APPENDIX A. SEARCH STRATEGIES

PubMed: 12/19/2016

Set	Terms	Results
#1	"Combat Disorders"[Mesh] OR "Stress Disorders, Post-Traumatic"[Mesh] OR "Post Traumatic Stress Disorder"[tiab] OR "Post Traumatic Stress Disorders"[tiab] OR "Posttraumatic Stress Disorder"[tiab] OR "Posttraumatic Stress Disorders"[tiab] OR "PTSD"[tiab] OR "Post Traumatic Neuroses"[tiab] OR "Posttraumatic Neuroses"[tiab] OR "Psychotic Disorders"[Mesh] OR "Psychotic Disorder"[tiab] OR "Psychosis"[tiab] OR "Psychoses"[tiab] OR "Schizoaffective Disorder"[tiab] OR "Schizoaffective Disorders"[tiab] OR "Schizophreniform Disorders"[tiab] OR "Schizophreniform Disorder"[tiab] OR "Craniocerebral Trauma"[Mesh] OR "traumatic brain"[tiab] OR "brain trauma"[tiab] OR TBI[tiab] OR "intracranial injury"[tiab] OR "intracranial injuries"[tiab] OR "traumatic encephalopathy"[tiab] OR "posttraumatic encephalopathy"[tiab] OR "post traumatic encephalopathy"[tiab] OR "cerebral trauma"[tiab] OR ("blast–induced"[tiab] AND brain[tiab]) OR "Multiple Trauma"[Mesh] OR "multiple trauma"[tiab] OR "multiple traumas"[tiab] OR "multiple wound"[tiab] OR "multiple wounds"[tiab] OR "multiple injury"[tiab] OR "multiple injuries"[tiab] OR Polytrauma[tiab] OR "Poly trauma"[tiab] OR Polytraumas[tiab] OR "Poly traumas"[tiab] OR Polytraumatised[tiab] OR "Poly traumatized"[tiab] OR "Polytraumatic"[tiab] OR "Poly traumatic"[tiab] OR "serious mental illness"[tiab] OR (("Veterans Health"[Mesh] OR "Veterans"[Mesh] OR veterans[tiab] OR veteran[tiab] OR "Disabled Persons"[Mesh] OR "Trauma and Stressor Related Disorders"[Mesh]) AND ("Cognition Disorders"[Mesh] OR "Intellectual Disability"[Mesh] OR "cognition disorder"[tiab] OR "cognition disorders"[tiab] OR "Cognitive impairment"[tiab] OR "cognitively impaired"[tiab] OR "Functional impairment"[tiab] OR "functionally impaired"[tiab]))	**268,090**
#2	("Home Nursing"[Mesh] OR "home nursing"[tiab] OR "home-based"[tiab] OR "Nonprofessional Home Care"[tiab] OR "Non-Professional Home Care"[tiab] OR "informal care"[tiab] OR "informal caregiver"[tiab] OR "informal caregivers"[tiab] OR "informal carer"[tiab] OR "informal carers"[tiab] OR "informal caregiving"[tiab] OR "informal caretaker"[tiab] OR "informal caretakers"[tiab] OR "informal social support"[tiab] OR "family-inclusive"[tiab]) OR (("Patient Care"[Mesh] OR "Caregivers"[Mesh] OR caregiver[tiab] OR caregivers[tiab] OR carer[tiab] OR carers[tiab] OR caregiving[tiab] OR "care giving"[tiab]) AND ("custodial"[tiab] OR "domiciliary"[tiab] OR "respite"[tiab] OR "home"[tiab] OR "Community Dwelling"[tiab] OR "Social Environment"[Mesh:NoExp] OR "Social Support"[Mesh] OR "Psychosocial Support"[tiab])) OR (("Patient Care"[Mesh] OR "Caregivers"[Mesh] OR caregiver[tiab] OR caregivers[tiab] OR carer[tiab] OR carers[tiab] OR caregiving[tiab] OR "care giving"[tiab]) AND ("Family"[Mesh] OR family[tiab] OR families[tiab] OR relatives[tiab] OR stepfamily[tiab] OR stepfamilies[tiab] OR kinship[tiab] OR friend[tiab] OR "Marriage"[Mesh] OR marriage[tiab] OR married[tiab] OR wedded[tiab] OR "spouses"[Mesh] OR spouse[tiab] OR spouses[tiab] OR spousal[tiab] OR wife[tiab] OR wives[tiab] OR husband[tiab] OR husbands[tiab] OR girlfriend[tiab] OR boyfriend[tiab] OR "domestic partner"[tiab] OR "domestic partners"[tiab] OR "domestic partnership"[tiab] OR "domestic partnerships"[tiab] OR "interpersonal relations"[MeSH Terms] OR "interpersonal relations"[tiab] OR "intimate partner”[tiab] OR “intimate partners”[tiab] OR “intimate partnership”[tiab] OR “intimate partnerships”[tiab] OR "intimate relationship"[tiab] OR cohabitate[tiab] OR cohabitant[tiab] OR cohabitants[tiab] OR parent[tiab] OR parents[tiab] OR parental[tiab] OR stepparent[tiab] OR stepparents[tiab] OR mother[tiab] OR mothers[tiab] OR moms[tiab] OR Father[tiab] OR fathers[tiab] OR dads[tiab] OR stepfather[tiab] OR stepfathers[tiab] OR son[tiab] OR sons[tiab] OR stepson[tiab]	**208,176**

Set	Terms	Results
	OR stepsons[tiab] OR child[tiab] OR children[tiab] OR daughter[tiab] OR daughters[tiab] OR stepdaughter[tiab] OR stepdaughters[tiab] OR uncle[tiab] OR uncles[tiab] OR aunt[tiab] OR aunts[tiab] OR sibling[tiab] OR siblings[tiab] OR sister[tiab] OR sisters[tiab] OR stepsister[tiab] OR stepsisters[tiab] OR brother[tiab] OR brothers[tiab] OR stepbrother[tiab] OR stepbrothers[tiab] OR cousin[tiab] OR cousins[tiab] OR grandparent[tiab] OR grandparents[tiab] OR grandmother[tiab] OR grandmothers[tiab] OR grandfather[tiab] OR grandfathers[tiab]))	
#3	#1 AND #2	**6,573**
#4	#3 NOT (("Adolescent"[Mesh] OR "Child"[Mesh] OR "Infant"[Mesh]) NOT "Adult"[Mesh]) AND English[lang]	**4,257**
#5	(systematic[sb] OR "Systematic Review"[tiab] OR "Umbrella Review"[tiab] OR "meta-analysis"[tiab] OR "meta-analyses"[tiab] OR "meta-synthesis"[tiab] OR "meta-syntheses"[tiab] OR "randomized controlled trial"[ptyp] OR "controlled clinical trial"[ptyp] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR randomly[tiab] OR trial[tiab] OR groups[tiab] OR "Comparative Study"[ptyp] OR "Controlled Clinical Trial"[ptyp] OR nonrandom[tiab] OR "non-random"[tiab] OR nonrandomized[tiab] OR "non-randomized"[tiab] OR nonrandomised[tiab] OR "non-randomised"[tiab] OR quasi-experiment*[tiab] OR quasiexperiment*[tiab] OR quasirandom*[tiab] OR quasi-random*[tiab] OR quasi-control*[tiab] OR quasicontrol*[tiab] OR (controlled[tiab] AND (trial[tiab] OR study[tiab])) OR “pre-post”[tiab] OR “posttest”[tiab] OR “post-test”[tiab] OR pretest[tiab] OR pre-test[tiab] OR ("time series"[tiab] AND interrupt[tiab]) OR (“time points”[tiab] AND (multiple[tiab] OR one[tiab] OR two[tiab] OR three[tiab] OR four[tiab] OR five[tiab] OR six[tiab] OR seven[tiab] OR eight[tiab] OR nine[tiab] OR ten[tiab] OR month[tiab] OR monthly[tiab] OR day[tiab] OR daily[tiab] OR week[tiab] OR weekly[tiab] OR hour[tiab] OR hourly[tiab])) OR (before[tiab] AND after[tiab]) OR (before[tiab] AND during[tiab])) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp]) NOT (animals[mh] NOT humans[mh])	**3,291,302**
#6	#4 AND #5	**1,325**

