Barriers and Facilitators to Implementing Perinatal Mental Health Care in Health and Social Care Settings: A Systematic Review

Additional Data

Appendix 1. PRISMA Checklist[1]

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	1-2
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	2
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	2
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	2
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	2
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix 2.
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	2-3
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	3
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	3 & Appendix

			3
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	3 & Appendix 4
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	N/A
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	3

Appendix 2. Search syntax

Medline (1946 – present)		
# ▲	**Searches**	**Results**
1	prenatal care/ or perinatal care/ or postnatal care/	34307
2	Pregnancy/	858716
3	Pregnant Women/	7783
4	(pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*).ti.	327810
5	((parent? or mother* or maternal or father* or paternal) and (infan* or newborn? or neonat* or baby or babies)).ti.	26341
6	1 or 2 or 3 or 4 or 5	941313
7	mental disorders/ or exp anxiety disorders/ or exp mood disorders/ or exp "trauma and stressor related disorders"/	358243
8	Stress, Psychological/	116739
9	Adaptation, Psychological/	92079
10	(mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being).ti.	1126026
11	7 or 8 or 9 or 10	1347384
12	6 and 11	42847
13	Depression, Postpartum/	5238
14	Pregnant Women/px [Psychology]	2441
15	((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) adj5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	39532
16	(((parent? or mother* or maternal or father* or paternal) adj5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	19801
17	12 or 13 or 14 or 15 or 16	78322

18	Mass Screening/	100320
19	diagnosis/ or early diagnosis/	42564
20	(screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*).ti.	1966922
21	psychotherapy/ or behavior therapy/ or exp cognitive behavioral therapy/	103857
22	counseling/ or exp directive counseling/	38681
23	exp antidepressive agents/ or exp anti-anxiety agents/	202744
24	(intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety).ti.	1913593
25	("improving access to psychological therap*" or iapt).ti,ab.	202
26	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*)).ti,ab.	292461
27	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)).ti,ab.	289504
28	18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27	4315914
29	17 and 28	24363
30	Depression, Postpartum/di, dh, dt, pc, th	3009
31	29 or 30	25179
32	Implementation Science/ or Health Plan Implementation/	5889
33	Program Evaluation/	61180
34	(implement* or impact*).ti,ab.	1429975
35	(feasib* or acceptab*).ti,ab.	453538
36	(barrier? or challenge? or obstacle? or facilitat* or enabl* or opportunit*).ti,ab.	1997108
37	((process or project* or system*) adj5 evaluat*).ti,ab.	106519
38	32 or 33 or 34 or 35 or 36 or 37	3623609
39	31 and 38	7134

Embase (1974-present)

# ▲	**Searches**	**Results**

1	prenatal care/ or newborn period/ or perinatal period/ or prenatal period/	86803
2	*Pregnancy/	135647
3	(pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*).ti.	363935
4	((parent? or mother* or maternal or father* or paternal) and (infan* or newborn? or neonat* or baby or babies)).ti.	29830
5	1 or 2 or 3 or 4	475350
6	mental disease/ or exp anxiety disorder/ or exp mood disorder/	784239
7	mental stress/	79073
8	(mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being).ti.	1286051
9	6 or 7 or 8	1707350
10	5 and 9	35066
11	exp perinatal depression/	3361
12	((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) adj5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	53334
13	(((parent? or mother* or maternal or father* or paternal) adj5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	27281
14	10 or 11 or 12 or 13	84393
15	mass screening/ or screening test/ or screening/	290869
16	diagnosis/ or early diagnosis/	1410201
17	(screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*).ti.	2343089
18	exp counseling/ or early intervention/ or exp psychotherapy/	408319
19	(intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety).ti.	2354935
20	("improving access to psychological therap*" or iapt).ti,ab.	277
21	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*)).ti,ab.	403390

22	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)).ti,ab.	398754
23	15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	6352670
24	14 and 23	32297
25	exp perinatal depression/di, dt, pc, th	745
26	24 or 25	32463
27	therapy delay/	12093
28	exp Program Evaluation/ or Implementation Science/	23326
29	(implement* or impact*).ti,ab.	1983534
30	(feasib* or acceptab*).ti,ab.	640596
31	(barrier? or challenge? or obstacle? or facilitat* or enabl* or opportunit* or engage*).ti,ab.	2468722
32	((process or project* or system*) adj5 evaluat*).ti,ab.	144615
33	27 or 28 or 29 or 30 or 31 or 32	4700825
34	26 and 33	9784
35	conference*.pt.	4409880
36	34 not 35	6742

PsychInfo (1806 – present)

# ▲	Searches	Results
1	prenatal care/ or postnatal period/ or antepartum period/ or intrapartum period/ or perinatal period/	8784
2	Pregnancy/	21781
3	(pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*).ti.	32570
4	((parent? or mother* or maternal or father* or paternal) and (infan* or newborn? or neonat* or baby or babies)).ti.	9910
5	1 or 2 or 3 or 4	51355
6	mental disorders/ or exp affective disorders/ or exp anxiety disorders/ or exp "stress and trauma related disorders"/	285661
7	psychological stress/	8762
8	Emotional Adjustment/	16152
9	(mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being).ti.	850653

10	6 or 7 or 8 or 9	939412
11	5 and 10	14715
12	postpartum depression/ or postpartum psychosis/	4764
13	((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) adj5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	17479
14	(((parent? or mother* or maternal or father* or paternal) adj5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being)).ti,ab.	13328
15	11 or 12 or 13 or 14	30571
16	screening/ or exp health screening/ or exp screening tests/	27755
17	diagnosis/	44547
18	(screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*).ti.	234881
19	treatment/ or exp cognitive behavior therapy/ or exp cognitive techniques/ or exp counseling/ or mindfulness-based interventions/ or exp psychotherapy/	337367
20	(intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety).ti.	403234
21	("improving access to psychological therap*" or iapt).ti,ab.	273
22	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*)).ti,ab.	226696
23	((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) adj5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)).ti,ab.	251713
24	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23	1073752
25	15 and 24	12651
26	treatment barriers/	4682
27	exp Program Evaluation/	19999
28	(implement* or impact*).ti,ab.	491586
29	(feasib* or acceptab*).ti,ab.	67031
30	(barrier? or challenge? or obstacle? or facilitat* or enabl* or opportunit* or engage*).ti,ab.	684169

31	((process or project* or system*) adj5 evaluat*).ti,ab.	25954
32	26 or 27 or 28 or 29 or 30 or 31	1118217
33	25 and 32	4005

CINAHL (1982 – present)

#	Query	Results
S23	S19 AND S22	3,654
S22	S20 OR S21	945,484
S21	((implement* or impact*)) OR ((implement* or impact*)) OR ((feasib* or acceptab*)) OR ((feasib* or acceptab*)) OR ((barrier? or challenge? or obstacle? or facilitat* or enabl* or opportunit* or engage*)) OR ((barrier? or challenge? or obstacle? or facilitat* or enabl* or opportunit* or engage*)) OR (((process or project* or system*) N5 evaluat*)) OR (((process or project* or system*) N5 evaluat*))	916,217
S20	(MH "Implementation Science") OR (MH "Program Development+")	75,080
S19	S17 OR S18	11,925
S18	(MH "Depression, Postpartum/DI/DH/DT/PC/TH") OR (MH "Postpartum Psychosis/DI/DH/DT/TH/PC")	2,276
S17	S11 AND S16	11,244
S16	S12 OR S13 OR S14 OR S15	1,075,199
S15	TI ((intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)) OR TI (("improving access to psychological therap*" or iapt)) OR AB (("improving access to psychological therap*" or iapt)) OR TI (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*))) OR AB (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*))) OR TI (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety))) OR AB (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)))	898,631
S14	(MH "Antidepressive Agents+")	21,105
S13	(MH "Psychotherapy+") OR (MH "Cognitive Therapy+") OR (MH "Counseling+")	196,655

S12	(MH "Diagnosis") OR (MH "Early Diagnosis") OR (MH "Health Screening")	56,371
S11	S8 OR S9 OR S10	25,874
S10	TI (((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) N5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) OR AB (((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) N5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) OR TI ((((parent? or mother* or maternal or father* or paternal) N5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) AND AB ((((parent? or mother* or maternal or father* or paternal) N5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being)))	17,380
S9	(MH "Depression, Postpartum") OR (MH "Postpartum Psychosis") OR (MH "Expectant Mothers/PF")	7,342
S8	S4 AND S7	17,108
S7	S5 OR S6	451,004
S6	TI mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being	363,674
S5	(MH "Mental Disorders") OR (MH "Anxiety Disorders+") OR (MH "Affective Disorders+") OR (MH "Stress Disorders, Post-Traumatic+") OR (MH "Adaptation, Psychological")	205,326
S4	S1 OR S2 OR S3	213,494
S3	TI ((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) OR TI (((parent? or mother* or maternal or father* or paternal) and (infan* or newborn? or neonat* or baby or babies)))	98,137
S2	(MH "Expectant Mothers")	6,696
S1	(MH "Prenatal Care") OR (MH "Postnatal Period") OR (MH "Pregnancy") OR (MH "Puerperium")	184,082

