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A scoping review of 'think-family' approaches in healthcare settings

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ABSTRACT

Background 'Think-family' child health approaches treat child and parent/carer health as inter-related. They are promoted within health policy internationally (also called 'family paediatrics' or 'whole-family', 'family-centred' approaches or 'child-centred' approaches within adult services).

Methods We reviewed publications of think-family interventions. We developed a typology of these interventions using thematic analysis of data extracted from the included studies.

Results We included 62 studies (60% USA and 18% UK); 45/62 (73%) treated the parent as patient, helping the child by addressing parental mental health, substance and alcohol misuse and/or domestic violence. Our typology details three common mechanisms of change in relevant interventions: screening, health promotion and developing relationships (inter-professional and parent-professional).

Conclusions Policy-makers, practitioners and researchers can use our typology to develop and evaluate think-family approaches within healthcare. Strong relationships between parents and professionals are key in think-family approaches and should be considered in service design. Although helping the child through the parent may be a good place to start for service development, care is needed to ensure parental need does not eclipse child need. Strategies that reach out to the parent behind the child (child as patient) and which work simultaneously with parent and child warrant attention.

Keywords children, drug abuse, health services, family, parents

Introduction

A 'think-family' approach aims to assess need and provide services to individuals while appreciating that the health, wellbeing and behaviour of children and their parents (carers) are inter-related.[1–4] This perspective remains a firm priority in health policy England and Wales, underpins universal public health initiatives,[5] stands behind the law[6,7] and health policy[8] for young carers and is evident in guidance from the General Medical Council (GMC)[9] and the National Institute for Health and Care Excellence (NICE)[10] about responses to child abuse and neglect within health care services.'[11] Internationally, there are calls for 'family paediatrics' (e.g. United States),[12] 'family-centred' health care (e.g. United States and Australia)[12–14] or 'a child-centred approach' within adult health services (e.g. Finland).[15]

Within child health, think-family approaches have been exemplified by two types of intensive and home-based interventions, both focusing on empowering caregivers to more effectively parent: manualized home visiting by nurses for a select group of young and socially disadvantaged mothers and their babies, e.g: Family Nurse Partnership (FNP) in the UK[16–19] and multi-systematic therapy, an individualized programme for families with children and youth who have serious behavioural problems.[19,20] There is substantial evidence supporting the effectiveness of multi-systematic therapy[20] and FNP,[17,18,21–25] though a recent randomized controlled trial concluded that FNP was not cost-effective in a UK setting.[19]

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In contrast to the body of research on these programmatic and intensive family-based interventions, we know much less about think-family perspectives within everyday healthcare practice.[1] Our scoping review addresses this question by reviewing what has already been tried (and sometimes tested) and produces a first step typology to develop service modifications which are feasible, acceptable and based on well-theorized mechanisms of change.[26]

Methods

We aimed to inform further development and evaluation of think-family interventions within healthcare by reviewing, conceptually defining and giving examples of relevant interventions which have already been implemented.

Like most scoping reviews, we prioritized breath over depth,[27,28] prioritized conceptual saturation[29,30] over comprehensive searches and did not quality appraise the included studies.[27,28,31] We thematically synthesized data from our included studies to generate a 'think-family' typology (see Supplementary Material 1 'details of thematic analysis, for full description).[30]

Search strategy

We searched PUBMED, Social Science Citation Index and Google/Google Scholar for English language papers from 1 January 2007 to 17 July 2017, using multiple search terms for the following concepts: family AND healthcare need (physical, mental and psychosocial, including child abuse and neglect) AND healthcare setting. See Supplementary Material 2 'search development and final strategy' for full details. We employed a systematic search strategy to minimize the chances that our search results (and theory) were overly dominated by interventions already familiar to the research team.

Inclusion criteria

We included studies in English from OECD countries which reported a healthcare response to health needs in a child or young person *and* parent. See Supplementary Material 3 'list of inclusion criteria' for more details on how criteria were applied.

Screening

A subset of study abstracts (N = 296; 4.3%) were screened for relevancy against the inclusion criteria (see above) by at least two of the three researchers in order to check that we had a shared understanding of 'think-family' and the inclusion criteria. The three sets of reviewer pairs (JW/AS, AS/HH and JW/HH) had an 'include/exclude' agreement rate of 99%, 93% and 91%, respectively. The remaining studies were screened by a single researcher and any queries discussed by the research team.

Data extraction

For each study, we systematically extracted information about which health needs were being addressed and in which family members (including age of child), the types of think-family interventions (details of approach, aims and core characteristics, setting, healthcare professional involved, mode and intensity of delivery) and study type. One researcher (A.S. or H.H.) extracted the information for each study, which was then checked by J.W.

Results

Our searches generated 6841 unique publications. We screened the full text of 121 publications and included 62 studies in the review (76 publications, information about six interventions were reported within multiple publications): see Supplementary Materials 2 'search development and final strategy' and 4 'flow of studies through the review'. See Supplementary Material 5 'characteristics of included studies' for a description of each study included in our review.

Which health needs in which family members?

