Care	479	42.6	83.9%	15.7%
Simon, 2001 (50)	Current major depression or residual symptoms	Registry of all service utilizers	Staff Model HMO	4	Usual Care	407	45.6 (CCM), 45.4 (control)	77% (CCM), 78% (control)	not reported
Unutzer, 2002 (51) (IMPACT)	Major depression, dysthymia, or both	Primary Care	Staff Model HMO	4	Usual Care	1801	71.2	65%	23%

Araya, 2003 (52)	Major depression	Primary Care	Non-integrated	3	Usual Care	240	44.1 (CCM), 42.0 (control)	100%	100%
Datto, 2003 (53)	Primary care clinician report of depression and CES-D score > 16	Primary Care	Non-Integrated	4	Usual Care	61	47.6	60.7%	20%
Hedrick, 2003 (54)	Major depression or dysthymia	Primary Care	VA	4	Consultation-Liaison	354	57.8 (CCM), 56.6 (control)	4.8% (CCM), 4.3% (control)	22% (CCM), 18.8% (control)
Swindle, 2003 (55)	Major depression, dysthymia, or partially remitted major depression	Primary Care	VA	3	Primary Care Clinician Notification	268	56.4 (CCM), 56.2 (control)	3% (CCM), 4% (control)	16% (CCM), 13% (control)
Adler, 2004 (56)	Major depression or dysthymia	Primary Care	VA	4	Primary Care Clinician Notification	533	42.9 (CCM), 41.7 (control)	69.4% (CCM), 74.3% (control)	27.9% (CCM), 27.2% (control)
Bruce, 2004 (PROSPECT) (57)	Depressive symptom severity above threshold	Primary Care	Multiple	5	Usual Care	598	30.8% over age 75	71.6%	28.4%
Capoccia, 2004 (58)	New episode of depression or new antidepressant trial	Primary Care	Non-Integrated	4	Usual Care	74	38.2 (CCM), 39.4 (control)	83% (CCM), 70% (control)	22% (CCM), 21% (control)
Dietrich, 2004 (RESPECT) (59)	Major depression or dysthymia	Multiple/ Unclear	Non-integrated	3	Usual Care + clinician education	405	41.8 (CCM), 42.2 (control)	83.5% (CCM), 76.2% (control)	16% (CCM), 18% (control)
Katon, 2004 (Pathways) (60)	Diabetes mellitus and comorbid depression or dysthymia	Primary Care	Staff Model HMO	4	Primary Care Clinician Notification	329	58.6 (CCM), 58.1 (control)	65.2% (CCM), 64.8% (control)	24.8% (CCM), 18.9% (control)

Simon, 2004 (61)	Clinical diagnosis of depression	Primary Care	Staff Model HMO	4 ^c	Usual Care	600	44.9 (tCCM), 44.7 (tCCM-therapy), 44 (control)	78% (tCCM), 72% (tCCM-therapy), 74% (control)	21% (tCCM), 15% (tCCM-therapy), 25% (control)
Trivedi, 2004 (62)	Major depression	Mental Health	Non-Integrated	6	Usual Care	547	41.1 (CCM)	80% (CCM), 80% (control)	39.4% (CCM), 54.9% (control)
Asarnow, 2005 (Youth Partners in Care) (63)	Depressive symptom severity above threshold	Primary Care	Multiple	5	Usual Care	418	17.2	78%	87.3%
Dwight-Johnson, 2005 (64)	Cancer patients with depression or dysthymia	Non-primary	Non-Integrated	4	Usual Care	55	47.7 (CCM), 46.8 (control)	100%	100% Latina
Dobscha, 2006 (65)	Depressive symptom severity above threshold	Primary Care	VA	4	Usual Care	375	57.3 (CCM), 56.3 (control)	7.4% (CCM), 7.5% (control)	1.1% (CCM), 4.3% (control)
Simon, 2006 (66)	New antidepressant prescription and depressive symptom severity score above threshold	Mental Health Clinics	Staff Model HMO	4 ^c	Usual Care	207	41 (tCCM), 45 (control)	69% (tCCM), 61% (control)	11% (tCCM), 11% (control)
Fortney, 2007 (67)	Depressive symptom severity above threshold	Primary Care	VA	4 ^c	Usual Care	395	59.2	8.3%	25.3%
Ell, 2008 (68)	Cancer patients with depression or dysthymia	Non-primary	Non-integrated	4	Usual Care	472	49.4% > age 50	100%	100% Latina

Richards, 2008 (69)	Major depression	Primary Care	Non-Integrated	4	Usual Care	114	42.63 (CCM), 43.0 (control), 41.71 (cluster-randomized control)	78% (CCM), 76% (control), 77% (cluster-randomized control)	not reported
Ross, 2008 (70)	Minor depression or subsyndromal distress due to depressive symptoms	Primary Care	Non-Integrated	3 ^c	Patient and primary care clinician notification of depression diagnosis and resources	223	59.2	93.2%	56.9%
Kroenke, 2009 (71)	Chronic moderate hip, back, or knee pain plus depression and PHQ-9 > 10	Primary Care	Non-Integrated	4	Usual Care + Patient Education Materials	250	55.2 (CCM), 55.8 (control)	56% (CCM), 50% (control)	61% (CCM), 60% (control)
Rollman, 2009 (Bypassing the Blues) (72)	Depressive symptom severity above threshold	Pre-discharge from acute hospitalization	Multiple	4 ^c	Patient and primary care clinician notification of depression diagnosis and resources	302	64 (CCM), 64 (control)	46% (CCM), 27% (control)	12% (CCM), 7% (control)
Davidson, 2010 (73)	Depression with Beck Depression Inventory score >10 at 3 months post-discharge	Pre-discharge from hospitalization for acute coronary syndrome	Non-Integrated	4	Usual Care + Clinician Notification	237	59.3 (CCM), 61.1 (control)	54% (CCM), 53% (control)	60% (CCM), 64% (control)
Eli, 2010 (74)	Diabetes plus clinically significant depressive symptoms	Primary Care	Non-Integrated	4	Usual Care + Primary Care Notification and Patient Education Materials	387	Age >50: 75.1% (CCM), 69.1% (control)	79.8% (CCM), 84.5% (control)	Hispanic: 94.8% (CCM), 97.4% (control)