S15	TI ((intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)) OR TI (("improving access to psychological therap*" or iapt)) OR AB (("improving access to psychological therap*" or iapt)) OR TI (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*))) OR AB (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (screen* or detect* or diagnos* or assess* or identifi* or prevent* or prophyla*))) OR TI (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety))) OR AB (((mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being) N5 (intervention? or counsel* or therap* or healing or listen* support* or care or healthcare or service or medication* or drug? or antidepress* or anti-depress* or antianxiety or anti-anxiety)))	898,631
S14	(MH "Antidepressive Agents+")	21,105
S13	(MH "Psychotherapy+") OR (MH "Cognitive Therapy+") OR (MH "Counseling+")	196,655
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S11	S8 OR S9 OR S10	25,874
S10	TI (((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) N5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) OR AB (((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) N5 (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) OR TI ((((parent? or mother* or maternal or father* or paternal) N5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being))) AND AB ((((parent? or mother* or maternal or father* or paternal) N5 (infan* or newborn? or neonat* or baby or babies)) and (mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or "adjustment disorder*" or phobia* or phobic or "obsessive compulsive" or wellbeing or well-being)))	17,380
S9	(MH "Depression, Postpartum") OR (MH "Postpartum Psychosis") OR (MH "Expectant Mothers/PF")	7,342

S8	S4 AND S7	17,108
S7	S5 OR S6	451,004
S6	TI mental* or psych* or anxiety or anxious or depress* or mood? or affect* or distress* or stress or trauma* or posttrauma* or post-trauma* or adjustment disorder* or phobia* or phobic or obsessive compulsive or wellbeing or well-being	363,674
S5	(MH "Mental Disorders") OR (MH "Anxiety Disorders+") OR (MH "Affective Disorders+") OR (MH "Stress Disorders, Post-Traumatic+") OR (MH "Adaptation, Psychological")	205,326
S4	S1 OR S2 OR S3	213,494
S3	TI ((pregnancy or pregnant or pre-nat* or prenat* or prepart* or prepart* or ante-nat* or antenat* or ante-part* or antepart* or peri-nat* or perinat* or peri-part* or peripart* or puerper* or post-nat* or postnat* or post-part* or postpart*) OR TI (((parent? or mother* or maternal or father* or paternal) and (infan* or newborn? or neonat* or baby or babies)))	98,137
S2	(MH "Expectant Mothers")	6,696
S1	(MH "Prenatal Care") OR (MH "Postnatal Period") OR (MH "Pregnancy") OR (MH "Puerperium")	184,082

Appendix 3. Data extracted from studies

Study characteristics	Sample	Assessment/Care/Treatment Characteristics	Implementation outcomes
Year	Size	Type (intervention, assessment, support)	Barriers
Country	Age	Name	Facilitators
Setting	Ethnicity	Year started	
Design	Employment	Year ended	
Aim	Education	Description	
	Children	Who care is aimed at	
	Socioeconomic status	Theoretical model of care	
	Mental health problems	Medium of care (e.g. face to face)	
	Measurement of mental health problems	Person providing care	
	Obstetric details	Training of people providing care	
	Gender/sex		
	Other demographic details		
	Recruitment		

Based on Cochrane data collection form for intervention reviews[2]

Appendix 4. Quality appraisal domains and appraisal of included studies

Qualitative[3]

Domain 1: Design and methodology

Q1. Is there congruity between the stated philosophical perspective and the research methodology?
Q2. Is there congruity between the research methodology and the research question or objectives?
Q3. Is there congruity between the research methodology and the methods used to collect data?
Q4. Is there congruity between the research methodology and the representation and analysis of data?
Q5. Is there congruity between the research methodology and the interpretation of results?

Domain 2: Researcher influence

Q6. Is there a statement locating the researcher culturally or theoretically?
Q7. Is the influence of the researcher on the research, and vice- versa, addressed?

Domain 3: Participants

Q8. Are participants, and their voices, adequately represented?
Q9. Is the research ethical according to current criteria or, for recent studies, is there evidence of ethical approval by an appropriate body?

Domain 4: Interpretation of results

Q10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?

Text and opinion[4]

Domain 1: Author credentials

Q1. Is the source of the opinion clearly identified?
Q2. Does the source of opinion have standing in the field of expertise?

Domain 2: Opinion development

Q3. Are the interests of the relevant population the central focus of the opinion?
Q4. Is the stated position the result of an analytical process, and is there logic in the opinion expressed?

Domain 3: Literature support

Q5. Is there reference to the extant literature?
Q6. Is any incongruence with the literature/sources logically defended?

Cross-sectional[5]

Domain 1: Participants

Q1. Were the criteria for inclusion in the sample clearly defined?
Q2. Were the study subjects and the setting described in detail?

Domain 2: Methodology

Q3. Was the exposure measured in a valid and reliable way?
Q4. Were objective, standard criteria used for measurement of the condition?
Q5. Were confounding factors identified?
Q6 Were strategies to deal with confounding factors stated?
Q7. Were the outcomes measured in a valid and reliable way?

Domain 3: Analysis

Q8. Was appropriate statistical analysis used?

Qualitative	Domain 1: Design and methodology					Domain 2: Researcher influence		Domain 3: Participants		Domain 4: Interpretation of results
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Ammerman et al. (2014)[6]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
Atif et al. (2016)[7]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Atif et al. (2020)[8]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Bina et al. (2018)[9]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Boyd et al. (2011)[10]	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Byatt et al. (2013)[11]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
Chartier et al. (2015)[12]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Doering et al. (2017)[13]	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Drozd et al. (2018)[14]	Unclear	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Friedman et al. (2010)[15]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Ganann et al. (2019)[16]	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Hadfield et al. (2019)[17]	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Jallo et al. (2015)[18]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Kerker et al. (2018)[19]	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Kim et al. (2009)[20]	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Leger et al. (2015)[21]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Masood et al. (2015)[22]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
McCauley et al. (2019)[23]	Unclear	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
McKenzie-McHarg et al. (2014)[24]	Unclear	Yes	Yes	Unclear	Unclear	No	No	No	Yes	Yes
Munodawafa et al. (2017)[25]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Myors et al. (2015)[26]	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Nakku et al. (2016)[27]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Nithianandan et al. (2016)[28]	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Noonan et al. (2018)[29]	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
O'Mahen et al. (2015)[30]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ormsby et al. (2018)[31]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Pineros-Leano et al. (2015)[32]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pugh et al. (2015)[33]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reed et al. (2014)[34]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Rowan et al. (2010)[35]	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Segre et al. (2014)[36]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Shakespeare et al. (2003)[37]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Shorey et al. (2019)[38]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Vik et al. (2019)[39]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Willey et al. (2019)[40]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Williams et al. (2016)[41]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Young et al. (2019)[42]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Text and opinion	**Domain 1: Author credentials**		**Domain 2: Opinion development**		**Domain 3: Literature support**	
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**
Beeber et al. (2009)[43]	Yes	Yes	Yes	Yes	Yes	N/A
Cox et al. (2017)[44]	Yes	Yes	Yes	Yes	Yes	N/A
Eappen et al. (2018)[45]	Yes	Yes	Yes	Yes	Yes	N/A
Feinberg et al. (2006)[46]	Yes	Yes	Yes	Yes	Yes	N/A
Garcia Fernandez et al. (2011)[47]	Yes	Yes	Yes	Yes	Yes	N/A
Judd et al. (2011)[48]	Yes	Yes	Yes	Yes	Yes	N/A
Lind et al. (2017)[49]	Yes	Yes	Yes	Yes	Yes	N/A
Lomonaco-Haycraft et al. (2018)[50]	Yes	Yes	Yes	Yes	Yes	N/A

Cross-sectional	**Domain 1: Participants**		**Domain 2: Methodology**					**Domain 3: analysis**
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**
Higgins et al. (2018)[51]	Yes	No	Yes	N/A	N/A	N/A	Yes	Yes

Note. Qualitative Domain 1: Design and methodology - High quality (green) = 4 or more yeses; Medium quality (orange) = 3 yeses; Low quality (red) = 2 or less yeses. **Domain 2: Researcher influence -** High quality (green) = 2 yeses; Medium quality (orange) = 1 yes; Low quality (red) = 0 yeses. **Domain 3: Participants -** High quality (green) = 2 yeses; Medium quality (orange) = 1 yes; Low quality (red) = 0 yeses. **Domain 4: Interpretation of results -** High quality (green) = 1 yes; low quality (red) = 0 yeses.

Text and opinion Domain 1: **Author credentials -** High quality (green) = 2 yeses**;** Medium quality (orange) = 1 yes**;** Low quality (red) = 0 yeses. **Domain 2: Opinion development -** High quality (green) = 2 yeses**;** Medium quality (orange) = 1 yes**;** Low quality (red) = 0 yeses; **Domain 3: Literature support -** High quality (green) = 1 yes; low quality = 0 yeses.
Cross-sectional Domain 1: Participants - High quality (green) = 2 yeses; Medium quality (orange) = 1 yes; Low quality (red) = 0 yeses; **Domain 2: Methodology** - High quality (green) = 2 yeses; Medium quality (orange) = 1 yes; Low quality (red) = 0 yeses; **Domain 3: analysis** - High quality (green) = 1 yes; Low quality (red) = 0 yeses.