Figure 1 depicts the typology we generated for understanding who constituted the 'patient' in the interventions we found. We identified three approaches (Fig. 1). The vast majority (N = 45/62; 73%) focused on identifying or addressing health need in the parent in order to improve parenting capacity and (indirectly) the wellbeing of the child. These interventions took the parent as 'patient' and aimed to see 'the child behind the adult' (Fig. 1, Diagram A). A fifth of the interventions (N = 13/62; 21%) identified health need in both parents and children simultaneously (Fig. 1, Diagram B); 8% (5/62) worked directly with the child's health needs and identified and addressed parental health through the child (Fig. 1, Diagram C). Table 1 shows how each of the 62 studies were classified in terms of these three approaches (labelled A, B and C to correspond to Fig. 1).

The overwhelming majority of studies (N = 59/62; 95%) focused on the inter-related health needs of *mothers* and children.

The final row in Table 1 shows that the health needs addressed across the 62 interventions were predominantly parental mental health (largely maternal depression; 40/62; 65%), parental substance/alcohol misuse (N = 19/62; 31%)

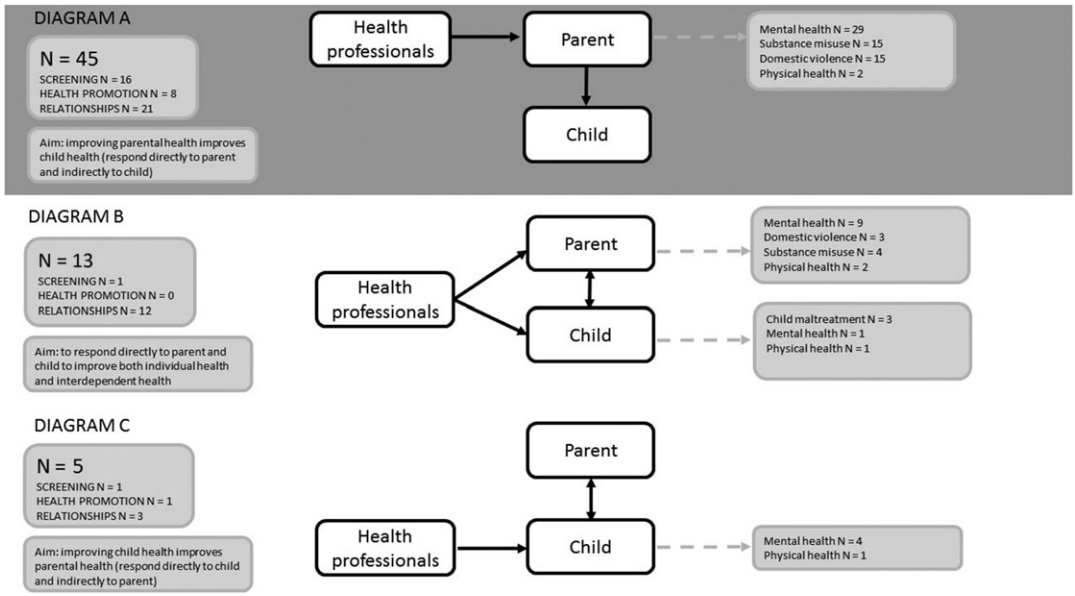

Fig. 1 Who is the primary patient (child, parent, both) in think-family interventions?

and domestic violence between caregivers (N = 18/62, 29%) whilst only a minority of interventions (N = 5/62; 8%) targeted parental (always maternal) physical ill health (including chronic illness,[32] smoking[33–35] and weight).[33,36] As the 'age of child' column in Table 1 shows, the majority of think-family interventions focused on preschool children (41/62, 66%) including 35/62 (56%) that included children under 1 y and almost a third which *only* focussed on this very young population (18/62;[37–49] 29%). This is consistent with the focus on postnatal depression in many of these studies (data in Table 1 and Fig. 1).

What type of think-family interventions?

Three groups of think-family interventions emerged in our analysis, with subgroups. We used these groups to structure all our figures and tables:

- **Screening** of parents and/or children at presentation to healthcare settings in order to improve detection of health need N = 18/62 (29%)
- **Health promotion** through providing educational material to parents to help them understand and manage their own and their children's health N = 9/62 (15%)
- Approaches which put **relationships** between professionals, between parents and their peers (mentoring) or between parents and professionals at the heart of the intervention and in which the relationship itself is presented as the underlying mechanism of change (N = 35/62; 56%).

Screening

Some studies described screening (identification) protocols with no details about subsequent pathways ('screening only' N = 6), others described screening protocol *and* referral pathways ('screening + respond' N = 6) or screening protocols, (sometimes) referral pathways *and* a response to families that screen 'positive' from the healthcare service conducting the screening ('screening + refer + respond' N = 6) In this latter group, health care professionals used structured questionnaires or routine enquiry (direct questioning)[106] for opportunistic identification of domestic violence, parental substance or alcohol misuse or depression/self-harm (mental health issues) in parents. Screening was mainly universally applied either to parents of children attending health care settings (usually for well-child visits/routine check-ups; N = 12)[37–41,50–53,55,69,73] or as a 'parent finding' exercise among adults presenting to health care services (N = 5, Emergency Departments[56,58,63] or primary care healthcare services)[64,66]

Referral pathways included children's social care or country-specific equivalent (N = 5),[39,55,56,58,63] health colleagues (N = 4),[38,39,55,61] including to adult mental health services (N = 2),[38,39] an internal safeguarding team (N = 1)[55] and one to paediatric outpatients (N = 1).[61] One study reported referral to domestic violence charities.[55] Responses within the healthcare service included: phone calls and home visits for monitoring of mental health treatment adherence and symptoms (N = 1),[40] motivational interviewing and relationship building to increase engagement of parents with the service (N = 3),[64,69,73] engaging mothers in a peer-to-