Katon, 2010 (75)	Clinically significant depressive symptoms plus diabetes and/or coronary heart disease	Primary Care	Staff Model HMO	4	Usual Care + Primary Care Clinician Notification	214	57.4 (CCM), 56.3 (control)	48% (CCM), 56% (control)	25% (CCM), 22% (control)
Vera 2010 (76)	Major Depression + Chronic Medical Illness	Primary Care	Non-Integrated	3	Usual Care	179	57.0 (CCM), 53.5 (control)	74% (CCM), 78% (control)	100% Spanish-Speaking Puerto Rican (CCM + control)
Yeung, 2010 (77)	Major Depressive Disorder	Primary Care	Non-Integrated	3	Usual Care	100	51 (CCM), 48 (control)	80% (CCM), 55% (control)	100% Asian American
BIPOLAR DISORDERS									
Suppes, 2003 (78)	Bipolar I or schizoaffective bipolar type	Mental Health	Non-integrated	4	Usual Care	267	38 (CCM), 39.7 (control)	72.3% (CCM), 62.7% (control)	41.1% (CCM), 38.4% (control)
Bauer, 2006 (79) (CSP #430)	Bipolar I or II	Pre-discharge	VA	4	Usual Care	330	46.6	28%	71%
Simon 2006 (80)	Bipolar I or II, cyclothymia, schizoaffective disorder	Mental Health	Staff Model HMO	3	Usual Care	441	44.1 (CCM), 44.3 (control)	67.9% (CCM), 68.6% (control)	13% (CCM), 10% (control)
Kilbourne 2008 (81)	Bipolar I, II, or not otherwise specified	Mental Health	VA	4	Provider education	58	55.3	9%	10%
ANXIETY DISORDERS									
Rollman, 2005 (82)	Panic or generalized anxiety disorder	Primary Care	Non-integrated	4	Patient notification of depression diagnosis and resources	191	44.2	81%	5%

Roy-Byrne, 2005 (83)	Panic disorder	Primary Care	Non-integrated	4	Primary care clinician notification	232	41.2	67%	34.5%
Roy-Byrne, 2010 (84)	Any anxiety disorder	Primary Care	Non-integrated	4	Usual Care	1004	43.3 (CCM), 43.7 (control)	71.4% (CCM), 70.9% (control)	44.5% (CCM), 42.35 (control)
OTHER OR MULTIPLE DISORDERS									
Coleman, 1999 (85)	Elderly at high risk for hospitalization or functional decline by validated computer algorithm	Primary Care	Staff Model HMO	3	Usual Care	169	77.3 (CCM), 77.4 (control)	47.9% (CCM), 49.3% (control)	2.8% (CCM), 4.1% (control)
Druss, 2001 (86)	Any clinical mental health diagnosis and no primary care provider	Mental Health	VA	3	Usual Care + referral to primary care	120	45.7 (CCM), 44.8 (control)	0% (CCM), 1.6% (control)	23.7% (CCM), 36.1% (control)
Oslin, 2003 (87)	Major depression, dysthymia, or at-risk drinking	Primary Care	VA	4	Usual Care	97	61.3 (CCM), 61.9 (control)	3.9% (CCM), 4.3% (control)	58.8% (CCM), 41.3% (control)
Zatzick, 2004 (88)	Depressive and/or PTSD symptom severity above threshold	Pre-discharge from acute hospitalization	Non-integrated	4	Usual Care	121	37.1 (CCM), 44.4 (control)	60% (CCM), 51% (control)	32.2% (CCM), 36.1% (control)
Callahan, 2006 (89)	Alzheimer's disease patients and their care givers	Primary Care	Non-Integrated	4	Usual Care + educational material and consultation to family, primary care clinician notification	153	77.4 (CCM), 77.7 (control)	46.4% (CCM), 39.1% (control)	41.7% (CCM), 58.0% (control)
Smith, 2006 (90)	Medically unexplained symptoms	Registry of all service utilizers	Staff Model HMO	4	Usual Care	206	48.8 (CCM), 46.6 (control)	82.2% CCM, 76.2% control)	not reported

Van Straten, 2006 (91)	Major depression, dysthymia, generalized anxiety disorder, panic disorder, or social anxiety disorder	Mental Health	Non-integrated	3	Usual Care	702	36.4	61%	not reported
Van Orden, 2009 (92)	Any clinical mental health diagnosis	Primary Care	Non-integrated	3	Usual Care	165	40.2 (CCM), 40.4 (control)	72% (CCM), 62% (control)	Demographics given by subgroup only
Druss, 2010 (PCARE) (93)	Any clinical mental health diagnosis	Mental Health	Non-integrated	4	Usual Care + list of primary care resources to patients	407	47.0 (CCM), 46.3 (control)	51.2% (CCM), 45.5% (control)	78.5% (CCM), 79.7% (control)
Patel, 2010 (94)	Positive screen for common mental disorders on General Health Questionnaire	Primary Care	Non-integrated	4	Primary Care Clinician Notification	2,796	40-49 (each group)	82% (CCM), 83% (control)	N/A

^aKaton, 1995 (41) and Katon, 1996 (42) each report two separate randomized controlled trials in the same article.