CINAHL: 12/19/2016

Set	Terms	Results
S1	(MH "Stress Disorders, Post-Traumatic+") OR "combat disorders" OR "Post Traumatic Stress Disorder" OR "Post Traumatic Stress Disorders" OR "Posttraumatic Stress Disorder" OR "Posttraumatic Stress Disorders" OR "PTSD" OR "Post Traumatic Neuroses" OR "Posttraumatic Neuroses" OR (MH "Psychotic Disorders+") OR "Psychotic Disorder" OR "Psychosis" OR "Psychoses" OR "Schizoaffective Disorder" OR "Schizoaffective Disorders" OR "Schizophreniform Disorders" OR "Schizophreniform Disorder" OR (MH “Head Injuries+”) OR "traumatic brain" OR "brain trauma" OR TBI OR "intracranial injury" OR "intracranial injuries" OR "traumatic encephalopathy" OR "posttraumatic encephalopathy" OR "post traumatic encephalopathy" OR "cerebral trauma" OR ("blast–induced" AND brain) OR (MH "Multiple Trauma+”) OR "multiple trauma" OR "multiple traumas" OR "multiple wound" OR "multiple wounds" OR "multiple injury" OR "multiple injuries" OR Polytrauma OR "Poly trauma" OR Polytraumas OR "Poly traumas" OR Polytraumatised OR "Poly traumatized" OR "Polytraumatic" OR "Poly traumatic" OR "serious mental illness" OR (((MH "Veterans+") OR veterans OR veteran OR (MH "Disabled+”)) AND ((MH “Adjustment Disorders+”) OR (MH "Cognition Disorders+") OR (MH "Intellectual Disability+") OR "cognition disorder" OR "cognition disorders" OR "Cognitive impairment" OR "cognitively impaired" OR "Functional impairment" OR "functionally impaired"))	**145,641**

Set	Terms	Results
S2	(MH "Home Nursing+") OR "home nursing" OR "home-based" OR "Nonprofessional Home Care" OR "Non-Professional Home Care" OR "informal care" OR "informal caregiver" OR "informal caregivers" OR "informal carer" OR "informal carers" OR "informal caregiving" OR "informal caretaker" OR "informal caretakers" OR "informal social support" OR "family-inclusive" OR (((MH "Patient Care+") OR (MH "Caregivers+") OR caregiver OR caregivers OR carer OR carers OR caregiving OR "care giving") AND (custodial OR domiciliary OR respite OR home OR "Community Dwelling" OR (MH "Social Environment+") OR (MH "Support, Pyschosocial+") OR "Psychosocial Support")) OR (((MH "Patient Care+") OR (MH "Caregivers+") OR caregiver OR caregivers OR carer OR carers OR caregiving OR "care giving") AND ((MH "Family+") OR family OR families OR relatives OR stepfamily OR stepfamilies OR kinship OR friend OR (MH "Marriage+") OR marriage OR married OR wedded OR (MH "Spouses+") OR spouse OR spouses OR spousal OR wife OR wives OR husband OR husbands OR girlfriend OR boyfriend OR "domestic partner" OR "domestic partners" OR "domestic partnership" OR "domestic partnerships" OR (MH "Interpersonal Relations+") OR "interpersonal relations" OR “intimate partner” OR “intimate partners” OR “intimate partnership” OR “intimate partnerships” OR "intimate relationship" OR cohabitate OR cohabitant OR cohabitants OR parent OR parents OR parental OR stepparent OR stepparents OR mother OR mothers OR moms OR Father OR fathers OR dads OR stepfather OR stepfathers OR son OR sons OR stepson OR stepsons OR child OR children OR daughter OR daughters OR stepdaughter OR stepdaughters OR uncle OR uncles OR aunt OR aunts OR sibling OR siblings OR sister OR sisters OR stepsister OR stepsisters OR brother OR brothers OR stepbrother OR stepbrothers OR cousin OR cousins OR grandparent OR grandparents OR grandmother OR grandmothers OR grandfather OR grandfathers))	**223,352**
S3	S1 AND S2	**14,233**
S4	((MH "Randomized Controlled Trials+") OR (MH "Systematic Review+") OR (MH "Meta Analysis+")) OR TI ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "randomised" OR "randomisation" OR "randomly" OR "trial" OR "groups" OR "comparative study" OR "nonrandom" OR "non-random" OR "nonrandomized" OR "non-randomized" OR "nonrandomised" OR "non-randomised" OR quasi-experiment* OR quasiexperiment* OR quasirandom* OR quasi-random* OR quasi-control* OR quasicontrol* OR (controlled AND (trial OR study)) OR "pre-post" OR "posttest" OR "post-test" OR "pretest" OR "pre-test" OR ("time series" AND "interrupt") OR (("time points") AND (multiple OR one OR two OR three OR four OR five OR six OR seven OR eight OR nine OR ten OR month OR monthly OR day OR daily OR week OR weekly OR hour OR hourly)) OR (before AND after) OR (before AND during) OR "systematic review" OR "Umbrella Review" OR "meta-analysis" OR "meta-analyses" OR "meta-synthesis" OR "meta-syntheses") OR AB ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "randomised" OR "randomisation" OR "randomly" OR "trial" OR "groups" OR "comparative study" OR "nonrandom" OR "non-random" OR "nonrandomized" OR "non-randomized" OR "nonrandomised" OR "non-randomised" OR quasi-experiment* OR quasiexperiment* OR quasirandom* OR quasi-random* OR quasi-control* OR quasicontrol* OR (controlled AND (trial OR study)) OR "pre-post" OR "posttest" OR "post-test" OR "pretest" OR "pre-test" OR ("time series" AND "interrupt") OR (("time points") AND (multiple OR one OR two OR three OR four OR five OR six OR seven OR eight OR nine OR ten OR month OR monthly OR day OR daily OR week OR weekly OR hour OR hourly)) OR (before AND after) OR (before AND during) OR "systematic review" OR "Umbrella Review" OR "meta-analysis" OR "meta-analyses" OR "meta-synthesis" OR "meta-syntheses") AND (PT journal article)	**513,457**

Set	Terms	Results
S5	S4 NOT PT (Abstract OR Book OR Book Chapter OR Book Review OR Case Study OR Commentary OR Doctoral Dissertation OR Editorial OR Letter OR Masters Thesis OR Pamphlet OR Pamphlet Chapter OR Poetry) NOT TI (Editorial OR Letter OR "Case Report" OR Comment)	**484,282**
S6	S3 AND S5	**2,138**
S7	S6 Limiters - Language: English; Age Groups: All Adult	**1,367**