Table 1 Overview of included studies, studies grouped by results of thematic synthesis

Study * = Multiple Publications describing the study For full details of each study, see supplementary material, Tables 6a-c	Type of response*	Health Need: Parent: Domestic Violence	Health Need: Parent: Mental Health	Health Need: Parent: Substance misuse**	Health Need: Parent: Physical health	Health Need: Child: Mental health***	Health Need: Child: Physical health	Health Need: Child: Child maltreatment	Setting: ● Paediatric setting or child presentation / ◊ Adult setting or adult presentation: Primary care	Health centre & home visits	Outpatient	Inpatient	ED	Age of child****: In years: 0–1	1–4	5–10	10–15	15+	Un-clear	Study type: E = Evaluation	D = Descriptive	R = Review
SCREENING N = 18																						
SCREENING ONLY N = 6 USA N = 6																						
Allen 2010, USA[50]	C					X			X●					X	X					X		
Bair-Merritt 2008, USA[51]	A	X									X●								X	X		
Friedman 2016, USA[37]	A		X						X●					X						X		
Fothergill 2013, USA[52]	B		X						X●						X	X				X		
Johnson 2009, USA[53]	A	X									X●	X●							X	X		
Vanderburg 2010, USA[54]	A	X								X*				X	X					X		
SUB-TOTAL		3	2	0	0	1	0	0	3	1	2	1	0	3	3	11	0	0	2	6	0	0
SCREENING + REFER N = 6 USA N = 2, UK N = 2, Australia N = 1, Netherlands (NL) N = 1																						
Asiegbunam 2017, UK[55]	A	X									X●								X		X	
Boursnell 2010, Australia[56]	A	X											X◊						X	X		
Carroll 2013, USA[38]	A		X						X●					X						RCT		
Diderich* 2013, NL[57–62]	A	X	X	X									X◊	X	X	X	X	X		X		
Kaye 2009, UK[63]	A		X										X◊						X		X	
Sheeder 2009, USA[39]	A		X								X●			X						X		
SUB-TOTAL		3	4	1	0	0	0	0	1	0	2	0	3	3	1	1	1	1	3	4	2	0
SCREENING + REFER + RESPOND N = 6 (USA N = 4, Australia N = 1, Netherlands N = 1)																						
Gjerdingen 2008, USA[40]	A		X						X●					X								X
Hegarty 2016, Australia[64]	A	X							X◊										X		X	
Loeffen* 2011, NL[65,66]	A	X								X◊									X	X		
Dubowitz* 2009, USA[67–72]	A	X	X	X					X●					X	X					RCT		
Kornfeld 2012, USA[41]	A	X	X						X●					X						X		
Olin 2016, USA[73]	A		X						X●	X●									X			X
SUB_TOTAL		4	4	1	0	0	0	0	5	2	0	0	0	3	1	0	0	0	3	3	1	1
TOTAL SCREENING		10	10	2	0	1	0	0	9	3	4	1	3	9	5	2	1	1	8	13	3	2
HEALTH PROMOTION N = 9 USA N = 6, UK N = 1, Australia N = 1, France N = 1																						
Als 2015, UK[74]	C					X						X●			X	X	X			RCT		
Altman 2011, USA[42]	A		X									X◊		X						RCT		
Bailhache 2016, France[43]	A		X									X◊		X						RCT		

Continued

Table 1 Continued

Study * = Multiple Publications describing the study For full details of each study, see supplementary material, Tables 6a-c	Type of response*	Health Need: Parent: Domestic Violence	Parent: Mental Health	Parent: Substance misuse**	Parent: Physical health	Child: Mental health***	Child: Physical health	Child: Child maltreatment	Setting: Primary care	Setting: Health centre & home visits	Setting: Outpatient	Setting: Inpatient	Setting: ED	Age of child****: In years: 0–1	1–4	5–10	10–15	15+	Un-clear	Study type: E = Evaluation	D = Descriptive	R = Review
Beardslee 2013, USA[75]	A		X	X					X*					X	X	X		X	X	RCT	X	
Hornor 2015, USA[76]	A		X						Not clear										X	RCT		
Jones 2013, Australia[44]	A		X									X◇		X						RCT		
Ondersma 2007, USA[77]	A			X								X◇							X	RCT		
Reese 2014, USA[45]	A		X									X◇		X						RCT		
Reich 2012, USA[46]	A		X							X◇				X						RCT		
TOTAL H. PROMOTION RELATIONSHIPS N = 35		0	7	2	0	1	0	0	1	1	0	6	0	6	2	2	1	1	2	8	1	0
JOINT WORKING N = 5 USA N = 2, UK N = 2, Denmark N = 1																						
Abatemarco 2008, USA[78]	B		X					X	X●					X	X					X		
Goodson 2013, USA[79]	B					X			X					X	X						X	
Holge-Hazelton 2010, Denmark[80]	A	X	X	X					X◇●					X	X					X		
Rachamim 2011, UK[81]	B	X	X	X									X◇●	X	X	X	X	X			X	
Woodman 2014, UK[82]	B	X	X	X				X	X◇●					X	X	X	X	X			X	
SUB-TOTAL		3	4	3	0	1	0	2	4	0	0	0	1	5	5	2	2	2	0	2	3	0
CASE MANAGEMENT N = 7 USA N = 6, UK N = 1																						
Arai 2015, UK[83]	A		X								X●								X			X
Bannick 2015, USA[84]	B		X					X				X●			X	X					X	
Cheng 2008, USA[85]	B							X					X●				X			RCT		
Morrow 2010, USA[47]	A		x	X							X●			X						RCT		
Thompson 2013, USA[86]	A			X						X*				X	X						X	
Vasquez 2008, USA[87]	A			X								X●		X	X						X	
Weinreb 2007, USA[88]	A		X	x					X*										X		X	
SUB-TOTAL		0	4	4	0	1	0	2	1	1	2	2	1	3	3	1	1	0	2	2	4	1
PEER SUPPORT FOR FAMILIES N = 3 Australia N = 1, Netherlands N = 1, Norway N = 1																						
Benestad 2017, Norway[36]	C				X		X				X●					X	X			RCT		
Prosman 2014, Netherlands[89,90]	A	X	x						X◇	X◇				X	X	X	X	X		X		
Taft* 2009, Australia[91,92]	A	X	X						X◇●					X						RCT		
SUB-TOTAL		2	2	0	1	0	1	0	2	1	1	0	0	2	1	2	2	1	0	3		
PROFESSIONAL-PARENT OR PROFESSIONAL-CHILD COMMUNICATION N = 4 USA N = 2 UK N = 2																						