^bAll trials took place in the continental US except the following: Mann, 1998 (43), Araya, 2003 (52): Chile; Richards, 2008 (69): UK; Van Straten, 2006 (91) and Van Orden, 2009 (92): Netherlands; Vera, 2010 (76): Puerto Rico; Patel, 2010 (94): India.

^cDesignated trials delivered the patient illness management component predominantly or exclusively via telephone.

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e-Table 2: Summary of Outcome Analyses

Parent RCT	Additional Results Article(s)	Follow-Up (Mos.)	N Analyzed (CCM / Control)	Domain & Outcome(s) ^a	Intervention/ control group outcomes ^{b,c}
DEPRESSION					
Callahan, 1994 (40)	NA	9	Not reported	Depression: Mean Hamilton Depression Rating Scale	Both groups significantly improved, but without between-groups difference (NS)
				Social Role Function: Sickness Impact Scale	Both groups significantly improved, but without between-groups difference (NS)
Katon, 1995 (41) & 1996 (42)	Katon, 1995 (41) (major depression group)	7	CCM=31 Control=34	Depression: Major depression group meeting criteria for major depression	No longer met criteria: CCM 7.4% > control 23% (p<0.01)
	Katon, 1995 (41) (minor depression group)	7	CCM=46 Control=46	Depression: % of minor depression group meeting criteria for major depression at 7 months.	No proportions reported. (NS)
				Depression: Minor depression group meeting criteria for minor depression	No longer met criteria: CCM 25.6%, control 33.3% (NS)
	Katon, 1996 (42) (major depression group)	7	CCM=49 Control=42	Depression: % with Symptom Checklist-20 scores improved >50% from baseline	Scores improve >50% from baseline: CCM 74.4% > control 43.8% (p<.01)
	Katon, 1996 (42) (minor depression group)	7	CCM=59 Control=67	Depression: % with Symptom Checklist-20 scores improved >50% from baseline	Scores improve >50% from baseline: CCM 60%, control 67.9% (NS)
	Simon, 1998 (95)	7	Ns not reported by intervention vs. control	Function: % unable to work	% unable to work: CCM 21.5%, control 21.4% in control. (NS)
	Von Korff, 1998 (96)	12	CCM=41 Control=33	Economic: Mean total ambulatory costs for participants with major depression using consultant/liaison model or control	CCM \$2765, control \$2444 (no p-value reported)
CCM=58 Control=63			Economic: Mean total ambulatory costs for participants with minor depression using consultant/liaison	CCM \$3511, control \$2517 (no p-value reported)	

				model or control	
			CCM=26 Control=31	Economic: Mean total ambulatory costs for participants with major depression using cognitive behavioral therapy model or control	CCM \$2531, control \$2212 (no p-value reported)
			CCM=44 Control=36	Economic: Mean total ambulatory costs for participants with minor depression using cognitive behavioral therapy model or control	CCM \$2,889, control \$2259 (no p-value reported)
Lin, 1999 (97)	19	CCM=63 Control=53	Depression: Mean Hamilton Symptom Checklist score	CCM 16.4, control 16.3. (NS)	
Mann, 1998 (43)	NA	4	CCM= 241 Control= 134	Depression: Mean Beck Depression Inventory	CCM 10.87, control 10.15 (NS)
Katon, 1999 (44)	Katon, 1999 (44)	6	CCM=114 Control=114	Depression: Hopkins Symptom Checklist-20	Mixed effects model for continuous variable controlling for several factors was NS at 6 months.
	Lin, 2000 (98)	12	CCM=114 Control=114	Social Role Function: Mean Sheehan Disability Score	CCM 3.4 (95% CI 2.9-3.9), control 4.1 (95% CI 3.6-4.6) in control group (NS)
	Katon, 2002 (99) ^a	28	CCM= 92 Control= 95	^a Economic: Total costs	CCM 9799 (CI 7,763-11,834), control 9192 (CI 7,504-10,880) (NS)
	Simon, 2001 (100)	6	CCM=84 Control=78	Depression: Depression-free days	CCM: 87.7 (CI=76.6–96.7) > control: 70.9 (CI=60.8–81.3); adjusted difference = 16.7 (CI 1.3-31.0) (p=0.02)
Katzelnick, 2000 (45)	NA	12	CCM=203 Control=177	Depression: Mean Hamilton Scale score	CCM 9.9 > control 13.6 (p<.001)
Simon, 2000 (46)	NA	6	CCM=180 Control=188	Depression: Hopkins Symptom Checklist-20	CCM .98 > control .83 (p<.001)
			CCM=207 Control=180	^a Economic: Adjusted mean costs (CCM vs. feedback-only)	CCM 1673 (SD 3072), feedback-only 1,645 (SD 2646) (NS)
			CCM=188 Control=180	Economic: Adjusted total costs (CCM vs. feedback +care management)	CCM 1729 (SD 3379), feedback+care management 1645 (SD 2646) (NS)