PsycINFO: 12/19/2016

Set	Terms	Results
S1	(DE "Post-Traumatic Stress") OR "combat disorders" OR "Post Traumatic Stress Disorder" OR "Post Traumatic Stress Disorders" OR "Posttraumatic Stress Disorder" OR "Posttraumatic Stress Disorders" OR "PTSD" OR "Post Traumatic Neuroses" OR "Posttraumatic Neuroses" OR (DE "Psychosis") OR (DE "Reactive Psychosis") OR "Psychotic Disorder" OR "Psychosis" OR "Psychoses" OR "Schizoaffective Disorder" OR "Schizoaffective Disorders" OR "Schizophreniform Disorders" OR "Schizophreniform Disorder" OR (DE "Brain Damage") OR (DE "Periventricular Leukomalacia") OR (DE "Traumatic Brain Injury") OR (DE "Brain Concussion") OR (DE “Head Injuries”) OR "traumatic brain" OR "brain trauma" OR TBI OR "intracranial injury" OR "intracranial injuries" OR "traumatic encephalopathy" OR "posttraumatic encephalopathy" OR "post traumatic encephalopathy" OR "cerebral trauma" OR ("blast–induced" AND brain) OR "multiple trauma" OR "multiple traumas" OR "multiple wound" OR "multiple wounds" OR "multiple injury" OR "multiple injuries" OR Polytrauma OR "Poly trauma" OR Polytraumas OR "Poly traumas" OR Polytraumatised OR "Poly traumatized" OR "Polytraumatic" OR "Poly traumatic" OR "serious mental illness" OR (((DE "Military Veterans") OR (DE "Traumatic Neurosis") OR (DE "Adjustment Disorders") OR veterans OR veteran) AND ((DE "Cognitive Impairment") OR (DE "Intellectual Development Disorder") OR (DE "Cognitive Ability") OR (DE "Brain Training") OR (DE "Mathematical Ability") OR (DE "Reading Ability") OR (DE "Spatial Ability") OR (DE "Verbal Ability") OR "cognition disorder" OR "cognition disorders" OR "Cognitive Dysfunction" OR (DE "Cognitive Impairment") OR "Cognitive impairment" OR "cognitively impaired" OR "Functional impairment" OR "functionally impaired" OR "Executive Dysfunction" OR "Cognitive Deficits"))	**139,229**
S2	((DE "Home Care") OR "home nursing" OR "home-based" OR "Nonprofessional Home Care" OR "Non-Professional Home Care" OR "informal care" OR "informal caregiver" OR "informal caregivers" OR "informal carer" OR "informal carers" OR "informal caregiving" OR "informal caretaker" OR "informal caretakers" OR "informal social support" OR "family-inclusive")) OR (((DE "Caregivers") OR (DE "Caring Behaviors") OR caregiver OR caregivers OR carer OR carers OR caregiving OR "care giving") AND ("custodial" OR "domiciliary" OR "respite" OR "home" OR "Community Dwelling" OR (DE "Social Environments") OR (DE "Social Support") OR "Psychosocial Support")) OR (((DE "Caregivers") OR (DE "Caring Behaviors") OR caregiver OR caregivers OR carer OR carers OR caregiving OR "care giving") AND ((DE "Family") OR family OR families OR relatives OR stepfamily OR stepfamilies OR kinship OR friend OR (DE "Marriage") OR marriage OR married OR wedded OR (DE "Spouses") OR spouse OR spouses OR spousal OR wife OR wives OR husband OR husbands OR girlfriend OR boyfriend OR "domestic partner" OR "domestic partners" OR "domestic partnership" OR "domestic partnerships" OR (DE "Interpersonal Relationships") OR "interpersonal relations" OR “intimate partner” OR “intimate partners” OR “intimate partnership” OR “intimate partnerships” OR "intimate relationship" OR cohabitate OR cohabitant OR cohabitants OR parent OR parents OR parental OR stepparent OR stepparents OR mother OR mothers OR moms OR Father OR fathers OR dads OR stepfather OR stepfathers OR son OR	**52,755**

Set	Terms	Results
	sons OR stepson OR stepsons OR child OR children OR daughter OR daughters OR stepdaughter OR stepdaughters OR uncle OR uncles OR aunt OR aunts OR sibling OR siblings OR sister OR sisters OR stepsister OR stepsisters OR brother OR brothers OR stepbrother OR stepbrothers OR cousin OR cousins OR grandparent OR grandparents OR grandmother OR grandmothers OR grandfather OR grandfathers))	
S3	S1 AND S2	**2,082**
S4	S3 Limiters - Language: English; Age Groups: Adulthood (18 yrs & older)	**1,248**
S5	TI ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "randomised" OR "randomisation" OR "randomly" OR "trial" OR "groups" OR "comparative study" OR "nonrandom" OR "non-random" OR "nonrandomized" OR "non-randomized" OR "nonrandomised" OR "non-randomised" OR quasi-experiment* OR quasiexperiment* OR quasirandom* OR quasi-random* OR quasi-control* OR quasicontrol* OR (controlled AND (trial OR study)) OR "pre-post" OR "posttest" OR "post-test" OR "pretest" OR "pre-test" OR ("time series" AND "interrupt") OR (("time points") AND (multiple OR one OR two OR three OR four OR five OR six OR seven OR eight OR nine OR ten OR month OR monthly OR day OR daily OR week OR weekly OR hour OR hourly)) OR (before AND after) OR (before AND during) OR "systematic review" OR "Umbrella Review" OR "meta-analysis" OR "meta-analyses" OR "meta-synthesis" OR "meta-syntheses") OR AB ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "randomised" OR "randomisation" OR "randomly" OR "trial" OR "groups" OR "comparative study" OR "nonrandom" OR "non-random" OR "nonrandomized" OR "non-randomized" OR "nonrandomised" OR "non-randomised" OR quasi-experiment* OR quasiexperiment* OR quasirandom* OR quasi-random* OR quasi-control* OR quasicontrol* OR (controlled AND (trial OR study)) OR "pre-post" OR "posttest" OR "post-test" OR "pretest" OR "pre-test" OR ("time series" AND "interrupt") OR (("time points") AND (multiple OR one OR two OR three OR four OR five OR six OR seven OR eight OR nine OR ten OR month OR monthly OR day OR daily OR week OR weekly OR hour OR hourly)) OR (before AND after) OR (before AND during) OR "systematic review" OR "Umbrella Review" OR "meta-analysis" OR "meta-analyses" OR "meta-synthesis" OR "meta-syntheses")	**707,730**
S6	S5 NOT PT (Abstract OR Book OR Book Chapter OR Book Review OR Case Study OR Commentary OR Doctoral Dissertation OR Editorial OR Letter OR Masters Thesis OR Pamphlet OR Pamphlet Chapter OR Poetry) NOT TI (Editorial OR Letter OR "Case Report" OR Comment)	**668,325**
S7	S3 AND S6	**349**

APPENDIX B. INTERVENTION TABLES

This appendix contains an Interventions Components Table and an Interventions Details Table. For full study citations, please refer to the report's main reference list.