Continued

Table 1 Continued

Study * = Multiple Publications describing the study For full details of each study, see supplementary material, Tables 6a-c	Type of response*	Health Need: Parent: Domestic Violence	Parent: Mental Health	Parent: Substance misuse**	Parent: Physical health	Child: Mental health***	Child: Physical health	Child: Child maltreatment	Setting: ● Paediatric setting or child presentation / ◊ Adult setting or adult presentation: Primary care	Health centre & home visits	Outpatient	Inpatient	ED	Age of child**** In years: 0–1	1–4	5–10	10–15	15+	Un-clear	Study type: E = Evaluation, D = Descriptive, R = Review: E	D	R
Brown 2013, USA[93]	A		X						X●						X	X	X	X		X		
Chew-Graham 2009, UK[48]	A		X						X◊					X							X	
Lewis* 2017, UK[94,95]	B	X							X◊										X	X		
Wissow 2008, USA[96]	B		X						X●	X	X●					X	X			RCT		
SUB-TOTAL		1	3	0		0	0	0	4	2	1			1	1	2	2	1	1	3	1	
MOTIVATIONAL INTERVIEWING, COUNSELLING AND PARENT TRAINING N = 8 USA N = 5, Denmark N = 1, Norway N = 1, Germany N = 1																						
Benestad 2017, Norway[36]	C				X		X				X●					X	X			RCT		
Bjerregaard 2011, Denmark[97]	A			X								X●			X	X	X	X		X		
Broning 2012, Germany[98]	B			X							X◊					X	X			RCT		
Cluxton-Keller 2015, USA[99]	B		X						X*											RCT		X
Dietz 2015, USA[100]	C					X				X						X	X			RCT		
Fernandez 2015, USA[101]	A		X	X					X●					X	X	X	X			RCT		
Gayes 2014, USA[34]	B				X		X		Not clear	X	X	X	X	X				X				
Lozano 2010, USA[35]	A				X		X				X●	X			X	X	X			RCT		
SUB-TOTAL	C	0	2	4	3	1	3	0	2	1	3	2		2	4	7	7	2		7		2
THERAPEUTC RELATIONSHIP BETWEEN PROFESSIONAL AND PARENT N = 9 USA N = 2, UK N = 3, Australia N = 2, Norway N = 1, New Zealand N = 1																						
Berkule 2014, USA[49]	A		X						X●					X						RCT		
Fergusson 2013, NZ[102]	A	X	X	X						X				X	X	X				RCT		
Goodman 2015, USA[107]	A		X							X									X	RCT		
Gullbra 2016, Norway[32]	B		X	X	X				X●					X	X	X	X	X		RCT		
Kemp 2008, Australia[103]	A		X	X						X				X						RCT		
Longhi 2016, UK[104]	B		X							X				X						X		
Matthey 2008, Australia[105]	C					X						X		X						RCT		
Robling 2016, UK[33]	A		X	X	X					X				X						RCT		

Continued

Table 1 Continued

Study * = Multiple Publications describing the study For full details of each study, see supplementary material, Tables 6a-c	Type of response*	Health Need: Parent: Domestic Violence	Health Need: Parent: Mental Health	Health Need: Parent: Substance misuse**	Health Need: Parent: Physical health	Health Need: Child: Mental health***	Health Need: Child: Physical health	Health Need: Child: Child maltreatment	Setting ● Paediatric setting or child presentation ◇ Adult setting or adult presentation: Primary care	Health centre & home visits	Outpatient	Inpatient	ED	Age of child**** In years: 0–1	1–4	5–10	10–15	15+	Un-clear	Study type: E = Evaluation	D = Descriptive	R = Review
Woodman 2013, UK[108]	A	X	X	X					X◇●										X		X	
SUB-TOTAL		2	8	5	2	1	0	0	3	5	0	2	0	7	2	2	1	1	2	8	1	
TOTAL RELATIONSHIP		8	23	16	3	4	3	4	16	10	7	6	2	20	16	16	14	9	8	21	9	3
TOTAL ALL 62 STUDIES		18	40	19	5	6	4	4	26	14	11	13	5	35	23	19	16	8		42	13	5