Appendix 5. ENTREQ Checklist[52]

No	Item	Guide and description	Page reported
1	Aim	State the research question the synthesis addresses	2
2	Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis).	3
3	Approach to searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved).	2
4	Inclusion criteria	Specify the inclusion/exclusion criteria (e.g. in terms of population, language, year limits, type of publication, study type)	2
5	Data sources	Describe the information sources used (e.g. electronic databases (MEDLINE, EMBASE, CINAHL, psycINFO, Econlit), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources.	2 & Appendix 2
6	Electronic search strategy	Describe the literature search (e.g. provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits).	2 & Appendix 2
7	Study screening methods	Describe the process of study screening and sifting (e.g. title, abstract and full text review, number of independent reviewers who screened studies).	2-3
8	Study characteristics	Present the characteristics of the included studies (e.g. year of publication, country, population, number of participants, data collection, methodology, analysis, research questions).	Appendix 6
9	Study selection results	Identify the number of studies screened and provide reasons for study exclusion (e,g, for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications t the research question and/or contribution to theory development).	3-4 & Figure 1
10	Rational for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g. assessment of conduct (validity and robustness), assessment of reporting (transparency), assessment of content and utility of the findings).	3 & Appendix 4
11	Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools: CASP, QARI, COREQ, Mays and Pope [25]; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting).	3 & Appendix 4

12	Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required.	3
13	Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale.	Appendix 4
14	Data extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g. all text under the headings "results /conclusions" were extracted electronically and entered into a computer software).	3 & Appendix 3
15	Software	State the computer software used, if any	3
16	Number of reviewers	Identify who was involved in coding and analysis	3
17	Coding	Describe the process for coding of data (e.g. line by line coding to search for concepts)	3
18	Study comparison	Describe how were comparisons made within and across studies (e.g. subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary).	3
19	Derivation of themes	Explain whether the process of deriving the themes or constructs was inductive or deductive	3
20	Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations of the author's interpretation.	Table 1
21	Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g. new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct).	3-9, Table 1, Table 2, Appendices 7-10.

Appendix 6. Study characteristics

1. Author, Year, Country 2. Quality Rating	1. Design, 2. Healthcare Setting	Description of care	1. Recipient of care 2. Provider of care	Training of providers	1. Sample interviewed 2. N	Interview sample Demographics
1. Ammerman et al., 2014[6], USA, 2. 70%	1. Descriptive 2. Run by Cincinnati Children's Hospital Medical Centre, Ohio, delivered in women's homes	Moving Beyond Depression Programme using In-Home Cognitive Behavioural Therapy (IH-CBT). 15 weekly sessions, 60 mins each plus booster sessions at 1-month post-treatment.	1. Mothers 16 years and older who had a diagnosis of Major Depressive Disorder 2. Mental health professionals – therapists	2 days to learn IH-CBT, workshops on CBT, learning from pilot cases, audiotapes of treatment sessions.	N/A	N/A
1. Atif et al., 2016[7], Pakistan 2. 80%	1. Qualitative 2. Basic Health Units delivering primary care in Rawalpindi	Cognitive behaviour therapy (CBT) based on Thinking Healthy Programme (THP). Adapted in Pakistan to make it deliverable through peers.	1. Mothers experiencing perinatal depression 2. Peer volunteers (PVs)	Trained and supervised by non-specialist THP facilitators. 4-day classroom and 2-day field training. Fortnightly group and field supervisions.	1. Mothers and peer volunteers 2. 29	Mothers: Age M = 28 100% married Children: M = 3 Education M = 6.6 years 81% in joint family structure Peer volunteers: Age M = 33 75% married Children M = 2 Education: M = 11 years 75% in a joint family structure
1. Atif et al., 2020[8], Pakistan 2. 80%	1. Qualitative 2. Obstetric department of public hospital in Rawalpindi	Happy Mother Healthy Baby -based on cognitive behaviour therapy principles. Involved development of an empathetic relationship, challenging thoughts, behaviour activation, problem solving and involving family members.	1. Pregnant women with anxiety as measured by score of >8 on HADS[a] 2. Non-therapist specialists	5-day workshop followed by 2 practice cases of perinatal anxiety	1. Pregnant women with anxiety and health professionals 2. 29	Mean age of women = 26 years and 42% were primigravida. Years of schooling mean was 4 years. Majority of health professionals interviewed had over 10 years of experience.
1. Beeber, Lewis, Cooper, Maxwell, & Sandelowski, 2009[43], USA 2. 83%	1. Descriptive 2. Early Head Start Programmes delivered to Latino community	Short-term in-home psychotherapy intervention. Mothers in the intervention group received 16 contacts over a 22-week period.	1. Low income Latina mothers who showed depressive symptoms as measured by CES-D[b] 2. Psychiatric mental health advanced practice nurses	6-hour course in Spanish/English.	N/A	N/A
1. Bina, Glasser, Honovich, Levinson, & Ferber, 2018[9], Israel 2. 80%	1. Qualitative 2. Primary care setting in Israel	Eight sessions of interpersonal therapy (IPT) that aims to reduce depressive symptoms and improve interpersonal functioning.	1. Women with postnatal depression symptoms 2. Social workers	2-day 16-hour IPT training led by an experienced IPT trainer	1. Social workers 2. 25	All female. Mean age = 47.7 years. 13 had a Master of Social Work degree, 7 a BSW degree plus a master's degree, 4 had only a BSW degree.

						Average of 19yrs experience including 11yrs employment in the Health Maintenance Organizations.
1. Boyd, Mogul, Newman, & Coyne, 2011[10], USA 2. 70%	1. Qualitative 2. Community based service	Academic-community partnership focusing on screening and barriers to mental health utilisation. Home visits which includes screening for postnatal depression and assistance in referral to mental health services.	1. Pregnant or postnatal women with depressive symptoms as measured by EPDS[c] 2. Community health workers	NR	1. Community health workers and managers 2. 16	All female. Mean of 2.3 years of employment at agency. Most only have a college a degree (31.2%) Most of African American ethnicity (50%).
1. Byatt et al., 2013[11], USA 2. 70%	1. Qualitative 2. Obstetrics & gynaecology department at tertiary care referral centre	Pharmacotherapy for perinatal depression	1. Perinatal women with depression 2. Obstetrics & gynaecology resident and faculty physicians, nurses and support staff in the OB/gyn department	NR	1. Obstetrics & gynaecology resident and faculty physicians, nurses and support staff 2. 37	Education levels ranged from postgraduate year 1 to 4. Faculty and staff participants had 1-23 and 4-27 years of clinical experience respectively.
1. Chartier et al., 2015[12], Canada 2. 80%	1. Case study 2. Community based	Towards Flourishing Mental Health Promotion Strategy – a demonstration project added to an existing home visiting programme aimed at preventing mental health problems.	1. Women in home visiting programme with a child less than 1yr of age 2. Paraprofessional home visitors	Training to enhance knowledge of mental health promotion and to implement strategy.	1. Mothers and home visitors 2. 19	NR
1. Cox et al., 2017[44], USA 2. 83%	1. Descriptive 2. Obstetrics & gynaecology department, North Carolina healthcare system	Universal screening and a perinatal psychiatry programme. All mothers screened at 1, 3 and 6-month well-baby clinic visits and 6-week postnatal visits and referred as needed based on EPDS[c] cut-off scores. The NICU clinic met 1 day/week with 5-8 women. Nurse-practitioners met with mothers and families at the NICU bedside.	1. Perinatal women who scored between 6 and 9 or 10 or greater on the EPDS[c]. 2. Specialised psychiatric nurse-practitioners	Education about psychiatric issues, education for obstetric and paediatric providers about signs and symptoms, risk factors and treatment options.	N/A	N/A
1. Doering, Maletta, Laszewski, Wichman, & Hammel, 2017[13], USA 2. 90%	1. Qualitative 2. Home visiting/ community based	Home visitation – utilised either the Parents as Teachers or the Healthy Families home-visiting models. Frequency of visits range from weekly to monthly or less frequent dependent on needs. Actual length of programme varies but may serve families with children up to 5years old.	1. Mothers of infants with depressive symptoms as measured by EPDS[c] 2. Home visitors and home visiting supervisors	Training to learn depression screening process.	1. Home visitors, supervisors and clients 2. 25	Majority spent less than 5 or 10+ years in home visiting. Home-visiting supervisors spent 15 years in home visiting. Majority of clients received home visiting for 5-12 or 25+ months.
1. Drozd, Haga, Lisoy, & Slinning, 2018[14], Norway 2. 60%	1. Qualitative 2. Well baby clinics	Women screened at 6 time points. Offered a free, universal online preventative intervention called Mamma Mia – 44 online sessions.	1. Pregnant women with or at high risk of depressive symptoms as measured by EPDS[c]	2-days pre-service delivery training, written educational materials, information brochure for pregnant women, pamphlets to aid in	1. Healthcare professionals 2. 24	Either completed bachelor's degree and education in public health or psychiatric nursing, a master's degree in midwifery, or a