Intervention Components Table

Study	Brief Description	Illness education	Financial Assistance	Therapeutic Aspect	Social Support	Skills Training	"Other" Component	Outcome timing
Traumatic brain injury								
Acorn, 1995[22]	Illness education & emotional support: Three 10-hour group sessions covering 10 modules	X	–	–	X	–	–	End of treatment , 1 month, and 2 months post-treatment
Bell, 2005[23]	Illness education & resource access: 7 telephone sessions over 9 months using motivational interviewing for problem-solving	X	–	–	–	–	Helped access resources (*ie*, mailed materials or made referrals as appropriate)	1 year post-hospitalization
Hanks, 2012[24]	Illness education, social support, & resource access: 17 sessions where mentor and mentee met and/or talked via phone, tapering from weekly to monthly over 1 year	X	–	–	X	–	Discussions around post-TBI issues and help to access community resources	End of treatment (12 months)
Kreutzer, 2015[29]	Illness education, skills training, & homework: 5 sessions over 10 weeks designed to enhance family functioning	X	–	–	–	X	Homework; worksheets to complete between sessions	End of treatment (10 weeks) and 22 weeks

Study	Brief Description	Illness education	Financial Assistance	Therapeutic Aspect	Social Support	Skills Training	"Other" Component	Outcome timing
Powell, 2016[25]	Illness education & skills training: 1-on-1 phone calls with patient and/or family to teach problem-solving on 12 topics related to TBI	X	–	–	–	X	–	6 months
Rivera, 2008[26]	Therapeutic aspects & skills training: provided to caregivers in 4 in-home sessions and 8 phone calls over 1 year	–	–	X	–	X	–	16, 32, and 52 weeks
Sinnakaruppan, 2005[27]	Illness education, skills training, & handouts: Eight 2.5-hour, in-person sessions, conducted in separate groups for care givers and recipients	X	–	–	–	X	Handouts to complement the training sessions	End of treatment and 3 months
Togher, 2013[30] (Companion articles: Togher, 2012[60]; Togher, 2016[61]; Sim, 2013[62])	Illness education, therapeutic aspect, & skills training: 10 weeks of both group and individual sessions for either care recipients alone or with their communication partners	X	–	X[a]	–	X	–	End of treatment (10 weeks) and 6 months
Winter, 2016[28] Moriarty, 2016[35]	Illness education, skill training, & resource access: 6 in-home visits and 2 phone calls with family member over 4 months targeting family function, environment	X	–	–	–	X	Help with access to community and other resources	4 months

Study	Brief Description	Illness education	Financial Assistance	Therapeutic Aspect	Social Support	Skills Training	"Other" Component	Outcome timing
Posttraumatic stress disorder								
Glynn, 1999[31]	Illness education: 16 sessions testing a family-based skills-building program to augment 18 exposure treatments for veterans with PTSD	X	–	–	-	–		End of treatment and 6 month
Monson, 2012[33] (Companion articles: Shnaider, 2014[36]; Shnaider, 2015[37])	Illness education, therapeutic aspect, & skills training: delivered in a couples therapy format; consists of 15 sessions organized into 3 phases with in- and out-of-session exercises	X	-	X	-	X	-	Mid-treatment (4 weeks) and end of treatment (12 weeks)
Sautter, 2015[34]	Illness education, therapeutic aspect, & skills training: 12 weekly, in-person, conjoint sessions, and exposure treatments for Veterans with PTSD and their cohabiting partners	X	–	X	–	X	–	3, 6, 9, 12 weeks, and 12 week follow-up (24 weeks)
Weine, 2008[32]	Illness education, therapeutic aspect, social support, skills training, & resource access: 9 multifamily group sessions over 16 weeks	X	–	X	X	X	Help with access to mental health resources	End of treatment, 6, 12, and 18 months
Totals		**12 (92%)**	**0**	**5 (38%)**	**3 (23%)**	**9 (69%)**	**7 (54%)**	

[a] This study did not employ a therapist or name the intervention as a type of therapy per se, but the description of the communication strategies contained aspects of the therapeutic process.

Abbreviations: CBT=cognitive behavioral therapy; PTSD=posttraumatic stress disorder; TBI=traumatic brain injury

Intervention Details Table

Study	Planned frequency and duration	Number of sessions delivered	Discipline(s) providing service	Intervention Delivery Type	Intervention Delivery Mode	Target
Traumatic brain injury						
Acorn,1995[22]	3 weekend sessions, 10 hours each weekend	NR	Nurse	Group	In person	Caregiver only
Bell, 2005[23]	7 phone calls at 2, 4 weeks, and 2, 3, 5, 7, and 9 months post-discharge lasting 30-45 minutes	Recipients Median: 4 calls (IQR: 2 to 6) lasting 34 min (IQR: 20 to 55) Caregivers Median: 4.5 calls (IQR:2 to 6) lasting 30 min (IQR: 15 to 55)	"Research care manager"—no training in brain injury or advanced degree	One-on-one	Phone, written	Caregiver and care recipient
Hanks, 2012[24]	17 sessions tapering from 1 per week to 1 per month; duration was not planned	5.4 (4.0); mostly by phone; duration ranged 5 min to >1 hour	Peer mentor (hired as contingent employee)	One-on-one	In person, phone, web	Care recipient
Kreutzer, 2015[29]	Five 2-hour sessions within 10-week period	NR	Psychologist	One-on-one	In person	Care recipient
Powell, 2016[25]	8-10 calls, once every 2 weeks for 5 weeks	7-10 calls (n=41); 1-6 calls (n=30); no calls (n=6)	Social worker	One-on-one	Phone, written	Care recipient
Rivera, 2008[26]	12 sessions: 4 in-person, 8 via phone	NR	PhD in administration and relevant volunteer experience, but never employed as a counselor	One-on-one	In person, phone	Care recipient

Study	Planned frequency and duration	Number of sessions delivered	Discipline(s) providing service	Intervention Delivery Type	Intervention Delivery Mode	Target
Sinnakaruppan, 2005[27]	8 sessions (4 for caregivers, 4 for recipients) [duration NR]	NR	Psychologist	Group	In person, written	Caregiver and care recipient
Togher, 2013[30] (Companion articles: Togher, 2012[60]; Togher, 2016[61]; Sim, 2013[62])	2.5-hour group session and 45-60 minute individual session every week for 10 weeks	8 sessions; had to attend 80% for data to be analyzed	Speech pathologists	Group and one-on-one	In person	Caregiver and care recipient
Winter, 2016[28] Moriarty, 2016[35]	6 home visits lasting 1-2 hours each; 2 phone calls	Mean 4.67 visits (no SD given)	Occupational therapist	One-on-one	In person, phone	Caregiver and care recipient
Posttraumatic stress disorder						
Glynn, 1999[31]	18 sessions of twice-weekly direct therapeutic exposure followed by 16 sessions of behavioral family therapy; frequency decreasing to monthly over 6 months	17.6 (SD 3.3) for direct therapeutic exposure; 15.6 (SD 2.2) for behavioral family therapy; duration not given	Psychologist	One-on-one	In person	Caregiver and care recipient
Monson, 2012[33] (Companion articles: Shnaider, 2014[36]; Shnaider, 2015[37])	15 sessions over 16 weeks starting thrice weekly for phases 1 & 2; weekly for phase 3; duration of each session NR	NR	Psychologist or doctoral level psychology student	One-on-one	In person	Caregiver and care recipient
Sautter, 2015[34]	12 sessions of weekly conjoint therapy and education; 3 additional weekly sessions if needed	Mean 10.31 (no SD given)	Doctoral-level clinicians and master's level social workers	One-on-one	In person	Caregiver and care recipient

Study	Planned frequency and duration	Number of sessions delivered	Discipline(s) providing service	Intervention Delivery Type	Intervention Delivery Mode	Target
Weine, 2008[32] (Companion article: Weine, 2005[63])	9 sessions over 16 weeks	Mean 6.8 (no SD given); 83% of "engaged" families attended ≥5 sessions	Bosnian refugee with experience doing group work (teacher, nurse, *etc*)	Group	In person	Caregiver and care recipient

Abbreviations: CBT=cognitive behavioral therapy; IQR=interquartile range; NR=not reported; PTSD=posttraumatic stress disorder; SD=standard deviation; TBI=traumatic brain injury

APPENDIX C. OUTCOME MEASURES TABLE

This table includes the most commonly used measures to assess the outcomes of interest in our systematic review. It is not a complete listing of all outcomes assessed in these studies. For full study citations, please refer to the report's main reference list.