TOTAL ALL 62 STUDIES COUNTRY NUMBERS: USA N = 37, UK N = 11, Australia N = 6, Netherlands N = 2, Denmark N = 2, Norway N = 1, France N = 1, Germany N = 1, New Zealand N = 1

*A: Helping child through parent, B: Helping both parent and child directly, C: Helping parent through child. See Figure 1 for more details

**Substance misuse: includes both drugs and alcohol

***Mental health: includes depression (including postnatal), self-harm or suicide and 'stress'. Most studies clearly described their own focus in terms of mental health however, we also we categorised several studies as addressing parental mental health (stress) even when they didn't explicitly mention or position themselves as about 'mental health'. These includes interventions: teaching coping strategies for parents with crying babies in order to prevent abuse of the child (Altman, 201, Bailhache 2016, Reese 2014), which included support for 'maternal self-care' (Reich, 2014), a 'psychosocial' (Abatemarco, 2008) or 'caregiver support' (Bannick, 2015) element, where a mental health professional was involved (Hornor, 2015)

**** We categorised the age range of the children as precisely as possible within our own categories (infant <1 y, preschool 1–4 y, primary school 5–10 y, secondary school 10–15 y and young adult 15–17 y). However, the age ranges often did not match perfectly, so we coded the 'best fit' age range of children included in the study.

Table 2 Common intervention mechanisms and components

	Typology: overlap between main intervention groups			*Other intervention components:*				
	Screening	*Health promotion*	*Relationships*	*Motivational interviewing or CBT* techniques used with parents*	*Training for professionals*	*Home visits by professionals*	*Professional team meetings*	*Access to support from colleagues or other professionals*
SCREENING								
SCREENING ONLY								
Allen, 2010[50]	**x**		x		x			x
Bair-Merritt, 2008[51]	**x**				x	x		
Friedman, 2016[37]	**x**							
Fothergill, 2013[52]	**x**							
Johnson, 2009[53]	**x**				x			
Vanderburg, 2010[54]	**x**					x		
SCREENING+REFER								
Asiegbunam 2017, UK[55]	**x**				x		x	
Boursnell 2010, Australia[56]	**x**				x			
Carroll 2013, USA[38]	**x**							
Diderich* 2013, NL[57–62]	**x**							
Kaye 2009, UK[63]	**x**							x
Sheeder 2009, USA[39]	**x**							
SCREENING+REFER+RESPOND								
Gjerdingen 2008, USA[40]	**x**							
Hegarty 2016, Australia[64]	**x**			x				x
Loeffen* 2011, NL[65,66]	**x**	x	x		x			
Dubowitz* 2009, USA[67–71]	**x**		x	x	x			x
Kornfeld 2012, USA[41]	**x**						x	
Olin 2016, USA[73]	**x**	x	x	x				
HEALTH PROMOTION								
Als 2015, UK[74]		**x**						
Altman 2011, USA[42]		**x**						
Bailhache 2016, France[43]	**x**	**x**						
Beardslee 2013, USA[75]		**x**	x	x				
Hornor 2015, USA[76]		**x**			x			
Jones 2013, Australia[44]		**x**		x				
Ondersma 2007, USA[77]		**x**	x	x				
Reese 2014, USA[45]		**x**		x				
Reich 2012, USA[46]		**x**			x			

Continued

Table 2 Continued

	Typology: overlap between main intervention groups			*Other intervention components:*				
	Screening	*Health promotion*	*Relationships*	*Motivational interviewing or CBT* techniques used with parents*	*Training for professionals*	*Home visits by professionals*	*Professional team meetings*	*Access to support from colleagues or other professionals*
RELATIONSHIPS								
JOINT WORKING								
Abatemarco 2008, USA[78]		x	**x**				x	
Goodson 2013, USA[79]	x	x	**x**			x		
Holge-Hazelton 2010, Denmark[80]			**x**				x	
Rachamim 2011, UK[81]	x		**x**				x	x
Woodman 2014, UK[82]			**x**				x	x
CASE MANAGEMENT								
Arai 2015, UK[83]			**x**					x
Bannick 2015, USA[84]			**x**				x	x
Cheng 2008, USA[85]		x	**x**			x		
Morrow 2010, USA[47]			**x**			x		x
Thompson 2013, USA[86]		x	**x**			x		
Vasquez 2008, USA[87]			**x**					
Weinreb 2007, USA[88]			**x**	x				
PEER SUPPORT FOR FAMILIES								
Benestad 2017, Norway[36]		x	**x**	x				
Prosman 2014, NL[89,90]		x	**x**	x	x	x		x
Taft* 2009, Australia[91,92]			**x**			x		x
PROFESSIONAL-PARENT/CHILD COMMUNICATION								
Brown 2013, USA[93]	x		**x**	**x**	x			
Chew-Graham 2009, UK[48]			**x**					
Lewis* 2017, UK[94,95]	x		**x**		x			
Wissow 2008, USA[96]			**x**		x			
MOTIVATIONAL INTERVIEWING, (BRIEF) COUNSELLING AND PARENT TRAINING								
Benestad 2017, Norway[36]		x	**x**	x				
Bjerregard 2011, Denmark[97]	x	x	**x**	x				
Broning 2012, Germany[98]		x	**x**	x				
Cluxton-Keller 2015, USA[99]		x	**x**	x				
Dietz 2015, USA[100]			**x**	x				
Fernandez 2015, USA[101]		x	**x**	x				