Wells, 2000 (47)	Wells, 2000 (47)	12	CCM=752 Control=374	Depression: CES-D-defined depression criteria	CCM 54.5% (CI 51.4%-57.7%) > control 61.4% (CI 57.1%-65.7%) (p=.04)
			CCM=752 Control=374	Mental Quality of Life: Mean MCS-12 score	CCM 40.9% (CI 40.1%-41.7%) > control 39.3% (CI 38.3%-40.4%) (p=.04)
			CCM=752 Control=374	Physical Quality of Life: Mean PCS-12 score	44.1% (CI 43.4%-44.8%) in intervention group vs. 44.6% (CI 43.8%-45.4%) (NS)
	Sherbourne, 2001 (101)	24 ^c	not reported	Mental Quality of Life: MCS-12 score(emotional well-being)--needs re-extraction	QI-Meds 40.8, QI-therapy 42.7, control 40.6 (p=.04 for QI-therapy>Control)
			not reported	Physical Quality of Life: PCS-12-poor role limitations (mean score)	Means not reported (NS for QI-meds and QI-therapy)
			405 QImed, 464 Qltherapy/430	Depression: Probable depression (CIDI assessment of depressive disorder)	QI-meds 39% (CI 34-43%), QI-therapy 31% (CI 27-36%), control 34% (CI 29-39%) (NS for either CCM vs. control)
	Schoenbaum 2001 (102)	24 ^c	386/371/401	Total costs for meds-QI as increase from usual care/total cost for therapy-QI compared to usual care	Meds-QI 4252 (CI 2815 to 5695), Therapy-QI 4320 (2889 to 5752), control 3835 (CI 3282 to 4389) (NS)
	Wells, 2004 (103)	57 ^c	322 for QI-med, 357 for QI-therapy/312	Depression: Percentage of probable depression	CCM (meds enhanced) 37.9%, 36.2 (CI 30.2-42.3) (therapy-enhanced), control 43.6 (CI 37-50.1), significant for therapy-enhanced only compared to control, adjusting for covariates (p=.05)
			322-QI-med, 357QI-therapy/312	Mental Health Quality of Life: Mental Component Score (Short Form-12)	CCM (meds) 43.9, CCM (therapy) 44.3, 42.6 (control), (NS)
Katon, 2001 (48)	Katon, 2001 (48)	12	CCM=194 Control=192	Depression: Hopkins Symptom Checklist-20	CCM > control: Mixed model adjusting for a variety of covariates indicated that CCM patients had, on average, HSC-20 scores 0.08 lower than control. (p<.05)
	Simon, 2002 (104)	12	CCM=190 Control=187	^a Economic: Total costs	CCM 2691 (CI 2,320-3,062), control 2619 (CI 2,139-3,099) (NS)
Rost, 2001 (49)	Rost, 2001 (49)	6	CCM=243 Control=not reported	Depression: Mean Center for Epidemiological Studies-Depression score among patients beginning new treatment episode	CCM 33.4 > control 39.2 (p=.04)
			189	Mean Center for Epidemiological Studies-Depression score among patients recently treated	CCM 42.2, control 46.4 (NS)
			not reported	Physical role function: Short Form-36	CCM 14.1-point improvement in physical functioning greater than control (CI -1.1 to 29.2) (p=NS)

	Pyne, 2003 (105)	6	CCM=178 Control=202	^a Economic: Total annualized costs (for only females in CCM who accepted antidepressants vs. entire control group of women)	CCM 2,316 (CI 1,803-2,975), control 1,671 (CI 1,269-2,199) (NS)
	Rost, 2004 (106)	24 ^c	CCM=158 Control=168	Social Role Function: Absenteeism	CCM reduced absenteeism by 10.6 days over 2 years vs. control group. (p=.06)
Simon, 2001 (50)	NA	12	CCM=205 Control=169	Depression: Depression-free days	CCM: 229.3 > Control: 181.9; adjusted difference = 47.4 days (CI 26.6-68.2). (no p-value reported)
				^a Economic: Total costs	CCM 5549 (CI 4,313-6,784), control 3909 (CI 3,123-4,695) (no p-value reported)
Unutzer, 2002 (IMPACT)(51)	Unutzer, 2002 (51)	12	CCM=889 Control=870	^a Depression: Symptom Checklist-20	CCM .99 (SD .67) > control 1.39 (SD .67), (p<.001)
				^a Overall Quality of Life: Quality of life in past month on a Likert scale (range 0-10)	CCM 6.58 (SD 2.15) > control 6.02 (SD 2.13) (p<.001)
				^a Social Role Function: Overall functional impairment adapted from Sheehan Disability Scale (range 0-10)	CCM 3.58 (SD 2.8) > control 4.52 (SD 2.73) (p<.001)
	Callahan, 2005 (107)	12	Not reported	Physical Quality of Life: Short Form-12	CCM 40.91 (SD 7.33) > control 39.17 (SD 7.23) (p=.04)
	Unutzer, 2008 (108)	48 ^c	CCM=154 Control=152	^a Economic: Total costs	CCM 29,422 (CI 26,479 to 32,365), control 32,785 (CI 27,648 to 37,921) (no p-value reported)
Araya, 2003 (52)	Araya, 2003 (52)	6	CCM=104 Control=107	Depression: Hamilton Depression Rating Scale	CCM > control: Mean difference = -8.89 (CI -11.15 to -6.76) (p<0.0001)
				Mental Quality of Life: Mental Component Score (Short Form-36)	CCM 66.2 (SD 26.7) > control 42.8 (SD 25.4); Mean difference 22.78 (CI 16.80-28.77) (p<0.0001)
				Physical Quality of Life: Vitality Subscale (Short Form-36)	CCM 62.8 (SD 25.7) > control 38.8 (SD 27.0); Mean difference: 21.23 (CI 15.10 to 27.37) (p<0.0001)
				Social Role Function: Social Functioning Subscale (Short Form-36)	CCM 70.1 (SD 26.7) > control 51.2 (SD 28.9); Mean difference = 19.32 (CI 13.11 to 25.53) (p<0.0001)