Outcome Measures Used in Eligible Studies

Domain	**Measure**	**Description**	**Scoring Range**
Caregiver burden	Bakas Caregiving Outcomes Scale[25]	15-item, 7-point scale measures change in social function, emotional well-being, and physical health related to caregiving	Range 15-105, higher is better changes in outcomes
Caregiver burden	Modified Caregiver Appraisal scale[35]	28-item, 5-point scale, measures positive and negative perception of the caregiver role	Range 28-140; higher is more positive feelings toward caregiving role
Caregiver burden	Zarit Burden Scale[26,29]	22-item, 5-point scale, measures personal strain and role strain	Range 0-88, higher is worse outcome
Family function	Dyadic Adjustment Scale[31,33,34]	32-item, 5-point scale, self-report measure of relationship satisfaction	Range 0-160; ≥98 is criteria for relationship satisfaction
Family function	Experiences in Close Relationship-Revised Scale[34]	36-item, 7-point scale, measuring insecurity/security about availability and attunement of partners, and the extent that people are uncomfortable being close to others	Range 36-252, higher is greater severity 18 items measure attachment-related anxiety; 18 items measure attachment-related avoidance
Family function	Family Assessment Device[24]	60-item, 4-point scale measures structural, organizational, and transactional characteristics of families	Range 60-240; higher is worse functioning
Functional status	Community Integration measure (CIM)[24]	10-item, 5-point scale, client-centered survey of perceived connections of individuals with TBI and the community in 4 dimensions (general assimilation, support, occupation, and independent living)	Range 10 to 50; higher is higher integration
Functional status	Community Reintegration Scale (CRIS)[28]	Questionnaire to identify and prevent community reintegration problems for Veterans. It consists of 147 items across 3 subscales: Extent of Participation, Perceived Limitations in Participation, and Participation Satisfaction.	Range NR; this study used 15 items from the Extent of Participation study scored either 1-6, 1-3, or 0-3

Domain	**Measure**	**Description**	**Scoring Range**
Functional status	Functional Independence Measure (FIM)[27]	18-item, 5-point scale measures disabilities in performing basic life activities and the need for assistance and the burden of care as perceived by the carer	Range 13-91 for first 13 items (motor function); range 5-35 for last 5 items (cognitive function); higher is better on both subscales
Functional status	Patient Competency Rating Scale (PCRS)[28]	30-item, 5-point scale to evaluate self-awareness and degree of difficulty performing a variety of tasks following TBI	Range 30-150; higher is better function in both patient and caregiver form
Psychological symptoms	Beck Depression Inventory-II[33]	21-item, 4-point scale (0-3) self-report measuring depression symptoms in past week	0-63, higher score is worsening symptoms
Psychological symptoms	Center for Epidemiological Studies Depression Scale (CESD)[32,33]	20-item, 4-point scale (0-3), self-report of depressive symptoms over the past week	0-60, higher score is worsening symptoms
Psychological symptoms	BSI[24]	53-item, 5-point scale (0-4), self-report for participants to rate the extent to which they have been bothered in the past week by various symptoms	Range 0-212 but reported as T score, higher score is worsening symptoms
Psychological symptoms	General Well Being Scale[22]	22-item, 5-point scale that measures perceived well-being on 6 dimensions, anxiety, depressed mood, positive well-being, self-control, general health, and well-being	Range (original) 0-110, (revised) 22-132; higher is better well-being
Psychological symptoms	Hospital Anxiety and Depression Scale (HADS)[27]	14-item, 4-point scale, measuring self-reported anxiety and depressive symptoms over the past week	Range 0-42, higher scores worse
Psychological symptoms	State-Trait Anger Expression Inventory[33]	10-item, 4-point scale, trait subscale measures how often angry feelings are experienced over time 18-item, 5-point scale, anger expression (state) subscale assesses the intensity of anger as an emotional state at a particular time	Range 10-40, higher is greater severity Range 0-72, higher is greater severity
Psychological symptoms	State-Trait Anxiety Inventory[33]	20-item, 4-point scale (1-4) measures state (in the moment) anxiety; 20-item, 4-point scale (1-4) measures trait (over time) anxiety; 2 scales reported separately	Range 20-80; higher is greater severity Range 20-80; higher is greater severity
PTSD symptoms	Clinician-Administered PTSD Scale[31-34]	Semi-structured interview measuring DSM*-based PTSD symptoms	Range 0-136, higher is greater severity; 10 points indicates a clinically significant change

Domain	Measure	Description	Scoring Range
PTSD symptoms	Impact of Events Scale[31]	15-item, 6-point scale (0-5), self-reports measuring re-experiencing and avoidance-numbing dimensions of PTSD	Range 0-75, higher is greater severity
PTSD symptoms	Mississippi Scale for Combat-Related PTSD[31]	35-item, 5-point scale (1-5) self-reports measuring PTSD symptoms	Range 35-175, higher is greater severity
PTSD symptoms	PTSD Checklist[33,34]	17-item, 9-point scale (0-8) self-reports measuring PTSD symptoms (civilian and military versions)	Range 0-136, higher is greater severity; 10 points indicates a clinically significant change
PTSD symptoms	PTSD Symptom Scale[32]	22-item, 5-point scale (0-4) self-reports measuring PTSD symptoms (2-item measure symptom onset and duration)	Range 0-88, higher is greater severity
Quality of life	Life Satisfaction Survey[25]	17-item measures quality of life as perceived by the patient	Total score range 0-100, higher is better satisfaction
Quality of life	Short Form-36 (SF-36)[23]	36-item, 5-point scale, self-report on 8 dimensions	Range 0-100, reported as subscales; higher is better
Quality of life	Perceived Quality of Life (PQOL)[23]	19-item, 11-point response scale plus single global item on happiness, evaluates satisfaction with areas of functional status	Range 0-190; higher is more satisfied
Quality of life	Satisfaction with Life Scale (SWLS)[26]	5-item, 7-point scale that measures global cognitive judgement of one's life satisfaction	Range 1-35, higher is better quality of life
Quality of life	Social Adjustment Scale-Self report[31]	54 items measure health status across 6 dimensions: work; social and leisure; relations with extended family; marital role; parental role; membership in family unit	Range is NR as each subscale is scored separately
TBI symptoms	Behavioral Assessment Dysexecutive Syndrome scale (BADS)[27]	6 subscales; measures everyday problems associated with dysexecutive syndrome (in planning, organization, problem solving, attention, *etc*)	Range 0-24; higher is better
TBI symptoms	Measure of Participation in Conversation (MPC)[30]	2 subscales, 9-point scale (measured on 0.5 between 0 and 4), measures patient's ability to participate in the interactional and transactional elements of conversation	Range 0-4 (by half-point increments), higher is better participation in conversation
TBI symptoms	Rivermead Behavioral Memory Test-profile[27]	Measures aspect of visual, verbal, recall, recognition, immediate and delayed everyday memory	Information on scoring NR