Continued

Table 2 Continued

	Typology: overlap between main intervention groups			*Other intervention components:*				
	Screening	*Health promotion*	*Relationships*	*Motivational interviewing or CBT* techniques used with parents*	*Training for professionals*	*Home visits by professionals*	*Professional team meetings*	*Access to support from colleagues or other professionals*
Gayes 2014, USA[34]			X	X				
Lozano 2010, USA[35]			x	x	x			
THERAPEUTIC RELATIONSHIP BETWEEN PROFESSIONAL AND PARENTS								
Berkule 2014, USA[49]		x	x					
Fergusson 2013, NZ[102]		x	x			x		x
Goodman 2015, USA[107]		x	x			x	x	
Gullbra 2016, Norway[32]			x					
Kemp 2008, Australia[103]			x			x		
Longhi 2016, UK[104]		X	x			x		
Matthey 2008, Australia[105]		x	x	x				
Robling 2016, UK[33]			x	x		x		
Woodman 2013, UK[33]			x					

peer home visiting programme for domestic violence (mentor mothers $N = 1$),[65] and assessment and counselling from a clinical social worker who was part of the healthcare team.[41] Four (of six; 67%) studies reporting a response following screening relied on 'relationships' and/or activating parents through motivational interviewing (Table 2). Seven (7/18; 39%) of the 'screening' studies consisted of or incorporated training for professionals about how to implement the screening procedures (Table 2). Table 1 shows that screening interventions took place across a range of relevant settings, they were most commonly designed for primary care (primary care, $N = 9/18$ (50%)) and all but one of the screening interventions with a full pathway (screen + refer + respond) was implemented in primary care.

Health promotion

These nine studies all sought to promote health literacy among parents by providing information and guidance in written, online or multimedia format about managing parental stress in relation to crying babies and/or discipline in children (with a view to reducing traumatic head injury in infants and/or physical child abuse $N = 5$),[42,43,45,46,76] managing parental depression ($N = 2$)[44,75] or substance/alcohol misuse ($N = 1$),[77] or psychosocial reactions of parents, siblings and children following an admission to paediatric intensive care ($N = 1$).[74] As Table 1 shows, all but one of these health promotion interventions were delivered as part of inpatient hospital admissions and as Supplementary Material 5 (Table 5b) "Characteristics of included studies") details five of these were in maternity units.[42–45,77]

Relationships

These 35 interventions fall broadly into three groups: those that focus on relationships between professionals ('joint working' $N = 5$), those focusing on relationships between parents and their peers ('peer support' $N = 3$) and those focusing on relationships between the healthcare provider and families (usually the parent; 'professional-parent or professional child communication', 'motivational interviewing, counselling and parent training' and 'therapeutic relationships between professionals and parents' $N = 23$). One intervention has been categorized twice within sub-groups.[36]

The five 'joint-working' interventions introduced team meetings into routine practice in order to reflect on decision making,[78,80,82] and to monitor families,[82] modified services to provide integrated mental and child health services[79] or provided expert in-house support for healthcare professionals. As table shows, four (4/5; 80%) occurred in primary care[78–80,82] and 1/5; 20% in an Emergency Department.[81] The three peer support interventions we found used 'mentor

mothers' for mothers who had domestic violence identified in primary care settings[89–91] or relied on peer support as part of an outpatient intervention for families with obese children (Table 1).[36] The set of interventions that focus on relationships between the healthcare provider and families is complex and can be sub-grouped into interventions which (Table 1):

- Employ **case-management** strategies $N = 7$. These studies involved a collaborative process of assessment, planning, facilitation and advocacy for child and/or parent by a dedicated case-worker, emphasizing improved access to services via co-location of services for specific groups such as homeless families[47] and/or having named professional to needs assess, coordinate services and follow-up families.[85–88] As Table 1 shows, these studies were spread across primary care ($N = 1/7$; 14%),[88] home visiting services (1/7; 14%),[86] paediatric outpatients (2/7; 29%),[47,83] paediatric inpatient (2/7; 29%)[84,87] and Emergency Departments (1/7; 14% adolescent presentations).[85]
- Seek to improve the **communication between families and health professional** ($N = 4$). Three of the four studies described communication training for professionals to: increase parental perception of paediatric medical assistants as empathetic,[93] promote willingness to disclose / elicit parental mental health problems[93,96] and concerns from children,[96] or hold difficult conversations about domestic violence.[94] All four studies were in primary care settings.
- **Motivational interviewing, brief counselling and parent-training** ($N = 8$). Six interventions used motivational interviewing, described as a directive patient-centred counselling style to elicit behaviour change (e.g. health eating or alcohol consumption) by exploring and resolving ambivalence,[35,97,100,101] and promoting help-seeking behaviour,[98,101] based on an empathetic relationship between professional and patient.[34] Two further studies described interventions using cognitive behavioural therapy and/or behavioural parent-training to sensitize parents to the impact of their health issues on children and improve problem solving.[99,100] As Table 1 shows, these interventions took place across a range of healthcare settings (primary care $N = 2/8$; 25%),[99,101] home visiting services (1/8; 13%),[100] paediatric outpatient (3/8; 38%)[35,36,98] and paediatric inpatient (2/8; 25%).[35,97]
- Interventions relying on **therapeutic relationships between professional and parent** ($N = 9$) were described as 'relationship-based'[49,79] and relying on 'a positive partnership',[102] trusting[32] or respectful relationships'[103] between professional and parent. They were all multi-component (Table 2). Five of them were delivered by nurses as part of home visiting programmes (Table 2),[33,79,102–104] including FNP. These five home visiting studies addressed parental substance abuse,[102] parental mental health[107] or both[33,103,104] The FNP study also aimed to reduce maternal smoking and weight (maternal physical health).[33] One study described two interventions to improve maternal mental health delivered to parents of children during well child visits in paediatric primary care in the USA[49] and one study evaluated a mother-and-baby residential sleep.[105] Most ($N = 7/9$; 78%) of these therapeutic relationship interventions were intensive, programmatic and home-based (i.e. not delivered with 'normal' healthcare settings or resources). However, two further studies reported the use of therapeutic relationships for parents with substance or alcohol misuse,[32,108] mental health problems[32] or severe illness[32,108] within everyday primary care in the UK[108]and Norway.[32]