	Araya, 2006 (109)	12	CCM=95 Control=95	Economic: Total Costs (Chilean pesos)	CCM 25,362 (CI 22,791–29,854) > control 14,856 (CI 12,420–17,469) (no p-value reported)
Datto, 2003 (54)	NA	4	CCM= 24 Control= 26	^a Depression: Mean CES-D	CCM 14.8 (SD11.2) > control 19.3 (SD 10.3) (p=0.041)
Hedrick, 2003 (54)	Hedrick, 2003 (54)	9	CCM=168 Control=186	Depression: Symptom Checklist-20	CCM 1.55, control 1.58 (NS)
				Social Role Function: Sheehan Disability Score	CCM 5.20, control 5.28 (NS)
	Liu, 2003 (110)	9	CCM=168 Control=186	^a Depression: Depression-free days	CCM 112.7 (SD 81.1), control 107.3 (SD 75.6) (p=.06)
Swindle, 2003 (55)	NA	12	CCM= 113 Control= 106	^a Depression: Mean Beck Depression Inventory	CCM 17.9 (SD 10.7), control 19.9 (SD 10.9) (NS)
				^a Economic: Total Costs	CCM 2,183 (SD 4,052), control 1,760 (SD 4,052) (NS)
Adler, 2004 (56)	NA	6	not reported	Depression: Mean modified Beck Depression Inventory	CCM 17.7, control 19.4 (NS)
				Mental Quality of Life: Mental Component Score, SF-36	CCM 40.4, control 38.6 (NS)
				Physical Quality of Life: Physical Component Score, SF-36	CCM 42.9, control 42.9 (NS)
Bruce, 2004 (57) (PROSPECT)	Bruce, 2004 (57)	12	CCM=221 Control=191	^a Depression: Mean Ham-D rating scale score	CCM 9.77 (SD 7.28) > control 10.35 (SD 6.78) (p=.006)
	Bogner, 2007 (111)	52 ^c median	CCM=70 Control=53	Mortality- depressed patients with diabetes	CCM 68.2/1000 person-years (CI 41-106.5/1000 person-years), control 103.4/1000 person-years (CI 63.2-159.7/1000 person-years) (no p-value reported)
			CCM=241 Control=220	Mortality-depressed patients without diabetes	CCM 36/1000 person-years (CI 25.3-49.6/1000 person-years), control 38.2/1000 person-years (CI 26.4-53.3/1000 person-years) (NS)

	Alexopoulos, 2009 (112)	24 ^c	CCM=183 Control=177	Depression: HAM-D Score--all depressed patients	CCM 8.81 (SD 7.51) > control 9.28 (SD 6.54) (p=.007)
			CCM=176 Control=173	Suicidality: Scale for Suicidal Ideation--actively suicidal	CCM 11.4 (SD 2.1), control 11.6 (SD .11) (NS)
Cappocia, 2004 (58)	NA	12	CCM= 41 Control= 33	Depression: Mean Symptom Checklist-20	CCM = control (NS)
				Mental Quality of Life: Mental Component Score, SF-36	CCM = control (NS)
				Physical Quality of Life: Physical Component Score, SF-36	CCM = control (NS)
Dietrich, 2004 (59)	NA	6	CCM=179 Control=146	Depression: Mean Symptom Checklist-20	CCM .97 (SD .80) > control 1.09 (SD .74) (p=.04)
(Katon, 2004 (60) (Pathways))	Katon, 2004 (60)	12	CCM=164 Control=165	Depression: Mean Symptom Checklist-90 scores using a mixed effects regression model	CCM > control: CCM had significantly lower SCL-90 means than Control (p=.03)
	Simon, 2007 (113)	24 ^c	CCM=154 Control=165	^a Economic: Total costs	CCM 21,148 (SD 27,584), control 22,258 (SD 35,607) (no p-value provided)
Simon, 2004 (61)	Simon, 2004 (61)	6	207 (Telephone care management) /198 (Telephone care management plus telephone psychotherapy) /195	Depression: Mean Symptom Checklist-20	Mean difference between TCM and control was not reported (NS); mean difference in scores between TCM-psychotherapy and Control=.33 points on SCL (CCM > control) (p=.02)
	Ludman, 2007 (114)	18 ^c	CCM=180 Control=171	Depression: Mean Hopkins Symptom Checklist	CCM .68 (SD .55) > control .85 (.65) (p=.001)