APPENDIX D. PEER REVIEW COMMENTS/AUTHOR RESPONSES

Comment #	Reviewer #	Comment	Response
Are the objectives, scope, and methods for this review clearly described?			
1	1	Yes	Thank you; no response needed
2	2	Yes	Thank you; no response needed
3	3	Yes	Thank you; no response needed
4	4	Yes	Thank you; no response needed
5	5	Yes	Thank you; no response needed
6	6	Yes	Thank you; no response needed
7	7	Yes	Thank you; no response needed
Is there any indication of bias in our synthesis of the evidence?			
8	1	No	Thank you; no response needed
9	2	No	Thank you; no response needed
10	3	No	Thank you; no response needed
11	4	No	Thank you; no response needed
12	5	No	Thank you; no response needed
13	6	No	Thank you; no response needed
14	7	No	Thank you; no response needed
Are there any published or unpublished studies that we may have overlooked?			
16	1	No	Thank you; no response needed
17	2	No	Thank you; no response needed
18	3	No	Thank you; no response needed
19	4	No	Thank you; no response needed
20	5	No	Thank you; no response needed
21	6	Yes - These may be relevant. There are partner results for the Monson et al PTSD trial reported in Shnaider P, Pukay-Martin ND, Sharma S, Jenzer T, Fredman SJ, Macdonald A, Monson CM. Couple Family	Thank you for the citations. These studies were reviewed and determined to be eligible. Relevant outcomes were abstracted and included in the revised results section on interventions for caregivers and patients with PTSD.

Comment #	Reviewer #	Comment	Response
		Psychol. 2015. They found no general effect of participation in the program, but partners with higher rates of distress became more satisfied with their relationships. Shnaider P, Pukay-Martin ND, Fredman SJ, Macdonald A, Monson CM (2014) report there were no significant differences between active treatment and waitlist in intimate partners' psychological functioning at posttreatment. However, partners exhibiting clinical levels of distress at pretreatment on several measures showed reliable and clinically significant improvements in their psychological functioning at posttreatment and no evidence of worsening.	
22	7	No	
Additional suggestions or comments can be provided below. If applicable, please indicate the page and line numbers from the draft report.			
23	1	In the discussion and conclusion section I would recommend specifically advocating for VA to call for a study to utilize existing administrative data sets to compare extent of healthcare utilization both pre-and post enrollment in the caregiver support program. This could be used for pilot data and help inform development of appropriate data elements for a future RCT.	A study of the association between PCAFC participation and health service use using VA administrative data was commissioned by the Caregiver Support Program; the main paper resulting from this evaluation was recently published. We have added information about this study to the Discussion on p 45 and suggested that as part of the PCAFC evaluation, VA should examine the impact of specific programmatic elements of the program on health and health service use outcomes: "Findings from an evaluation of PCAFC show that participation in the program was associated with increases in mental health care, primary care, and specialty care services for all enrollees and enrollees with a PTSD diagnosis[53]; however, future research related to PCAFC evaluation should focus on specific programmatic elements and their effects on health and health service use outcomes."
24	2	I appreciate the care and concern the authors took in the conduct of the study. Overall, it was well designed and executed. Methods are rigorous and clearly articulated, including inclusion/exclusion criteria. Tables are useful and clear. Use of multiple reviewers throughout is a strength, as is the use of established standards for evaluating quality. The suggestions/comments I have to offer are more about how they defined the interventions they reviewed and more	Thank you. Specific comments are addressed below and in subsequent rows.

Comment #	Reviewer #	Comment	Response
		detail on how certain decisions were made. Several of the 'caregiver support programs' reviewed could arguably be better described as mental health or patient-focused psychological or rehabilitation treatments with a family member involved or included. They do not focus on supporting caregiver and primary outcomes are patient-focused. It is conceptually confusing to refer to these interventions as caregiver support programs. My assumption is that these were characterized as 'caregiver support programs' because of the limited published evaluations of more typical caregiver support programs and because of the overlap in the content and goals of caregiver support programs and family-involved mental health treatments. I think these two types of interventions are important to distinguish for mental health professionals. Additionally, the use of the term 'caregiver' for family or couple therapies for PTSD can unintentionally support the narrative that recovery from PTSD is not possible, thus requiring a 'caregiver'. The authors should consider reframing how they conceptualize the interventions they review, broadly, as the term caregiver support programs mischaracterizes the patient-focused interventions they review. It appears as though their approach was to include any intervention for the target conditions in which a family member was involved, versus solely traditional caregiver support programs targeting caregiver functioning. It would benefit the report if this was more explicit and woven throughout, if terminology could be more inclusive of all the interventions reviewed, and an explicit rationale provided for their approach in the report.	We revised the introduction and methods to clarify that the interventions considered include those directed at caregivers and those directed at patients that also included a family member or caregiver. In the results sections and discussion, we have taken care to describe and categorize the interventions by type of support/therapy offered and the target (*ie*, patient vs family member) of the intervention. In the Introduction section we acknowledged the limitations of the term "caregiver" and have provided a more comprehensive definition of who consider to be included in this broader categorization.
25	2	Relatedly, the categories of intervention used in the report are a bit unclear and imply the target of every intervention was the caregiver and caregiver outcomes. Also, while Appendix B is helpful for describing the interventions, it doesn't clarify what was the primary target of the treatment, such as the primary outcomes (caregiver skills and education, family distress and functioning, patient	In the Results Section, we added the intervention target to Tables 4 and 5; we have also added this information to the results narrative.

Comment #	Reviewer #	Comment	Response
		symptoms, etc.). These details would help the reader better evaluate the heterogeneity among interventions.	
26	2	Given each of the studies reviewed do not test the same intervention, it would help the reviewer better evaluate the appropriateness of pooling TBI studies, if more details were provided on how the authors decided the interventions were similar enough to pool findings.	Thank you—this point is important and requires greater clarification in the report. While there was substantial variability in intervention format, delivery mode, and content, we examined the forest plots to determine whether there were patterns in outcomes by intervention intensity and delivery format. We found no consistent pattern which suggests to us that results from different interventions could be pooled. We have added this point to the Limitations section on p 42.
27	2	Also, I agree with the authors that this review fills an important gap, but the description of that gap is not always well described. This review includes several interventions that apply therapy-based techniques, (but they argue their review is novel because they do not focus on these interventions). I think this review adds to prior reviews in that it's TBI intervention review is novel and their review of PTSD studies expands the scope of prior reviews to caregiver outcomes, beyond the RCT design, and includes recent studies. It's less compelling to argue it is the first to review of caregiver interventions for TBI, polytrauma, and PTSD.	This is a very important point—thank you. We have modified our discussion of the gap filled by our review compared with the review conducted by Meis et al to include the points raised by the reviewer on p 38: "We also found no prior reviews that examined interventions for family caregivers of patients assessed to have TBI or polytrauma. For PTSD, the review by Meis and colleagues[41] captured 1 of the same PTSD studies we did.[31] However, our review differed from this prior review in that we included caregiver interventions for patients with TBI and our review of PTSD studies included more recent studies and expanded the scope of the prior review that only considered studies with an RCT design.[41]"
28	2	A minor point. The statement "No studies enrolled patients with polytrauma" is likely not quite accurate as polytrauma may have been present among participants enrolled, it just wasn't assessed.	We have replaced with "patients assessed to have polytrauma."
29	3	Thank you for the opportunity to review, "Impact of Family Caregiving" for the Evidence Synthesis Program. This review is comprehensive, well-written and concise. The authors have done a nice job of synthesizing what can be seen as complex and disparate literatures. The figures and tables are excellent and really help display the data nicely. KQ1 is simple and straight-forward question, but the analysis fills a gap for the literature. The synthesis of the literature for KQ2 also fills an important necessary for advancing both policy and clinical purposes.	Title has been changed to be more descriptive.