			2. Midwives and public health nurses. Secondary – community psychologists and GPs.	their programme delivery, coaching sessions, and a 2-day maintenance seminar.		6-year professional degree in clinical psychology. More than a third had education in the EPDS[c] Mean age was 52.6 years. Majority were female.
1. Eappen et al., 2018[45], Peru 2. 83%	1. Descriptive 2. Community based	Thinking Healthy Programme – non-pharmacological cognitive behavioural intervention, 16 1-hour sessions grouped into five modules.	1. Perinatal women with depression measured by PHQ[d] and EPDS[c] 2. Community health workers	Four days training by *Socios En Salud* in maternal-child health, providing accompaniment to mothers invited to participate.	N/A	N/A
1. Feinberg et al., 2006[46], USA 2. 83%	1. Descriptive 2. Community health centres in Boston	Paediatric based maternal depression detection and management system-structured, standardised and validated screening tool and guidance to assess and manage depression.	1. Mothers attending well-child visits from a wide range of ethnic backgrounds (Hispanic, Caribbean, Cambodian and Vietnamese) 2. Paediatric providers	NR	N/A	N/A
1. Friedman, Kaplan, Rosenthal, & Console, 2010[15], USA 2. 80%	1. Descriptive 2. Community health centre, Ohio	The Lullaby 101 Program – hour long weekly lullaby group	1. Mothers and mothers-to-be diagnosed with mental illnesses 2. Music therapist	NR	N/A	N/A
1. Fernandez Y Garcia et al. 2011[47], USA 2. 100%	1. Descriptive 2. General paediatric clinics	Patient Health Questionnaire[4]-2 – screening with verbal administration and a yes or no answer format. Converted to a written format.	1. Mothers of infants aged up to 6 months 2. Paediatricians	NR	N/A	N/A
1. Ganann et al., 2019[16], Canada 2. 70%	1. Qualitative 2. Community service providers	Accessible services for immigrant women with postnatal depression. Services defined as first contact services for women experiencing postnatal depression (e.g., family physicians, public health nurses), other services supportive of women experiencing postnatal depression, and specialty services such as psychiatrists.	1. Perinatal immigrant women 2. Health and social service providers	NR	1. Health and social care service providers 2. 14	Job roles included nurses, social workers, perinatal psychiatrists, community health workers, and administrators. Some were immigrant women themselves.
1. Hadfield, Glendenning, Bee, & Wittkowski, 2019[17], UK 2. 90%	1. Qualitative 2. Primary mental health services in the NHS	Group therapy interventions – 6 sessions, 2 hours long each. 12 individuals in each session.	1. Mothers of infants 2. Primary mental health workers	NR	1. Mothers 2. 14	Average age was 32, most married, had 1 or 2 children, all White British ethnicity. Either completed therapy in the last 6 months or 2 years. All had received therapy focusing on postnatal depression. Either received CBT based therapy or Eye Movement Desensitisation and Reprocessing.
1. Higgins et al., 2018[51], Ireland 2. 80%	1. Cross-sectional qualitative survey	Screening and discussing perinatal mental health problems with women in the perinatal period.	1. Perinatal women 2. Midwives and primary care nurses	Perinatal mental health training.	1. Midwives and nurses 2. 809	54.1% midwives and 45.9% nurses. Majority female – 99.8%.

	2. Primary care settings (GPs, maternity care)					Aged 50 years and over – 34%. Most had a postgraduate diploma/master/PhD as their highest academic qualification – 45.5%. Majority were in their role for 11years or more.
1. Jallo, Salyer, Ruiz, & French, 2015[18], USA 2. 80%	1. Qualitative 2. Academic obstetric clinics affiliated with 2 large metropolitan health systems; Southeastern Virginia provided a remote guided practice	12 weeks guided imagery intervention – mind creates mental images that connects to emotions leading to changes in feeling and physiologic states. 4 tracks with each track lasting 20 minutes. Participants listened to one track once a day, first in a sequenced order from week 1-4 and then in own order from week 5-12.	1. Pregnant women with high levels of stress 2. Remote guided practice	N/A	1. Pregnant women 2. 27	Mean 24.75 years. Mean gestational age was 15.53 weeks. 25% participants were primigravida's. 28% - second pregnancy. 22% - third pregnancy. Majority were not married, had a high school degree or higher education, they were not employed, income less than $15000.
1. Judd, Stafford, Gibson, & Ahrens, 2011[48], Australia 2. 100%	1. Descriptive 2. Early Motherhood Service (primary care/ midwifery care)	The Early Motherhood Service (EMS) – Mon to Fri 9am to 5pm or referrals directed to the triage service. Assessments occur antenatally on maternity ward or during the postnatal period on site at the hospital, the EMS office or woman's home.	1. Women with a broad range of perinatal distress, disorder and postnatal depression 2. Psychiatric nurses	Specialist training in perinatal mental health, family therapy, cognitive behaviour therapy, and grief counselling.	1. Stakeholders 2. 14	N/A
1. Kerker et al., 2018[19], USA 2. 78%	1. Descriptive 2. Women's health clinic in a New York City public hospital	On-site depression prevention intervention – individual format, sessions offered in either English or Spanish at time of their prenatal appointments.	1. Pregnant lower income women with depressive symptoms measured by PHQ[d]. Women came from different ethnic backgrounds (Hispanic; Black; White; Asian; Other) 2. Prenatal educators – volunteer students, professional and peer-partners.	10 hours of classroom and didactic sessions.	N/A	N/A
1. Kim et al., 2009[20], USA, 2. 80%	1. Qualitative 2. Academic medical centre, hospital campus	EPDS[e] in the context of a programme that facilitates screening, provides behavioural health follow up, educates providers and maintains a 24/7 hotline for crisis intervention. EPDS[e] screening conducted at 24-28 weeks of gestation, positive screens passed on to internal team of mental health professionals. It is then documented and communicated to obstetric provider.	1. Pregnant women at risk for perinatal depression 2. Physicians and private practice groups	NR	1. Obstetric care providers 2. 22	Job roles were obstetricians (n = 19) or nurse-midwives (n = 3). Participants represented both hospital-employed and private practice groups in geographically and socio-economically diverse suburban communities of a major metropolitan area.

1. Leger, Letourneau, & Weaver, 2015[21], Canada 2. 80%	1. Qualitative 2. Community based	Mothers Offering Mentorship and Support (MOMS) – home based peer support, in home weekly visits for 12 weeks, duration of 1 hour to 1.5 hours.	1. New mothers with postnatal depression 2. Peer mentor volunteers	NR	1. Peer mentors 2. 6	NR
1. Lind, Richter, Craft, & Shapiro, 2017[49], USA 2. 100%	1. Descriptive 2. Large multispecialty healthcare organisation with multiple community-based clinics in the Midwestern US	Postnatal depression screening programme using EPDS[c] and treatment initiation process. EPDS forms given at 1, 2 and 4-month routine well-child visits, reviewed and sent to a centralised screening location for further review. If patient within healthcare system, EPDS entered into medical record. High scores to be discussed with woman and offered referrals.	1. Women arriving for postnatal care 2. Multiple specialty department involved in the care of the women at risk for postnatal depression.	Electronic learning module included as part of routine mandatory annual education process of clinicians that explained the new process of screening.	N/A	N/A
1. Lomonaco-Haycraft et al., 2018[50], USA 2. 100%	1. Descriptive 2. Denver Health Medical Center	Integrated Perinatal Mental Health program – screening is done initially at the obstetric intake visit using EPDS. Negative score –> provide education and anticipatory guidance. Positive score –> acknowledge, assess and refer. An EPDS is administered twice during pregnancy. All screened at 6-week postnatal, 2, 4 and 6-month well-child visits.	1. Perinatal women 2. Psychologists, clinical social workers, addictions counsellors, and psychiatrist.	NR	N/A	N/A
1. Masood et al., 2015[22], UK 2. 80%	1. Qualitative 2. Across Manchester and Lancashire – general practices and children centres.	Positive Health Programme – psychosocial intervention, 23 women put into 4 groups using the cognitive behavioural model. 12 weekly group sessions over 3 months, manual organised into 9 sessions. Adapted for and offered to British South Asian women.	1. Mothers experiencing postnatal depression as diagnosed by CIS-R[c] 2. Trained research staff	NR	1. British South Asian women 2. 17	Interview participants – aged 20-45 years. Most married, one divorced. Majority Pakistani ethnicity.
1. McCauley, Brown, Ofosu, & van den, 2019[23], Ghana 2. 80%	1. Qualitative 2. Obstetric department in the largest teaching hospital in Accra, Ghana	Routine screening for maternal mental health during and after pregnancy	1. Women with maternal mental health issues. 2. Healthcare providers	NR	1. Healthcare providers 2. 24	20 doctors, and 4 nurse midwives. Majority female (n = 13). Aged between 25 and 50 years Most were junior doctors and have between 1-5 years of experience providing routine maternity care.
1. McKenzie-McHarg, Crockett, Olander, & Ayers, 2014[53], UK 2. 40%	1. Qualitative 2. Warwick Hospital, NHS	Pink sticker communication system – alerts midwifery and obstetric staff ensuring identified women receive appropriate tailored, and emotionally intelligent care.	1. Perinatal and postnatal women with psychological distress or vulnerability 2. Midwives	4 hours of specific training in perinatal psychology, information on the pink sticker system, combining info about psychological presentations and education on how midwives could support women with problems through pregnancy and labour.	1. Midwives and women who had a pink sticker 2. 57	Midwives ranged across seniority from at least 2 years qualified to very senior, had all cared for a number of women who had presented with a pink sticker within the last year. All women participants had delivered within the previous year.