	Simon, 2009 (115)	24 ^c	207 (TCM); 198 (TCMP) /195	^a Economic: Total costs	CCM TCM=10,268 (SD 9,773)/TCMP=9,334 (SD 8,432), control 9,406 (SD 10,554) (no p-value reported)
Trivedi, 2004 (62)	NA	12	CCM=171 Control=169	Mental Health Quality of Life: Mental Health Short Form-12	Growth curve analysis indicated significant benefit from CCM in months 1-3 (p=0.03) with no difference in months 4-12 (NS)
Asarnow, 2005 (63) (Youth in Partners)	NA	6	CCM=170 Control=174	^a Depression: CES-D total score	CCM 19 (SD 11.9) > control 21.4 (SD 13.1) (p=.02)
			CCM=211 Control=207	^a Mental Quality of Life: Mental Component Score, SF-12	CCM 44.6 (SD 11.3) > control 42.8 (SD 12.9) (p=.03)
Dwight- Johnson, 2005 (64)	NA	8	CCM=28 Control=27	Depression: 50% reduction in Patient Health Questionnaire-9 score	CCM 37% > control 12% (p=.03)
Dobscha, 2006 (65)	NA	12	CCM=189 Control=189	Depression: Hopkins Symptom Checklist-20	Means not reported. (NS)
			CCM=186 Control=186	Mental Quality of Life: Mental Component Score (SF-36)	Means not reported. (NS)
			Not reported	Physical Quality of Life: Physical Component Score (SF-36)	Means not reported. (NS)

Simon, 2006 (66)	NA	6	CCM=94 Control=94	Depression: 50% improvement in Hopkins Symptom Checklist Depression Subscale score	CCM 41%, control 37% (NS)
Fortney, 2007 (67)	Fortney, 2007 (67)	12	not reported	Depression: 50% improvement in Hopkins Symptom Checklist-20 scores from baseline	CCM 37%, control 27% (NS)
				Overall Quality of Life: Quality of Well-Being Scale	CCM 0.04 (SD 0.134), control .03 (SD .13) (NS)
	Pyne, 2010 (116)	12	CCM=141 Control=179	Economic: Total Cost	CCM 7,730 (SE 1,485) < control 4,982 (SE 488) (p<.0001)
Eli, 2008 (68)	NA	12	CCM=242 Control=230	Depression: Mean Patient Health Questionnaire-9	CCM 6.4, control 7.14 (NS)
Richards, 2008 (69)	NA	3	CCM=35 Control=34	^a Depression: Patient Health Questionnaire-9 Score	CCM 8.8 (SD 7.02), control 10.27 (SD 7.51) (NS)
			33/34 (UCr); 25 (UCr)	^a Mental Quality of Life: Short Form-36 mental component score	CCM 38.71 (SD 15.34) > control 32.35 (SD 16.51) (p=.009)
			CCM=33 Control=34	^a Physical Quality of Life: Short Form-36 Physical Component Score	CCM 51.11 (SD 10.36), control 50.76 (SD 11.4), (NS)
			CCM=33 Control=34	Global Mental Health: CORE-OM clinical outcomes in routine evaluation	CCM 1.13 (SD .76), control 1.2 (SD .9) (NS)
Ross, 2008 (70)	NA	6	CCM=94 Control=70	^a Depression: Patient Health Questionnaire-9	CCM 5.7 (SD 4.9), control 6.0 (SD 5.1) (NS)
				^a Mental Health Quality of Life: Short Form 12-Mental Component Score	CCM 48.6 (SD 10.4), control 47.5 (SD 11.3) (NS)

				^a Physical Quality of Life: Short Form 12-Physical Component Score	CCM 5.7 (SD 4.9), control 6 (SD 5.1) (NS)
Kroenke, 2009 (71)	NA	12	CCM=123 Control=127	^a Depression: Mean Symptom Checklist-20 Score	CCM 1.14 (SD 0.69) > control 1.69 (SD 0.74) (p<0.001)
				Anxiety: Generalized Anxiety Disorder Scale Score	CCM 5.8 (SD 5.0) > control 8.0 (SD 5.1) (p<0.001)
				^a Physical Quality of Life: Graded Chronic Pain Scale Disability Score	CCM 52.5 (SD 31.6) > control 66.1 (SD 27.3) (p<0.001)
				^a Social Role Function: SF-36 Social Functioning Scale Score	CCM 53.1 (SD 30.9), control 47.0 (SD 28.5) (p=0.11)
Rollman, 2009 (72) (Bypassing the Blues)	NA	8	CCM=150 Control=152	Depression: Hamilton Rating Scale for Depression	CCM 9 (SD .7) > control 11.4 (SD .7), (p=.001)
				Mental Health Quality of Life: Short Form-36 Mental Component Score	CCM 50 (SD 1) > control 46.2 (SD 1.1) (p=.02)
				Physical Quality of Life: Short -36 Physical Component Form Score	CCM 44 (SD .8), control 41.4 (SD .8) (NS)
Davidson, 2010 (73)	NA	6	CCM=800 Control=77	^a Depression: Mean Beck Depression Inventory Score	CCM 13.2 (CI 11.1-15.3) > control 17.7 (CI 15.6-19.7) (p=0.003)
Eli, 2010 (74)	NA	18	CCM=144 Control=137	Depression: Remission (Reduction in Symptom Checklist-20 by 50% and final score <0.5)	CCM 40.30% > control 35% (p=.04)
				Social Role Function: Sheehan Disability Score	CCM 3.28 (SD 3.12), control 3.18 (SD 2.89) (NS)
				Physical Quality of Life: Short Form-12 (physical component score)	CCM 39.85 (SD 11.7), control 41.15 (SD 10.89) (NS)