Comment #	Reviewer #	Comment	Response
		I offer a few suggestions and questions about the report that may assist readers who are less familiar with this literature. 1. Is it possible to expand the title to be more descriptive of the actual review? The title as is doesn't provide much information on what the report is really about. I think it may be more widely read with a more specific title.	
30	3	2. The authors chose 5 major categories of interventions in the framework. Could they explain why these 5 were used and others were not (e.g., why other types of interventions were not included?)	On page 12 we added the following sentence to clarify this point: "We defined major intervention categories by grouping intervention components identified by existing reviews and that we expected might be related to the outcomes of interest within patients assessed for PTSD, TBI and polytrauma. We did not exclude any types of intervention categories."
31	3	3. There are multiple definitions of polytrauma and VA has typically used one that includes a traumatic brain injury PLUS an injury or sequelae to other body systems. Including a definition in the report would be helpful and help readers evaluate if the search criteria for Polytrauma are consistent with their definition.	Thank you, we have added a definition of polytrauma in the Introduction.
32	3	4. Clarifying the rationale for the outcomes identified would be helpful for understanding the clinical and policy implications.	We decided to include a variety of outcome categories for which existing conceptual models and theory suggested that there might be impact of family-involved interventions.
33	3	5. Clarifying categories of outcomes earlier in the report would be helpful. The results are organized into care recipient outcomes, family caregiver outcomes and household outcomes, but these categories are not introduced earlier. This will be helpful for understanding outcomes, such as financial support, which appears in the report and the tables, but is not identified as an outcome. This could be done by revising outcomes in Table 1.	In the methods section (Data Synthesis), we added a statement that describes how we categorized eligible outcomes. In the Results section, we added a short section describing the report organization, including separate sections on care-recipient, caregiver, and household outcomes.
34	3	6. The authors provide the criteria used for the ROB score but do not discuss how the score was calculated based on those criteria. That will be important for publication.	Summary ROB ratings were assigned qualitatively, using Cochrane guidance. We've added these definitions and the Cochrane citation to the "Quality Assessment" section in the Methods.

Comment #	Reviewer #	Comment	Response
35	3	7. Table 4. For N enrolled veterans: My guess is that No indicates that the population was not from VA or DOD or that they were not identified as veterans. A picky detail, but it is probably more precise to say “unclear” than “no” since veteran status in a non-VA or non-DOD study just may not be reported. There are likely veterans in that sample, just not identified as such.	Thank you, we have made the suggested change.
36	3	8. Page 16 under Key Points. I would add a bullet point for “no studies enrolled patients with Polytrauma.” Added to the end of the point for TBI, this finding gets lost.	We have made the suggested change.
37	3	9. Page 19 under Key Points. I would suggest adding citations for bullet point #4. Also, citations for a. I’m curious about the strength of evidence designation for the PTSD studies (Table 7), given the risk of bias (high and unclear) displayed in Table 5. The consistency, directness and precision may be adequate, but what is the process for determining strength of evidence if the ROB is unclear (this may be my own naiveté on how this is done than a criticism of the methodology). Is there more optimism in the key points for these studies than the data warrant?	We added citations for the bullet point #4. Strength of evidence was assigned using the GRADE criteria. ROB is one domain that informs this judgment. When the effect estimate is driven by studies with serious limitations, the SOE is downgraded by one or two levels, depending on how serious the ROB. Generally, studies with unclear ROB may lead to no or 1-level downgrade. The Key Points describe the findings without providing much interpretation and for this reason our team believes that these points convey a measured reporting of the findings.
38	3	10. I really like displaying evidence gaps using PICOT domains. Nice!	Thank you; no response needed.
39	3	11. Adding citations to first paragraph, page 32 would be helpful for keeping track of which PTSD studies showed significant findings.	Thank you for catching this oversight. Citations have been added.
40	3	12. Based on previous concerns about PTSD study findings (#9), concluding that these may be promising may be premature. Maybe they have potential but need further study?	We agree that given the very small number of studies, this interpretation of the literature may be optimistic and thus we have removed the sentence about couples-based therapies being a promising intervention in the conclusions section.
41	3	13. Is consistency in measurement outcomes for caregiver interventions something that is a limitation in these studies? With so much heterogeneity in	We paid careful attention to the outcome measures and while they vary across studies, we only pooled studies for which the outcome measures assessed constructs that were conceptually

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		constructs and measurement, is it difficult to determine benefit?	similar; therefore we do believe that we were able to successfully quantitatively analyze intervention effects. We also acknowledge that outcome measures vary across studies in the Limitations section and have added more discussion about what we did to try to minimize heterogeneity in our meta-analyses.
42	4	Overall impressions: This was a very thorough, well formulated, and in-depth review of the existing literature assessing the impact of caregiver interventions for individuals with TBI, polytrauma, and PTSD. The review follows well established procedures for systematic reviews, and the rating of the existing evidence was thorough. The authors have also done a good job qualifying their findings and situating them within the existing caregiver intervention literature. The comments below include some general considerations for the next iteration of the review.	Thank you.
43	4	Risk of bias discussion: The discussion of the risk of bias was thorough, and the authors have made significant efforts to assign an overall risk of bias score to each study. It would also be interesting to note whether there are commonalities between studies with respect to specific sources of bias due to the nature of caregiver interventions. For instance, if there are time-intensive therapy or psychoeducational interventions, does selection bias become an issue if only those with available time are willing/able to participate in these interventions? It would also be useful to try and understand how these sources of bias may impact the study results (e.g. higher attrition among the treatment group).	Patterns in ROB can be seen in Figures 9 & 10 and are described in the accompanying text. Attrition is addressed explicitly in the Cochrane ROB tool: "*Describe the completeness of outcome data for each main outcome, including attrition and exclusions from the analysis. State whether attrition and exclusions were reported, the numbers in each intervention group (compared with total randomized participants), reasons for attrition/exclusions where reported, and any re-inclusions in analyses performed by the review authors.*" Selecting patients with the time to participate in intensive interventions is not considered a bias in the Cochrane framework, but rather an issue of applicability. We've addressed this issue in the applicability section of the discussion.
44	4	Match between treatment and control groups: Did the authors assess how well matched the treatment and control groups were in each study, and if so how was this taken into account in the quality assessment?	For randomized trials, this concept is addressed indirectly by the adequacy of randomization and allocation concealment. It may also be addressed in the "other ROB" section. For nonrandomized studies, this concept is addressed explicitly "Were baseline outcome measurements similar."