1. Munodawafa, Lund, & Schneider, 2017[25], South Africa 2. 100%	1. Qualitative 2. Community based, Khayelitsha, Cape Town	Task sharing counselling intervention – 6 to 8 sessions. The sessions were structured manual-based psychosocial individual face to face counselling sessions either at participant homes or at the clinic. Based on CBT, IPT and problems solving therapy principles. Sessions were in the antenatal phase and could continue to postnatal phase. Referrals were made if participants showed any suicidal ideation and if assistance needed was beyond the scope of the workers intervention.	1. Women with perinatal depression 2. Lay counsellors	5-day workshop on how to implement the manual-based intervention. 2-3 hours weekly group supervision and ongoing training in addition to 30min of individual supervision monthly.	1. Community health workers 2. 6	Education levels ranged from grade 9 to grade 12 and had at least 2.5 years of previous experience in the community doing health promotion. Mean age of 37.2 years.
1. Myors, Johnson, Cleary, & Schmied, 2015[26], Australia 2. 70%	1. Qualitative 2. Two specialist perinatal and infant mental health services in New South Wales	Perinatal and infant mental health (PIMH) services - 'Supporting Families Early' policy which provides a framework of promotion, prevention, early intervention, and treatment for mothers, infants, and their families. Psychosocial assessment and depression screening in the antenatal and early postnatal periods aims to identify women at risk for poor perinatal mental health. The needs of women identified with risk factors are discussed at multidisciplinary case review meetings, and if necessary, referral to specialised services is initiated. The risk factors are categorised into three levels: (i) level 1: no risks identified; (ii) level 2: social issues, such as poor support networks; and (iii) level 3: complex issues, such as maternal mental illness.	1. Women at risk for poor perinatal mental health outcomes. ~20% of women attending these services are non-English speaking 2. Clinicians	NR	1. PIMH clinicians, their managers, key stakeholders, and women service users 2. 24	Clinicians' job roles included nurses, social workers and psychologists and had been working between 2-8 years. Managers and stakeholders had been involved in the PIMH service for 2-12 years. Mean age of women was 28 years. Majority (77.5%) were born in an English-speaking country and were partnered (73.4%). 57.3% had more than 1 child, 47.5% had experienced a pregnancy or infant loss. Majority (84.8%) were referred via the midwives in antenatal clinic.
1. Nakku et al., 2016[27], Uganda 2. 90%	1. Qualitative 2. Primary care settings in a low income, Kamuli district in Eastern Uganda	Volunteers from within the community are nominated by members of the community to form Village Health Teams (VHTs). These VHTs are entrusted with taking care of health matters of the village where they live, and they mobilise people for health programmes as well as identify and refer individuals who need care. There is no built structure at this level and there are no qualified health staff. The Kamuli district has only one psychiatric clinical officer (equivalent of a nurse practitioner or nurse prescriber) and a handful of psychiatric nurses. These are all based at the only public hospital and largely work in non-mental health clinics, leaving most of the district with no access to psychiatry	1. Pregnant and postnatal women 2. Midwives, Village Health Teams (VHT's), psychiatric clinical officer, psychiatric nurses	NR	1. Pregnant and postnatal women, VHT's, key informants 2. 76	Age range from 18-47. Majority female participants (84%). Majority of pregnant and postnatal women only had primary education (n = 36). All Village Health Teams had secondary education. All key informants had up to tertiary education. Majority of participants were from Christian religion.

		personnel. Perinatal women with mental illness are only identified if they are severe enough to be psychotic or suicidal, in which case they are not treated but immediately referred to the regional hospital in the neighboring district of Jinja, sixty kilometers away. Depression and other common mental disorders normally remain undetected and untreated at the primary care level.				
1. Nithianandan et al., 2016[28], Australia 2. 90%	1. Qualitative 2. Monash Health, south-east Melbourne	Perinatal mental health screening – Edinburgh Postnatal Depression Scale[3]	1. Perinatal women of refugee background 2. Health professionals	NR	1. Health professionals and women from refugee background 2. 37	Roles of health professionals included midwives, obstetricians, nurses, psychiatrist, mental health expert, maternity general practice liaison officer, community mental health team leader, refugee health experts, bicultural worker, interpreters. Majority of women were from an Afghan ethnicity.
1. Noonan, Doody, O'Regan, Jomeen, & Galvin, 2018[29], Ireland 2. 70%	1. Qualitative 2. GP Practice	Perinatal mental healthcare in Ireland – booking appointment with midwife where midwives ask about emotional issues, but this is not always done. Postnatal care is primarily provided by Public Health Nurses who screen for PND and anxiety using the Whooley[f] questions and EPDS[c] and refer to the GP for diagnosis and treatment interventions.	1. Women with perinatal mental health problems. 2. General practitioners	NR	1. General practitioners 2. 10	Majority had 5-10 years of experience. Majority were from Urban practice type. There were equal numbers of males and females.
1. O'Mahen et al., 2015[54], UK 2. 100%	1. Qualitative 2. Online based, UK wide	Online treatment –11-sessions of Behavioural Activation for Postnatal Depression	1. Women with postnatal depressive symptoms as measured by EPDS[c] 2. Online	N/A	1. Women from the Netmums trial 2. 17	Mean age was 31.3 years. 30% had an £40000 to £49000 income. 40% had an income of £80,000+ Work status was either homemaker, full or part time employment, a student or volunteer. Majority (80%) were in a relationship. 40% had up to post-16 qualification. Majority (56%) had 1 child.
1. Ormsby, Dahlen, Ee, Keedle, & Smith, 2018[31], Australia 2. 90%	1. Qualitative 2. Hospitals in Western Sydney, Australia	Referral onto acupuncture – a new treatment within the hospital, which is individually tailored low-risk Chinese	1. Perinatal women with antenatal depression 2. Midwives and doctors providing referrals.	NR	1. Midwives, doctors and maternity service managers	Majority of participants were female. Two professionals had spent less than 5 years in their area of

		medical treatment as a supplementary therapeutic option for antenatal depression.			2. 27	expertise. However, most had worked for more than 30 years in their current roles.
1. Pineros-Leano, Tabb, Sears, Meline, & Huang, 2015[32], USA 2. 100%	1. Qualitative 2. The Champaign-Urbana Public Health District – Public health clinic	Mobile health technology – use of mobile electronic devices to assist in healthcare provisions and management.	1. Pregnant and postnatal women 2. Nutritionists, nurses, case managers, administrative assistants, intake specialists	NR	1. Staff members from the Maternal Child Health division of the Champaign-Urbana Public Health District 2. 25	Sample included nutritionists, nurses, case managers, administrative assistants, intake specialists and programme coordinators.
1. Pugh, Hadjistavropoulos, Hampton, Bowen, & Williams, 2015[33], Canada 2. 100%	1. Qualitative 2. Online based	Specialised internet therapy programme adapted from a Therapist-Assisted Internet Cognitive Behavioural Therapy (TAICBT) programme for major depression. Programme consisted of 7 modules. Following completion, weekly offline homework activities were assigned, and clients received one email a week from their assigned internet therapist.	1. Postnatal women with depressive symptoms as measured by EPDS[c]. 2. Internet therapist – researcher.	Trained in and supervised in the provision of TAICBT.	1. Postnatal women with depression who received TAICBT 2. 24	Majority (92%) from Caucasian ethnicity. Majority (96%) were married/common law/engaged. Majority (87%) had a college, some university or undergraduate degree. Most (46%) had given birth once.
1. Reed, Fenwick, Hauck, Gamble, & Creedy, 2014[34], Australia 2. 80%	1. Qualitative 2. Two tertiary maternity hospitals in the Australian states of Queensland and Western Australia.	Promoting resilience in mothers' emotions' (PRIME) – counselling. Women were offered this antenatally and 6 weeks postnatal.	1. Perinatal women with symptoms of birth trauma 2. Midwives	Workshops, written manuals, digitally recorded counselling vignettes.	1. Midwives 2. 18	All were female, aged 26-59 years, with a mean of 13 years clinical midwifery experience. 7 were educated in the tertiary sector and 11 in a hospital-based midwifery programme.
1. Rowan, McCourt, & Bick, 2010[35], UK 2. 70%	1. Qualitative 2. Two NHS Trusts from two strategic health authorities – an inner-city area and a more urban/rural area.	NHS Perinatal mental health services offered by two different NHS trusts	1. Women with mental health needs 2. Range of health professionals	NR	1. Health professionals 2. 8	NR
1. Segre, Pollack, Brock, Andrew, & O'Hara, 2014[36], USA 2. 80%	1. Mixed methods 2. Maternity unit of a Mid-western academic medical centre.	Train the Trainer Maternal Depression screening programme (TTT)-incorporated the use of the EPDS[c] tool.	1. Perinatal women with depressive symptoms as measured by EPDS[c] 2. Maternity unit administrative nurses	Lectures and activities to train to administer the screening tool.	1. Maternity unit nurses 2. 34	Most nurses were white/non-Hispanic and ranged from 36 to 55 years of age. Majority had a bachelor's degree and approximately 1/3 were employed full-time.
1. Shakespeare, Blake, & Garcia, 2003[37], UK 2. 70%	1. Qualitative 2. GP practices in Oxford City Primary Care Group.	Oxford City Postnatal Depression Strategy – routine screening with EPDS[c] at 8 weeks and 8 months after birth. Subsequent actions such as non-directive counselling is based on screening score and health visitor assessment.	1. Postnatal women 2. Health visitors	4-6 half-day sessions followed by 2-monthly supervision. 6-8 hours of personal study using a resource pack entitled "The emotional effects of childbirth" and 1 day of	1. Postnatal women 2. 39	The mean of the women was 34 years; range = 19 to 42 years. Majority (n= 37) were white. Most (n = 24) were upper or middle class.