				Mental Quality of Life: Short Form-12 (mental component score)	CCM 45.1 (SD 12.19), control 43.49 (SD 11.66) (NS)
Katon, 2010 (75)	NA	12	CCM=105 Control=106	Depression: Symptom Checklist-20	CCM .83 (SD .68), control 1.14 (SD .66) (no p-value reported)
				Overall Quality of Life: Quality of Life Scale	CCM 6.2 (SD 2.2) > control 5.2 (SD 1.9) (p<.001)
Vera, 2010 (76)	NA	6	CCM=89 Control=90	Depression: Hopkins Symptom Checklist-20	CCM > control; beta -0.03 (treatment x time) (p<0.001)
		18	CCM=89 Control=90	Social Role Function: Social Function subscale of the Short Form-36	CCM > control; beta -0.70 (treatment x time) (p<0.001)
Yeung 2010 (77)	NA	6		Depression: Remission (Reduction in HDRS by 50% and final score <7)	CCM 48%, control 37% (NS)
BIPOLAR DISORDERS					
Suppes, 2003 (78)	NA	12	141	Depression: Inventory of Depressive Symptomology-Clinician-30 growth rate	Growth curve analysis indicated no difference between groups in months 1-3 (NS) or months 4-12 (NS)
				Mania: Clinician Administered Rating Scale for Mania growth rate	Growth curve analysis indicated significant benefit from CCM in months 1-3 (p=0.03) with no difference in months 4-12 (NS)
				Global Mental Health: Brief Psychiatric Rating Scale- growth rate	Growth curve analysis indicated significant benefit from CCM in months 1-3 (p=0.001) with no difference in months 4-12 (NS)
Bauer, 2006 (79) (CSP #430)	NA	36	CCM=157 Control=158	Global Mental Health: Percentage of weeks of reduction in any mood episode over life of study	14% reduction in CCM vs. control (p=.04)
				Mental Health Quality of Life: Short Form-36 mental health	CCM 37.6, > control 34.1 (p=.01)
				Physical Health Quality of Life: Short Form-36 physical health	CCM 43.4, control 42.9 (NS)
				Social Role Function	CCM > control, $\beta = -0.13$ (CI -0.21 - -0.04) (p=0.003)
				^a Economic: Total costs	CCM 61,398 (CI 52,037-71,787), control 64,379 (CI 55,031-73,695) (NS)

Simon, 2006 (80)	NA	24	CCM=156 Control=175	Mania: Mean Psychiatric Symptom Rating Mania score	CCM > control (p=0.04); data not provided
				Depression: Mean Psychiatric Symptom Rating Depression score	CCM = control (NS); data not provided
				^a Economic: Total costs	CCM 8,046 (SD 5,974), control 6,743 (SD 6695) (no p-value reported)
Kilbourne, 2008 (81)	NA	3	CCM=27 Control=31	^a Mental Quality of Life: Short Form-12 Mental Component Score	CCM 34.9 (SD 7.3), control 32.1 (SD 6.7) (NS)
				^a Physical Health Quality of Life: Short Form-12 Physical Component Score	CCM 37 (SD 7.3) > control 35.1 (SD 7.7) (p=0.04)
		6	CCM=27 Control=31	^a Depression: Depressive Episode (Internal State Scale)	CCM 7.9 (SD 5.8), control 7.9 (SD 5.6) (NS)
				Mania: Manic Episode (Internal State Scale)	CCM 17.5 (SD 12.2), control 16.0 (SD 9.0) (NS)
				^a Social Role Function: World Health Organization-Disability Assessment Schedule	CCM 18.9 (SD 11.1), control 17 (SD 9.7) (NS)

ANXIETY DISORDERS

Rollman, 2005 (82)	NA	12	CCM=82 Control=61	Anxiety: Point change (SIGH-A)	CCM > control: 12 month point change vs. usual care: -3.6 (-6.4 to -0.8) (p=.01)
				Mental Quality of Life: Point change (SF-12 MCS)	CCM > control: 12 month point change vs. usual care: 5.8 (1.5 to 10.1) (p=.01)
				Physical Quality of Life: Change in hours worked/week from baseline	12 month point change vs. usual care: 0.1 (-3.8 to 3.6) (p=.96)
Roy-Byrne, 2005 (83)	Roy-Byrne, 2005 (83)	12	CCM=86 Control=93	Anxiety: Anxiety Sensitivity Index	CCM 18.7 > control 25.3 (p<.001)
				Depression: mCES-D	CCM 18.6 > control 22.7 (p=.05)
				Social Role Function: High end state functioning	CCM .29 > control .16 (p<.001)
				Social Role Function: WHO Disability Score	CCM 9.63 > control 11.33 (p=.01)
	Katon, 2006 (117)	24 ^c	CCM=119 Control=113	^a Economic: Total costs	CCM 4,494 (CI 4,181-4,807), control 4,770 (CI 4,326-5,213) (no p-value reported)
Roy-Byrne, 2010 (84)	NA	18	CCM=503 Control=501	Anxiety: Brief Symptom Inventory for Anxiety (Mean Difference)	CCM 8.21 (CI 7.43 to 8.98) > control 9.84 (CI 9.05 to 10.62) (p=0.05)