As Table 1 shows interventions were most commonly set in primary care ($N = 26/62$; 42%). The vast majority of studies were conducted in America (37/62; 60%), almost a fifth (11/62; 18%) in England, seven (11%) in Australia ($N = 6$) and New Zealand ($N = 1$) and the remainder across Europe.

Common intervention mechanisms and components (Table 2)

As Table 2 shows, we found that screening, health promotion and relationship-based approaches overlapped. Table 2 also reports common intervention components across the studies: motivational interviewing techniques with parents, training for health care providers, home visits, regular team meetings for professionals and increased access for health care professionals to support from experts, usually dedicated child safeguarding professionals.

Which study designs?

The majority of interventions we found had been evaluated (46/62; 74%), including 28 randomized controlled trials (see Table 1). The aims, implementation and outcome measures of the evaluated interventions were extremely diverse, which will make difficult a review of effectiveness using our 62 studies.

Discussion

Main findings

We found 62 interventions aiming to address the interrelated health needs of children and parents within health

Box 1 What do we already know and what does our study add?

There have been three other reviews on family-perspectives (think-family) within services and/or programmatic interventions, two of them scoping reviews: Morris and colleagues (2008) reviewed literature and elicited submissions from expert academic commentators in their scoping review on 'whole family' services for socially social excluded and disadvantaged families in England and internationally, across health, social care and housing services.[1] This review examined conceptualizations of socially disadvantaged and excluded families and approaches to providing 'whole family' services for these groups, including theoretical frameworks (no shared included studies with our review as our search dates did not overlap). Secondly, Shields and colleagues conducted a systematic review of the effectiveness of family-orientated interventions for hospitalized children aged under 12 years and their families (2012), published as a Cochrane review (with one included RCT) and a journal article (with one included quasi-experimental study).[109,110] The low number of included studies ($N = 2$) means that Shields and colleagues had little data to synthesis or on which to base any conclusions (no shared included studies with our review). Thirdly, McCalman and colleagues (2017) conducted a scoping review of 'family-centred interventions' in Australia, Canada, New Zealand and the United States, focusing exclusively on interventions delivered in primary care for indigenous children aged five and under (18 included studies, five of which were evaluation studies (three RCTS) and only one of which was rated as 'good quality'; no shared included studies with our review).[14] McCalman's review will form the basis of a Cochrane Effectiveness Review.[112]

We have been the only review to focus on meeting the inter-related health needs of parents and children (i.e. there had to be a health need addressed in both parent and child) which explains the lack of overlap in included studies: none of our 62 included studies overlapped with those of the other reviews. Our searches picked up only one of the studies in the existing reviews; this was a study included by McCalman[113] which we excluded because it was solely about prenatal care.

Although the reviews were published over 9 years, all three concluded that relevant 'interventions were still in their infancy',[1] evidence was 'in an early stage of development'[14] and there was 'little high quality quantitative research' in this field:[109] In short, all highlight the on-going uncertainty about how to translate a 'think-family (or family-centred) policy into practice.[1,14]

Despite the lack of shared included studies between the two existing scoping reviews and our own, there were many shared findings: interventions were predominantly focussed on the mother as patient (or service user),[1,14] were often focused around substance and alcohol misuse or mental health problems,[1,14] often included a screening element,[1] aimed to improve 'self-care',[14] increase maternal knowledge (what we termed 'health promotion')[14] and improve engagement of mothers with healthcare (or other services)[1,14] through therapeutic relationships with healthcare (or other service) providers.[1,14] The two existing scoping reviews, our own and other studies[114] have reported that a trusting and compassionate relationship between parent and professional is a key (or even defining) feature of relevant approaches for children and young people. Although the conclusions of all three scoping reviews are necessarily cautious about recommending specific practice change (their primary purpose being to 'scope' the field), together the shared findings support stronger hypotheses, primarily about the importance of the therapeutic relationships and positive communication between professionals and families. Our review suggests that such a relationship between professionals and parents might maximize the potential effectiveness of other intervention components (structured screening programmes, health promotion advice, motivational interviewing and/or other behaviour change interventions) through increasing parental engagement with services. In our review, it was largely intensive home visiting interventions that based their intervention around building a therapeutic relationship with parents. However, there were also two primary care studies in this group,[32,108] suggesting that therapeutic relationships might be feasible (and indeed already routine practice) in this setting which also has repeated contact with patients over time. From the other interventions in our review, 'brief' motivational interviewing appears common within a range of healthcare settings (general practice, paediatric and emergency) but further investigation is needed into how it is feasible within routine services in the UK and how far it works with and without opportunity for building a relationship with parents.