				basic training and subsequent mentoring.		
1. Shorey & Ng, 2019[38], Singapore 2. 80%	1. Qualitative 2. Tertiary hospital in Singapore	Technology-based peer support intervention programme (PIP) – support from peer volunteers for at least 1 month after birth including a minimum of once a week correspondence through any technology-based means. Frequency and duration were tailored to maternal needs.	1. Mothers at risk of postnatal depression 2. Peer volunteers	Training session by a psychiatrist.	1. Mothers and peer volunteers 2. 39	Mothers – 25-40 years of age 50% were Chinese; 45% Malay; 5% Indian 95% married 80% university undergraduates 50% monthly household income of over 5000 S$ Peer volunteers – 25-54 years 90% were Chinese; 90% married' 68% university graduates; 47% monthly household income of over 5000S$
1. Vik, Aass, Willumsen, & Hafting, 2009[39], Norway 2. 80%	1. Qualitative 2. Norwegian health centres	EPDS[c] screening by health visitors	1. Mothers with postnatal depression 2. Health visitors	NR	1. Health visitors and one midwife 2. 7	6 of the participants were experienced health visitors with a three-year bachelor's degree and 1 year of specialising in a community health service.
1. Willey et al., 2019[40], Australia 2. 80%	1. Mixed methods 2. Refugee antenatal clinic in the south-eastern suburbs of Melbourne, Australia	Perinatal mental health screening programme – routine use of the mental health psychosocial questionnaire and use of EPDS[c]. Undertook screening using iPad and the Icope system (generates immediate screening score and report with recommendation). Following assessment, women referred to counselling or other services.	1. Pregnant women of refugee background 2. Midwives	NR	1. Health professionals 2. 31	Employed across all areas of implementation and included midwives, midwifery managers, bi-cultural workers and administrators, the Refugee Health Nurse Liaison, and counsellors.
1. Williams, Turner, Burns, Evans, & Bennert, 2016[41], UK 2. 80%	1. Qualitative 2. NHS Maternity care, antenatal booking appointment	Women were asked the Whooley[f] questions by midwives during their booking appointment.	1. Pregnant women 2. Midwives	NR	1. Midwives and women 2. 35	Most midwives were aged 50+. All white-British ethnicity. Most been practicing for over 20 years and over since completing midwifery training. Most had no mental health qualification. Most women were aged 30-39 years. Majority of White-British ethnicity. Majority had previous experience of depression.
1. Young et al., 2019[55], San Francisco, USA 2. 90%	1. Qualitative 2. Paediatric primary care clinic – Kempe Clinic	All women complete the EPDS[c] at each well child visit, provided by medical assistants, filled out via self-report and reviewed by paediatrician or social worker. Multidisciplinary team work together to create an individualised plan for each	1. Postnatal women. Most women were Hispanic (60%) 2. Psychiatrists	NR	1. Postnatal mothers 2. 20	6 participants were monolingual Spanish speakers, age ranged from 25-49 years. Nearly half were active patients at time of interview whilst other half had ceased receiving care for various

	parent-child dyad. Appointments (2-45mins) scheduled so they are seen on the same day as their child's paediatric visit. Women can be offered follow up for an unlimited number of appointments at a frequency mutually agreeable. Women could be prescribed medication or referred for therapy or other services.		reasons. Majority (60%) were Hispanic-White ethnicity. Majority (80%) had a primary diagnosis of a major depressive disorder.

Note. N/A = Not applicable, NR Not reported. [a]HADS = The Hospital Anxiety and Depression Scale[56]; [b]CES-D = Centre for Epidemiological Studies Depression Scale[57]; [c]EPDS = Edinburgh Postnatal Depression Scale[58]; [d]PHQ = Patient Health Questionnaire[59]; [e]CIS-R = The Clinical Interview Schedule-Revised[60]; [f]Whooley Questions[61] to assess depression symptoms.

Appendix 7. Descriptive themes definition and representative quote

Individual level factors		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Additional personal difficulties (n = 10)	Difficulties that women may have that are not related to perinatal mental illness, such as poverty.	"My husband's business is not doing well, financially we are struggling, we have children to look after, we have the responsibility to marry them off and give them dowry etc., all these worries are pulling me down. Talking to [the peer volunteer] can't help me"[7]
Family (n = 15)	The opinions or beliefs of women's family about perinatal mental illness or perinatal mental health treatment.	"My husband did not want me to go; he did not let me go anywhere. I had to look after my children, but he just wanted me to sit with him and talk to him."[22]
Health beliefs (n = 2)	Women's beliefs about the causes of perinatal mental illness.	"If I've got a predisposition to it … it's probably more chemical than just something that can be changed by my behaviour."[30]
Awareness or knowledge about perinatal mental illness (n = 7)	Women's knowledge about the symptoms or presentation of perinatal mental illness.	"I meet a lot of people who are acting out what they are feeling because they don't know how to name or to identify what they are feeling …"[47] (Healthcare professional speaking about women)
Reluctance or inability to attend (n = 13)	Women either not wanting to, or not being able to attend perinatal mental healthcare for various reasons such as lack of time, childcare or transport.	"Just getting to the damn appointments, because usually, she likes to see me right around my nap time ... I need that all-day nap. I take, like, five-hour naps."[42]
Symptoms of psychological difficulty (n = 3)	Symptoms of perinatal mental illness getting in the way of attending care or participating in treatment.	"Cause it's like some days, obviously when I'd be having a bad day, and I'd be thinking oh I don't wanna go out I've gotta get them ready, I've gotta get them in the car, and I've gotta get the pram together to get there and I just didn't want to."[17]

Healthcare Professional Factors		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Characteristics of healthcare professionals (n = 19)	The way healthcare professionals acted towards women. For example, open, non-judgmental, willing to listen, motivated and interested healthcare professionals were valued by women.	"She was good in every possible way, she was good at her job, the way she talked and behaved. She encouraged me, helped me get support from my family members, have my routine check-ups, spend quality time with my family and not to worry too much, as it could impact the baby."[8]
Collaborative working (n = 18)	Healthcare professionals working together to improve care for women.	"I think that for any one organization to know their community, to have inroads into the community is impossible. And so for partnerships I think that different organizations have different levels of penetration within the community and it's good to capitalize on what other organizations have and are doing."[16]
Communication between healthcare professionals (n = 10)	Clear communication amongst healthcare professionals.	"I think [referrals] are dependent on the nurses … Some nurses refer more than others. It all boils down to the amount of interaction the nurse has with the social worker and how much she/he believes in the ability of the social worker."[9]
Confidence of healthcare providers (n = 12)	Healthcare professional's belief in their ability to provide the care being offered to women.	"I don't think I was ever great at it [providing counselling] because it's completely different to the way we normally would do things."[34]
Dedicated person to act as women's advocate (n = 7)	Someone who can explain the process of the service and who is there for women throughout the care pathway.	"A face to face introduction to somebody in the Refugee Health Service such as [refugee health nurse] makes a huge difference to a woman's likelihood of accepting a referral to a service."[28]
Heavy workload (n = 20)	A heavy workload or not enough time to provide the care being offered by the service.	"We are only 3 midwives and for one midwife to deal with 80 patients is very hectic… So we

		do not have enough time to handle mental health issues."[27]
Knowledge (n = 8)	Healthcare professional's knowledge about perinatal mental health or the care being offered.	"I don't think mental health has really been one of those things that is commonly taught, [the] part of our training which is dedicated to mental health is small."[23]
Supervision/Support (n = 6)	The opportunity for healthcare professionals to have a place to reflect and raise issues.	"I did not believe in myself that I would be able to do the job, but because of the support we received from our supervisor and the counselling … I am very competent."[25]
Training (n = 27)	The opportunity for healthcare professionals to learn about perinatal mental illness and the care they are providing to women.	"I've never received any formal training in this area. I do not feel adequately trained to detect postpartum depression."[20]
	Interpersonal factors	
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Continuity of carer (n = 8)	Women being able to see the same person across the care pathway.	"Everyday my doctor was changed I couldn't make a relationship with…my doctor."[28]
Language barriers (n = 10)	Difficulties in communication due to women and healthcare professionals speaking different languages.	"When somebody has a language barrier you need time to kind of get a proper picture of what's going on. If the person is struggling with words or trying to find the right words to explain themselves, right? And 15 minutes for an appointment doesn't cut it."[16]
Open and honest communication (n = 11)	Women and healthcare professionals being able to speak openly and honestly without fear of judgement.	"And I was so grateful, and then I just talked to her, and it was so nice to be able to talk freely with her [about the EPDS] at the time."[37]
Privacy and confidentiality (n = 8)	Women and healthcare professionals being able to interact in privacy.	"The interruptions took me longer to really get relaxed."[18]
Trusting relationship (n = 15)	Women feeling safe with healthcare professionals to be able to be open and honest about their feelings.	"It gave me the opportunity to off load myself. Only a mother, who has gone through similar problems, can understand how another mother is feeling."[7]

Medication		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Healthcare professional's reluctance (n = 4)	Healthcare professionals having little confidence in prescribing medication or knowing which medications are safe during pregnancy and breastfeeding.	"Dealing with psychotropic medications and pregnancy is out of my comfort zone."[29]
Women's reluctance (n = 4)	Women not wanting to take medication.	"'I won't go on medication, and that's all they have.' I hear that a lot, too. Like, 'I refuse to go on medication for the rest of my life'"[13] (Home visitor about women).
Design of the care		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Appropriateness of care (n = 6)	Care sensitively designed to fit women's needs.	"To them [new mothers], some of them, like, [said]: 'I don't even have time to go to the bathroom by myself so why would I sit down and do nasal breathing?'"[12]
Choice (n = 6)	Women value being able to choose what care they receive.	Other effective ways in which home visitors were able to introduce [the care package] to families included:...giving parents the opportunity to choose which strategy they wished to try.[12]
Clarity of assessment (n = 2)	Explaining the purpose of assessment to women.	"I was told this was a questionnaire to identify people having problems with postnatal depression and that was it, there was no treatment or no consequences discussed. It wasn't clear to me what would happen if I ticked the bad boxes."[37]
Delivery in a healthcare setting (n = 12)	Provision of care in a healthcare setting, such as in a hospital.	"The way things happen in this hospital, having tests and ultrasounds being done is not easy. I was feeling anxious during the session because it is so noisy and chaotic."[7]