				Depression: Patient Health Questionnaire-9	CCM 6.47 (CI 5.92 to 7.03) > control 7.92 (CI 7.36 to 8.49) (p=0.006)
				Social Role Functioning: Sheehan Disability Score	CCM 8.37 (CI 7.62 to 9.12) > control (CI 10.89 (10.13 to 11.65) (p<0.001)
				Mental Quality of Life: Short Form-12 (mental component score)	CCM 45.64 (CI 44.57 to 46.71) > control 41.75 (CI 40.67 to 42.84) (p<0.001)
				Physical Quality of Life: Short Form-12 (physical component score)	CCM 48.22 (CI 47.18 to 49.26), control 47.35 (CI 46.30 to 48.40) (NS)
OTHER OR MULTIPLE DIAGNOSES					
Coleman, 1999 (85)	NA	24	CCM= 78 Control = 49	Depression: Mean CES-D Score	CCM 14.8, control 17.4 (NS)
				Physical Quality of Life: Short Form-36 Physical Component Score	CCM 37.5, control 37.5 (NS)
				Economics: Total Costs	CCM 9,535, control 10,116 (NS)
Druss, 2001 (86)	NA	12	CCM= 59 Control = 61	^a Physical Quality of Life: Short Form-36 Physical Component Score	CCM 50.9 (SD 7.1) > control 45.3 (SD 9.8) (p<0.001)
				^a Mental Quality of Life: Short Form-36 Mental Component Score	CCM 35.0 (SD 14.6), control 37.1 (SD 13.9) (NS)
				^a Global Mental Health: Symptom Checklist-90 Score	CCM 77.1 (SD 21.4), control 79.7 (SD 25.0) (NS)
				Substance Use: Addiction Severity Index Drug Score	CCM 0.07 (SD 0.04), control 0.09 (SD 0.06) (NS)
				Substance Use: Addiction Severity Index Drug Score	CCM 0.04 (SD 0.18), control 0.01 (SD 0.17) (NS)
				^a Economics: Total Costs	CCM 12,010 (SD 13,271), control 14,543 (SD 15,871) (NS)
Oslin, 2003 (87)	NA	4	46	^a Depression: Hamilton Depression Rating Scale	CCM 11.1 (SD 6.6) > control 16.3 (SD 9.4) (p=.048)
Zatzick, 2004 (88)	NA	12	61	PTSD: Post-traumatic stress disorder rate	CCM 0.07% (CI -4.2% to 4.3%) > control 6% (CI 3.1% to 9.3%) (p=.001)
				Substance Abuse: CIDI-rate of decrease from baseline of diagnosis of alcohol	CCM 24.2% (95% CI, -19.9% to -28.6%) > control 12.9% (95% CI, 8.2%-17.7%). (p=.001)

				abuse/dependence	
Callahan, 2006 (89)	NA	18	CCM=65 Control=49	Cognition: Neuropsychiatric Inventory	CCM 8.4 (SD 10.2) > control 16.2 (SD 18.7) (p=.01)
			CCM=170 Control=174	^a Depression: Cornell Scale for Depression in Dementia	CCM 19 (SD 11.9) > control 21.4 (SD 31.1) (p=.02)
			CCM=65 Control=49	Physical Quality of Life: Caregiver patient health questionnaire-9	CCM 3.1 (SD 4.5) > control 5.2 (SD 5.3) (p=.02)
Smith, 2006 (90)	NA	12	CCM=101 Control=105	^a Depression: Center for Epidemiological Studies-Depression	CCM Odds Ratio for improvement vs. baseline: 3.17 (CI 1.27 to 5.08); control Odds Ratio for improvement vs. baseline: 1.73 (CI 0.14 to 3.60) (no p-values reported)
				Mental Quality of Life: Percentage of improvement (4 point increase in Short Form-12, mental component score)	CCM 49% > control 33.3%; Odds Ratio for improvement: 2.16 (1.14 to 4.10) (p=0.019)
Van Straten, 2006 (91)	NA	18	155 (Cognitive Behavioral Therapy)/141 (Brief therapy)/183 (Control)	Global Mental Health: Symptom Checklist-90	Odds Ratio for CBT with control as Reference: 2.18 (CI 4.93 to 0.57) (NS) Odds Ratio for BT with control as Reference: 0.12 (2.96 to 3.19) (NS)
				Mental Quality of Life: Short Form-36 (good health)	Odds Ratio for CBT with control as Reference: 0.73 (CI 0.69 to 2.14) (NS); Odds Ratio for BT with control as Reference: 0.56 (CI 0.87 to 1.99) (NS)
Van Orden 2009 (92)	NA	12	CCM=71 Control=43	^a Global Mental Health: Symptom Checklist-90	CCM 158.9 (SD 64.6), control 154.4 (SD 52.4) (NS)
			CCM=70 Control=43	^a Overall Quality of Life: World Health Organization Quality of Life-BREF	CCM 3.3 (SD .9), control 3.3 (SD .7) (NS)
Druss, 2010 (PCARE) (93)	NA	12	CCM=205 Control=202	^a Physical Quality of Life: Short Form-36 Physical Component Score	CCM 37.1 (SD 11.5), control 34.7 (SD 11.9) (NS)
				^a Mental Quality of Life: Short Form-36 Mental Component Score	CCM 39.3 (SD 9.9) > control 35.6 (SD 10.1) (p=0.008)
Patel, 2010 (94)	NA	6	CCM=1098 Control=1144	Global Mental Health: ICD-10 Common Mental Disorders Screen positive for current mental disorder	Risk Ratio for recovery from common mental disorders, CCM > control reference: 1.22 (1.00–1.47) (p=0.05)

^aWe have used alternate light-dark shading of rows in order for the reader to more easily visualize analyses together with their parent trial. Superscript a indicates outcome analyses that were included in meta-analysis

^bSince specific outcome instrument valence may not be known to all readers (e.g., fewer depressive symptoms, better social role function, lower costs), “>” or “<” designates whether significant results favor CCM or control.

^cThese analyses reflect long-term residual clinical effects or economic impact of the intervention assessed months to years after the cessation of the initial controlled trial.