All three existing reviews and our own have concluded that 'think-family' interventions as implemented are limited; they do not fully meet 'family-orientated' criteria[14,109] or address both individual ***and*** inter-related need in multiple family members.[1] The review by Morris and colleagues also outlines some potential harms of a think-family approach including those resulting from professionals (unintentionally) pathologising parental behaviour and enacting discriminating and punitive responses to specific groups of parents.[1,14,115] Given the focus on 'parent as patient' in the studies we found, we suggest an additional potential harm: that provision and acceptance of health care for parents might be influenced by how far they are perceived as a 'good' or 'engaged' by health care services. It might be that parents are 'scared off' using healthcare services.[115]

care settings or delivered by healthcare professionals. Most interventions positioned the parent as patient, focussing on addressing maternal depression, self-harm or stress (mental health), substance/alcohol misuse abuse and/or domestic violence in order to improve parenting capacity and thus indirectly improve child health and wellbeing ($N = 45/62$; 73%).

Three key mechanisms underpinned the interventions and were often used in combination First screening, which was mainly used to identify mental health, substance/alcohol misuse and/or domestic violence health needs in parents following their own or their child's presentation to healthcare. Secondly, health promotion whereby health professionals provided health information to parents about managing inter-related health needs. Thirdly, relationships and communication between the healthcare professional and family, largely to motivate parental engagement and behaviour change.

Fourty-two percent of the interventions (N = 26/62) were set in primary care, of which 65% (N = 17) were in American paediatric primary care. Most commonly, interventions relied on building relationships (N = 35/62; 56%), either between professionals, between patients (peer support) or most commonly between health professional and mothers. A relationship dimension also underpinned some of the studies categorized as 'screening' (N = 4/18 studies) or 'health promotion' (N = 2/9 studies). The most common intervention components were motivational interviewing techniques with parents, training for health care providers, team meetings for professionals, increased expert support for health care professionals and home visits.

What is already known on this topic

There have been three other relevant reviews, one systematic review of effectiveness (2012)[109,110] and two scoping reviews (2008[1] and 2017).[14] See Box 1 for a detailed summary, including the overlap with our own review in terms of scope, included studies and findings.

What this study adds (see Box 1 for a detailed discussion)

First, we found that helping the child through the parent has been a common way of implementing a think-family approach to child health in high-income countries for specific types of parental health need (parental psychosocial problems which potentially affect capacity to parent and can affect child development and health). Secondly, our results suggest that therapeutic relationships may underpin all efforts to help the child through the parent (identify parents and engage and motivate parents to change their behaviour), a hypothesis supported by other relevant reviews.[1,14,111] Our results (and common sense) suggest that building these therapeutic relationships appear most feasible within intensive programmatic interventions such as Family Nurse Partnership. However, such relationships might also be possible to integrate into existing pathways and, as Box 1 details, our review found evidence that this had happened in some UK primary care settings. Thirdly, our study provides a typology for structuring further design of think-family interventions (screening, health promotion and relationship building (improved communication/motivational interviewing)) which can be used by public health researchers, policy makers and practitioners. Finally, the real life examples we report might be referenced as a form of practice sharing, although care must be taken regarding transferability of interventions from one setting to another (notably between countries where health care systems vary considerably).

Limitations of this study

It is possible we missed some relevant material, including studies about interventions for health needs of parents and children parents living with, for example HIV or cancer. This search might explain the focus on psychosocial problems in mothers in the studies we found.

Despite our care, it is possible that other researcher might have generated a differing typology from the same data, Further work is needed to 'test' our typology, including against interventions for specific health conditions. The majority of literature we found came from the USA which means further work is needed to establish how far there is potential, capacity and expertise for implementing the think-family approaches we found in other settings. We also need further evidence about cost and effectiveness (including harms).

Conclusions

Public health researchers and policy-makers should focus on developing and evaluating strategies for integrating therapeutic parent-professional relationships into routine (service as normal) healthcare. These relationships might underpin efforts to identify families (screen), provide advice (health promotion) and motivate behaviour change. Given that the majority of interventions were implemented in primary care, we suggest this is a good place to start, especially as the repeated contact with families may allow for relationship building approaches. Additionally, primary care services in Northern Europe ('family doctors') allow for professionals to work with both child and the parent, an approach which warrants attention and is more properly 'think-family' than the common parent-as-patient interventions we found. Researchers should consider how to overcome barriers to this approach such as the erosion of continuity of care in primary care services, stretched resources and separate

pathways for adults and children within many healthcare services and systems. Although helping the child through addressing parental psychosocial health needs may be a good starting point for policy-makers and practitioners undertaking service modifications, care should be taken to ensure that the adult's needs do not eclipse and obscure those of the child. Other harms may include pathologizing parents and 'scaring off' parents from services. Harms as well as benefits of think-family approaches should be measured.

Supplementary data

Supplementary data are available at the *Journal of Public Health* online.

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