Delivery in home setting (n = 5)	Provision of care at women's homes.	"I was more relaxed in my own environment."[26]
Face to face delivery (n = 4)	Provision of face to face care, as opposed to over the phone or online.	"An in-person therapist would be able to personalize the learning process a little more, and spend more time on things I needed to spend more time on."[33]
Fitting in with women's lifestyle (n = 3)	Interventions that fit easily into women's lifestyles.	"Some of the activities are hard to complete with a baby and that ends up aggravating the issue."[33]
Flexibility (n = 13)	Flexibility of delivery and access to care to fit in with women's needs.	"I loved that I could access the program anytime. It fit into my schedule in a way that traditional therapy could not have, as my baby is demanding and my husband works out of town."[33] "Our clients really want to talk about themselves and I am expected to insist that they talk about their relationships with others … Based on my experience clients really need the attention to be focused on them."[9]
Group delivery (n = 3)	Delivery of care in a group setting, with other women with similar difficulties.	"I ended up making a really good friend out of the group, erm, so to me I did find that the group…We speak to each other nearly every day, and if we're struggling then we talk to each other about it."[17]
Healthcare professional's perception (n = 19)	The way in which healthcare professionals perceived the care or treatment they were providing.	"I thought it was a good idea from the beginning . . . It doesn't take a lot of time. I think sometimes it can be challenging just to get people to complete it."[36]
Manualised therapy (n = 2)	Interventions performed according to specific guidelines.	"We could not change [the sessions]. We had to do them as they were outlined because if you changed it you would make mistakes. [The manual] provided guidance."[25]
Open inclusion criteria (n = 2)	Allowing women with different mental health difficulties to access to the same service.	[A facilitator was a]…No wrong door approach - Anyone could self-refer or be referred to the service.[48]

Patient centred (n = 5)	Being aware of patient's needs and providing care with women at the centre.	"Most of the time I give it [screening questionnaire] to them … if they have cognitive delays, I'll ask them if they want me to read it to them."[13]
Practical support (n = 10)	The provision of support that allowed women to access care, such as providing a creche or paying for travel.	"And we were offered a crèche facility; I used to take him there; otherwise it would have been really difficult for me."[22]
Relevance to women (n = 2)	Whether the content of the intervention was relevant to women's needs.	"… the online course, it was tailored to my needs at the time and I think that's how it helped so much."[30]
Techniques women found useful (n = 4)	Most women found personalised therapy that challenged their thoughts and beliefs (e.g. CBT approaches) useful.	"The beginning modules that explain reasons, triggers etc. it really helped me to stop blaming myself and stop feeling like I was somehow 'weak'"[33]
Technology (n = 11)	The use of technology to provide care and treatment such as reminders on screens, completing assessment questionnaires on tablets, communicating via Whatsapp, or completing therapy online.	"I just think it's the initial getting used to . . . just even logging into it, and doing all of that was a hassle when I first started. It's, 'Oh, this is all so hard.' But it's so simple now, because we're used to it . . . it's like anything, . . . any tool that you use over and over again, it becomes more simple . . . it's a really good way to screen the ladies . . . I love the idea, because it's quite modern."[40]
Timing (n = 5)	The pace at which an intervention was delivered.	"The only thing I found difficult was adhering to the expected timeline, and often felt anxiety associated with it. However, [the internet therapist] was very understanding, always encouraging me to work at my own pace."[33]
Women's perception of the care (n = 7)	The way in which women perceived the care or treatment they were receiving.	"I got a lot of benefit from engaging in the healthy activities suggested by her (the therapist), I used to feel sluggish in my previous pregnancies, but now I am feeling active and energised."[8]
Wording of assessment tools (n = 3)	The clarity of the wording of the assessment tools.	"I have some moms [who] ask questions about [the EPDS], like, 'What does it mean

		where things are getting on top of me? What do you mean?' You know, so they, they don't always understand the questions."[13]
Organisational factors		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Organisational structure (n = 5)	A structure in which the purpose of each part of the organisation is clear and meets all of women's needs, ensuring women don't fall through gaps.	Although a plan of care was organised for antenatal women with a serious mental health problem, there were issues for her management if she became ill after birth.[35]
Referral pathways (n = 12)	Having a clear and easy process to allow for women to be referred to other services.	"We have to send the form; the patient has to ring to say did you get the form and I am now confirming that I am going to go and then they get an appointment, for someone who is very distressed and you are asking them to jump through hoops."[29]
Workflow procedures (n = 13)	Knowledge of job roles and processes within the organisation. The understanding of which tasks need to be done by whom, and how to achieve these tasks.	"We have everything on the computer. There's a flowsheet that everything has to be filled out so it comes up between 26 and 28 weeks."[20]
Lack of appropriate or timely services (n = 9)	Not having anywhere to refer women on to due to lack of services or being able to refer women on to other services but the waiting time being long.	"I could see that [the EPDS score] was high and you make your referrals, and it was months out before she could go . . . she had to almost take her life to get seen right away. And that's terrible that it has to come to that. I think that's the biggest struggle."[13]
Resources (n = 5)	Not having enough resources within organisations e.g. medication or support staff.	"…their maternity units did not even have the necessary medication to treat mental illness should this be needed."[27]
Service integration (n = 6)	The linking up of different services who deal with different needs, or at different time points across the perinatal period.	"There should have been a link across the divide it's kind of now you're in the hospital, now you're out of hospital, now look after yourself and get back to where you were, it

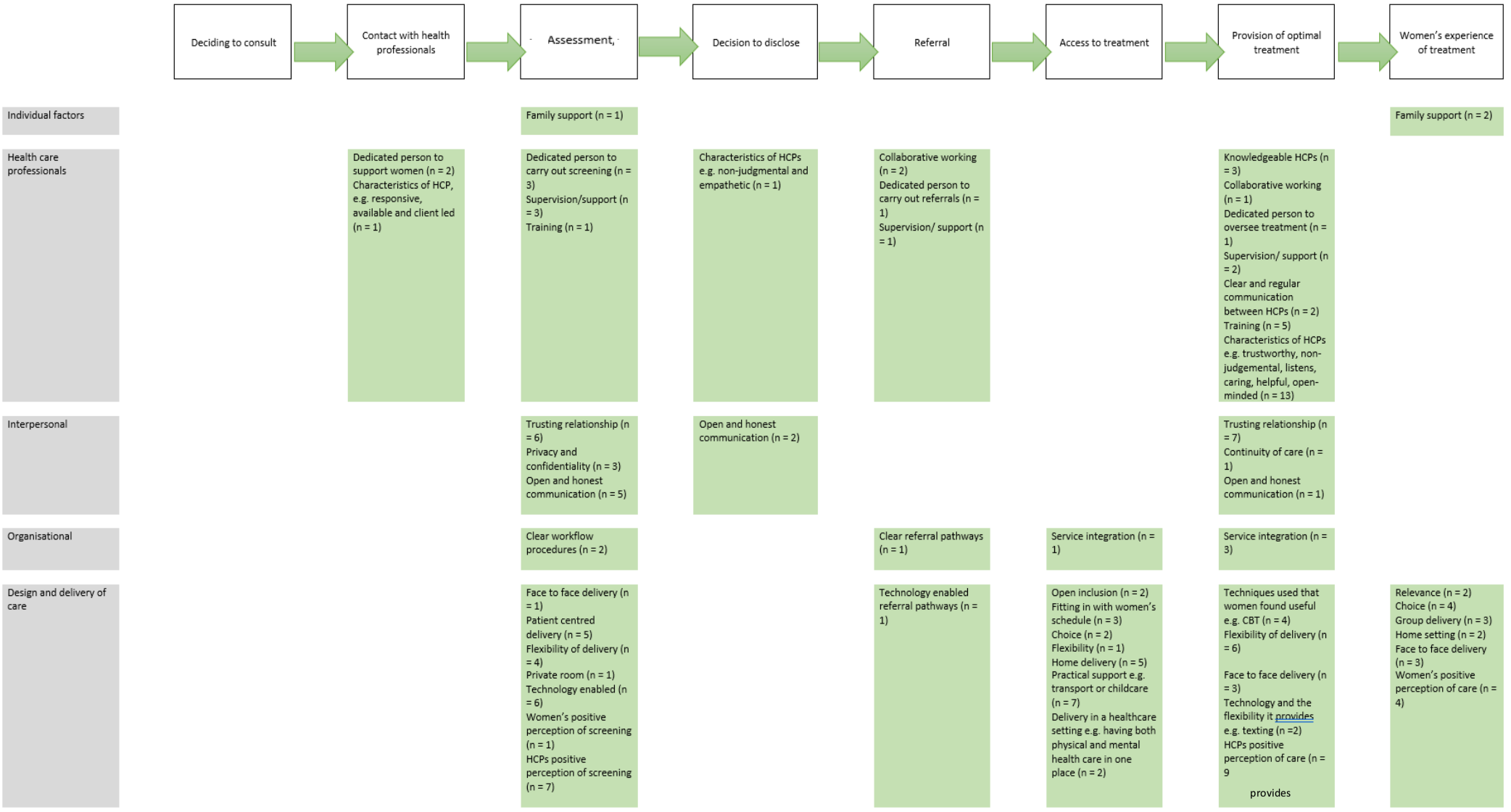
		wasn't as cold as that and it wasn't intended like that, it's just the way it happened."[29]
Timely follow up (n = 3)	Women being followed up by healthcare professionals or other services in short time frame.	"Women will often consent at the time of booking in and then . . . [we] might ring them and they (have) changed their minds . . . they've had time to go from feeling vulnerable to getting out and going, 'Oh no, I don't want anything'"[26]
Political factors		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Policy (n = 2)	Plans set out by governmental departments or healthcare systems related to perinatal mental healthcare.	Changes in the system have made things even more complex for clients dealing with anything in terms of mental health.[16]
Funding (n = 10)	Financial resources needed to provide perinatal mental healthcare.	At times, the [volunteers] ask for facilitation in terms of money and if they are not given money they give up. At times due to political influence, when they ask for help, they are shut down.[27]
Societal factors		
Descriptive theme **Number of studies with quotes mapped onto this theme (n)**	**Definition**	**Representative quote**
Stigma (n = 21)	Women feeling shame or afraid of admitting to mental health difficulties or seeking help due to stigma.	"Some (women) are afraid of the stigma that the general. . .public have on mental health; the public. . .does not embrace mental health as a real issue."[10]
Culture (n = 13)	The beliefs and behaviours of a particular group of people or a society.	"They [women] attribute it [mental illness] to these spiritual things, so most of the cases won't come to the hospital unless of course they realise, maybe, it's getting out of hand and then they go to the pastor."[23]