Comment #	Reviewer #	Comment	Response
			See comment 34 for summary ROB definitions.
45	4	Statistical methods: In some cases, it seems that there was only partial randomization, it was unclear whether there was randomization, and it is possible that the control and treatment groups were not well matched. Was there some assessment of the statistical methods applied in the studies, and if so, was this taken into consideration in quality assessments? If there were, for example, regressions controlling for observable factors, how was this information incorporated into the risk of bias assessment?	The adequacy of randomization and allocation concealment is considered explicitly for all studies. Nonrandom sequence generation or procedures that would allow participants or investigators to foresee assignments would result in high ROB ratings for these two concepts. For RCTs, statistical methods are considered when rating the domain “incomplete outcome data.” In addition, differences between groups at baseline are considered explicitly for non-RCTs. The Cochrane EPOC ROB criteria do not explicitly address statistical methods to control for confounding.
46	4	Applicability to the VA population: The authors note that there are important reasons that Veterans would differ from the populations most often studied in existing literature. Did the findings from the four studies that focused on a Veteran population differ in any qualitatively important ways from other studies?	We are only able to evaluate this for TBI. For studies that examined patients with PTSD, 3 out of 4 were conducted with Veterans and the fourth study did not describe the intervention well enough to make comparisons between Veteran and non-Veteran populations. The one study that tested a family-involved intervention for Veterans with TBI was more intensive, but was conducted over a shorter time-frame than the other interventions. However, the content and delivery modes were fairly similar to those of other interventions and given the variability across interventions, we don’t believe that this study differs in ways that explain the observed differences in the forest plots. We have added a sentence about this on p 44.
47	4	Intervention specifics: There are very helpful tables in the appendices that provide an overview of the interventions themselves. Acknowledging that there are challenges to synthesizing so much information, it may still be helpful to include some broad summary of the intervention type in the tables in the body of the paper (i.e. Tables 4 and 5). It would also be useful to note in the discussion whether certain intervention types, modes, intensities, or disciplines were more often associated with positive or negative outcomes.	In Tables 4 and 5, we modified column 3 to provide an intervention descriptor that matches the intervention categories. Unfortunately, our analysis does not support a strong statement about which intervention types, modes, intensities, or disciplines were most often associated with positive or negative associations. We did not identify enough studies to conduct a rigorous subgroup analyses by intervention type, mode, intensity, or discipline. We did consider this issue qualitatively and have added a sentence on p 43.
48	4	Weighting: The authors note the final weights assigned to each study. It would be useful to have a brief description of	In meta-analyses, study weights are based on the inverse of the variance, and are calculated in R as part of the random effects

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		the weighting methods used when calculated the standardized mean difference calculations.	model. These study weights are displayed in the individual forest plots and the methods is cited (DerSimonian 1986).
49	4	Time horizons: Did all of the studies follow individuals only until the intervention was finished, or did some follow up with individuals in subsequent time periods? If the latter is the case, including details on the study time horizon would be useful, along with noting whether these studies were more likely to see positive or negative outcomes.	We used the data from the last assessment time point provided by each study in the meta-analyses and most of these data collection coincided with end of treatment. However, these time points differed by study and ranged from 4-12 months. We included this information under the Quantitative Summary section on p 26. We also added a sentence in the Discussion to indicate that intervention length and follow up period did not appear to be related to whether outcomes were positive or negative. We also added information about intervention timing to the table in Appendix B.
50	5	Excellent ESP	Thank you.
51	6	I like the report a great deal. It is comprehensive and fair. I do have a few minor points.	Thank you. Responses to specific comments are given in the subsequent rows.
52	6	1) The table on page 9 discusses inclusion criterion as "Interventions that train family caregivers or support family caregiving—defined as the provision of regular instrumental support (eg, bathing, cooking, transport to medical care or community activities) by individuals who have a preexisting relationship (eg, family, friend) with the care recipient". I do not think this applies to the PTSD studies where improving reduced instrumental functioning is often not an issue or goal of tx.	We have removed these specifics to make the criteria more applicable to all conditions examined.
53	6	3) There is much mention in the paper of "psychoeducation", by which it seems you mean illness education. In VA family services, we use the term psychoeducation to include intensive skills training, which is classified here in another category. I wonder if some explication of what is meant by psychoeducation in the text, and a footnote distinguishing it from how the term is used in many VA handbooks (such as the UMHSP) might be helpful?	The reviewer is correct; while most studies that included illness education also included some skills component, when we refer to "psychoeducation" we are usually referring to illness education. We have made this change throughout when referring only to illness education, but have retained the term "psychoeducation" to describe an intervention termed "psychoeducation" by study author or when referring more generally to mental illness education and skills building.
54	6	4) Near the end of the report, the following is stated " However, for patients with mental illness, there are few if	Thank you very much. The reviewer is correct and we have changed the sentence on p 42 to read, "While the stress-

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		any theoretical models that explain how and why a family caregiver would provide benefit for patients". This statement belies the robust literature on the stress-vulnerability model and expressed emotion research.	vulnerability theory[58] demonstrates how and why a family caregiver would provide benefit for patients, many of the studies did not identify specific theoretical underpinnings for the intervention design. Therefore, future research should identify and apply theoretical models are needed to inform discrete study goals, intervention designs, testable hypotheses, and explanations for the observed findings."
55	7	It has been a pleasure to review this QUERI VA Evidence-Based Synthesis Program manuscript draft on the Impact of Family Caregiving. Generally, the manuscript is well-written and organized. The importance and relevance of this synthesis is clearly outlined and the methodology and procedures are well defined. For any question that arose, the answer was included in the manuscript. Minor comments are listed below: *Key Question 1 seems to be missing the word "intervention" or "support." As currently written, it reads as though the question is whether there has been evaluation of the impact of receiving family caregiving (i.e., having a family caregiver) on care recipient outcomes. However, the question seems to be more about whether there has been evaluation of the impact of receiving family caregiving SUPPORT, EDUCATION, TRAINING OR INTERVENTION on care recipient outcomes.	Thank you. Thank you for this suggestion. The requested change has been made.
56	7	*Please define the abbreviations used in the Tables and Figures.	All abbreviations have been defined.
57	7	*On page 19, please define "SOE." It is assumed to mean Strength of Evidence, but the definition could not be found.	We have added the callout to the abbreviation.
58	7	*This synthesis has significant implications for research and inclusion of Table 8 (evidence gaps) is excellent. Given that policymakers are part of the targeted audience for the VA Evidence-based Synthesis Program, and especially since there were no clear clinical implications that could be drawn from the limited literature, there may be room to expand on the research implications beyond suggestions for individual investigators. For example, including caregiving as a funding priority connected to specific RFA's within VA ORD	Thank you, we have added this suggestion to the Discussion.

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		might help support investigators in conducting research that can fill the identified gaps.	
59	7	I think it report is very useful but I also think your criticism of the literature, especially highlighting the lack of data on caregivers, misses a key point. It is almost impossible to get funding directed on caregiver interventions alone. If you look at that the ORO funds for VA family research, I do not think there are any projects on these populations that focus on caregivers or partners alone. I would like to see a strong comment that this might be useful in its own right insofar as it may keep families together, which will benefit the Veteran even if it does not impact on his/her functioning.	We agree with the reviewer’s comment and have added this suggestion to the Discussion section.