Appendix 8. Care pathway and system level barriers to implementation

	Deciding to consult	Contact with health professionals	Assessment	Decision to disclose	Referral	Access to treatment	Provision of optimal treatment	Women's experience of treatment
Individual factors	Lack of self-awareness or knowledge about perinatal mental health (n = 1)		Lack of self-awareness or knowledge about perinatal mental health (n = 3) Additional personal difficulties e.g. unemployment (n = 3) Presence of a partner (n = 3)	Family presence or unhelpful family beliefs about perinatal mental health (n = 4)		Reluctance or inability to attend (n = 14) Additional personal concerns e.g. poverty (n = 4) Family presence or unhelpful family beliefs about perinatal mental health (n = 2)		Belief that perinatal mental illness cannot be treated (n = 2) Previous negative experiences (n = 1) Symptoms of psychological difficulties (n = 2) Additional personal concerns e.g. poverty (n = 4) Lack of psychological readiness (n = 2) Lack of family support (n = 5)
Health care professionals		Characteristics of HCPs e.g. not taking women seriously or disinterested (n = 3)	Lack of knowledge (n = 2) Lack of confidence (n = 5) Lack of, or poor training (n = 8) Poor communication between HCPs (n = 2) Heavy workloads/ lack of time (n = 13)	Characteristics of HCPs – e.g. brisk or distracted (n = 1)	Lack of collaborative working (n = 3) Poor communication between HCPs (n = 3) Poor confidence of those providing the care (n = 1) Lack of training, or poor training (n = 1) Lack of knowledge (n = 1) Heavy workload/lack of time (n = 1)		Lack of knowledge (n = 3) Lack of confidence (n = 7) Lack of, or poor training (n =5) Lack of collaborative working (n = 10) Poor communication between HCPs (n = 2) Heavy workloads/ lack of time (n = 9)	
Interpersonal			Fear of breaking relationship developed with women (n = 1) Lack of privacy and confidentiality (n = 1) Lack of continuity of care (n = 1) Language barriers (n = 8) Lack of open and honest communication (n = 5)	Lack of trusting relationship (n = 2) Lack of continuity of care (n = 1) Lack of open and honest communication (n = 2)			Lack of privacy and confidentiality (n = 5) Lack of continuity of care (n = 3) Language barriers (n = 3) Lack of open and honest communication (n = 2)	
Beliefs about medication	Women's reluctance to be prescribed medication (n -= 3)		Women's reluctance to take medication (n = 1)	Women's reluctance to be prescribed or take medication (n = 1)	HCPs reluctance to refer due to medication (n = 1)		HCPs reluctance to provide medication (n = 3)	
Organisational			Unclear workflow procedures (n = 5)		Poor referral pathways (n = 9) Services not integrated (n = 1) No timely follow up (n = 2) Unclear job roles (n = 1) Unclear organisational structure (n = 1) Lack of appropriate or timely services (n = 8)	No timely follow up (n = 1) Confusing organisational structure (n = 2) Lack of appropriate or timely services (n = 9) Lack of other resources (n = 3)	Services not integrated (n = 2) Unclear workflow procedures (n = 5) Unclear organisational structure (n = 2) Lack of resources (n = 3)	
Design and delivery of care			Reasons for screening not explained (n = 2) Lack of privacy (n = 2) Issues with technology (n = 3) Women's negative perception of screening (n = 1) HCP's negative perception of screening (n = 4) Wording of the screening tools (n = 3) Inflexibility of questionnaires and when they need to be completed (n = 2)			Treatment does not fit in with women's schedule (n = 1) No choice (n = 2) Lack of flexibility (n = 1) Lack of Practical support (n = 4) Delivery in a healthcare setting (n = 2)	Timing -not enough time (n = 4) Inappropriate treatment for women's needs (n = 5) Inflexibility = 2 Home delivery as a barrier for HCPs (n = 3) Delivery in a healthcare setting – poor availability of rooms (n = 5) Difficulties with technology (n =1) HCPs negative perception of intervention (n = 2)	Irrelevant or inappropriate care for the needs of women (n = 2) Group delivery (n = 3) Women's negative perception of care (n = 1)
Political			Lack of funding (n = 7)		Lack of funding (n = 6)	Unsupportive Policy (n = 2) Lack of funding (n = 6)	Lack of funding (n = 9)	
Societal	Stigma (n = 4) Culture (n = 4)		Stigma (n = 7) Culture (n = 5)	Stigma (n = 1)	Stigma (n = 3) Culture (n =1)	Stigma (n = 3) Culture (n = 3)	Stigma (n = 2) Culture (n = 2)	Stigma (n = 2) Culture

Note. HCP = Healthcare professional

Appendix 9. Care pathway and system level facilitators to implementation



Note. HCP = Healthcare professional

Appendix 10. Identification of differences in barriers and facilitators across different health and social care settings

Within hospitals the most cited factors influencing implementation were lack of time or a heavy workload (n = 8); healthcare professional's perception of the care (n = 8); training (n = 7); stigma (n = 7) and unclear workflow procedures (n = 7):

> "The one thing I can think of within our system is [that we need] more consistent [reporting of EPDS scores]. We are doing it, but not consistently. In our nursing [shift-change] reports [we could] say where we are with it . . . they sometimes say, 'Oh the postpartum was a 4 and 0 [on item 10 which assesses suicidal thought]' and then they move on. Or they could say, 'I gave them the EPDS, or I've asked them to do it.' You know, it's nice to know where they are at with it"[36] (Quote from a Nurse, p. 449).

In primary care, the most commonly cited factors that influenced implementation were stigma (n = 8); family presence (n = 8); heavy workload or lack of time (n = 6) and culture (n = 6):

> "Can I be honest with you sometimes I wonder if you really want to open this can of worms and it's so much easier just to jolly along and check the BP, check the urine, check this and that and have them out the door and see the next patient"[29] (Quote from a GP, p. 4)

In community settings, or community-based delivery the most important factors were training (n = 8); and the characteristics of the person providing the care (n = 6):

> "My experience . . . she liked to hear, she wanted to hear about that, and what stuff was normal"[21] (Quote from a mother about a peer mentor, p. 31).

Within maternity services, similar factors were important for implementation including training (n = 3) and continuity of carer (n = 3):

> "What are your views about the midwife asking these type of screening questions about mental health at the booking visit? P: If I didn't know the midwives and they hadn't known my history I think I probably wouldn't have been honest with them"[41] (Quote from mother about a midwife, p. 44).

With remote or online care, the characteristics of the intervention were the most important factors, including flexibility (n = 2); techniques used (n = 2); privacy and confidentiality (n = 2); ability to fit in with women's schedule (n = 2); and relevance to women (n = 2):

> "I loved that I could access the program anytime. It fit into my schedule in a way that traditional therapy could not have, as my baby is demanding and my husband works out of town"[33] (Quote from mother, p.213).

Across low-income countries stigma (n = 4) and lack of training (n = 4) were the most commonly cited barriers to implementation:

> "She got upset when I told her that the assessment indicated that she has depression.
>
> She said that she is not mad and stopped me from coming in when I went

for my next visit"[7] (Pakistan; Quote from a peer volunteer, p.6).

Similarly, where health services were carried out in higher income countries, but with women from a refugee or different cultural background, stigma (n = 6) and lack of healthcare professional training (n = 6), along with healthcare professional's heavy workloads (n = 6) and lack of collaborative working (n = 6) were the most commonly cited barriers:

> "It was difficult for me to accept that [I should see a psychiatrist] because, in our country, those who go to a psychiatrist are crazy. And I thought, 'I'm not crazy. I don't need it.'"[55] (Carried out with mothers who had moved to the USA, p. 938).

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