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

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SUMMARY

The improvement of perinatal mental health forms part of the World Health Organization's Millennium Development goals. However, research suggests implementation of perinatal mental healthcare is variable. To ensure successful implementation, barriers and facilitators to implementing perinatal mental health services need to be identified. The objectives of this review were to determine the barriers and facilitators to implementing perinatal mental health assessment, care, referral and treatment into health and social care services. A systematic review was carried out by conducting literature searches in CINAHL (1982- present); Embase (1974 – present); Medline (1946- present); and PsycINFO (1806 – present). The date of the last search was 11th December 2019 and forward and backward were completed by the 31st March 2020. Studies were included if they made statements about factors that either facilitated or impeded implementation of perinatal mental health assessment, care, or treatment. Partial (10%) dual screening and data extraction was carried out. Data were analysed using thematic synthesis. A total of 46 studies were included in the review. Implementation occurred in a wide range of settings. Implementation was affected by individual (e.g. inability to attend), healthcare professional (e.g. training), interpersonal (e.g. trusting relationships), organisational (e.g. clear referral pathways), political (e.g. funding) and societal factors (stigma and culture). There are a complex range of barriers and facilitators that can support the implementation of perinatal mental health policy and practice. Perinatal mental health services should be flexible, woman-centred and delivered by well-trained healthcare professionals working within a structure that facilitates continuity of carer. Strategies that can be used to improve implementation include, but are not limited to, co-production of services, implementation team meetings, funding and coalition

building. Future research should focus on implementation barriers and facilitators dependent on illness severity, healthcare setting and inpatient care.

Keywords: Perinatal mental health; Implementation; Mental health services; barriers; facilitators

SEARCH STRATEGY AND SELECTION CRITERIA

Literature searches and study selection were conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines[36] (Appendix p2). Pre-planned searches were carried out using CINAHL (1982- present); Embase (1974 – present); Medline (1946- present); and PsycINFO (1806 – present) by NR. Boolean operators were used to combine subject headings and relevant search terms related to perinatal mental health (e.g. Depression, Postpartum), healthcare (e.g. prenatal care, postnatal care) and implementation (e.g. Implementation Science). No limits were put on language or date. The date of the last search was 11th December 2019. Forward and backward searches of included studies were carried out and completed by the 31st March 2020. For full search syntax and databases searched see Appendix p4.

Eligible studies had the following characteristics: Population: NHS and other international health or social care services for women in the perinatal period; Intervention: Implementing assessment, care, referral pathways or treatment interventions, programmes or protocols for perinatal mental health into health or social care services; Outcome: Implementation outcomes (i.e. barriers, facilitators). Studies were included if they were published in academic journals and made statements about factors that either facilitated or impeded implementation of perinatal mental health assessment, care, referral or treatment. These statements could be from qualitative interviews with healthcare professionals or women; or from studies describing the implementation of perinatal mental healthcare.

"Assessment" refers to the identification of women who have or may be at risk for perinatal mental health problems. "Care" refers to supportive care (e.g. peer volunteers or watchful waiting). "Referral" relates to referral pathways such as those provided by primary care

workers, health visitors or specialist midwives or international equivalents. “Treatment” refers to any active intervention, programme or protocol to reduce women’s perinatal mental health symptoms. “The perinatal period” was defined as from conception to one year postpartum.

Studies were excluded if they were animal research, not conducted on the target population (e.g. men/partners or children), focused on substance misuse (with different challenges for assessment and treatment), did not focus on the mental health of perinatal women, did not examine assessment, care or treatment, the interventions were targeted at parent-infant or family relationships, the papers were not primary research, the outcome was not focused on implementation, and non-English publications.

INTRODUCTION

Perinatal mental health problems affect women during pregnancy and up to one year after birth, commonly consisting of anxiety disorders, depression, post-traumatic stress disorder (PTSD), and stress-related conditions such as adjustment disorder. Many disorders are co-morbid[1,2] and severe postnatal mental illness is one of the leading causes of maternal death[2]. Perinatal mental health problems affect up to one in five women at an estimated UK cost of £8.1 billion for every annual cohort of women, with 72% of this cost attributable to the long-term impact on the child[3]. For example, anxiety and depression in pregnancy are associated with offspring being twice as likely to have a mental illness[4]. Perinatal mental health problems can also negatively impact on a child's cognitive development[5], language development[6], psychological[7], and behavioural outcomes[8]. Additionally, perinatal mental health problems can impact on a woman's relationships with her partner e.g. a decline in relationship satisfaction [9], increased strain on the couple relationship[10] and relationship breakdown[11].

Globally, maternal mental health problems are considered a major public health challenge[12]. Improvement of maternal mental health forms part of the Millennium Development Goal 5 – to improve maternal health[13]. The World Health Organization states that efforts to achieve this goal should include measures to prevent and manage mental health problems during pregnancy and after childbirth. Additionally, a mental health component should be incorporated as an integral part of maternal health policies, plans and activities in all countries[14]. Despite these recommendations there are large treatment gaps reported in both lower-middle[15,16] and higher income countries[17-19]. In the UK specifically, research which has highlighted gaps in perinatal mental healthcare[20-23] has led to the National Health Service (NHS England) pledging £365million to be spent on perinatal mental health services from 2016-2021[24] as part of the Five

Year Forward View (and similar commitment from each of the devolved governments[25,26]). Under these plans five specialist care perinatal mental health pathways[27] and NICE and SIGN Antenatal and Postnatal Mental Health Guidelines[28,29] would be fully implemented.

Guidelines on implementing these services have been developed by both NHS England in 2016[30], and the National Collaborating Centre for Mental Health in 2018[31] which state the need for multi-agency working across all levels of care and services, expansion of workforce capacity, working with providers and those with a lived experience and evidence based service plans. Despite the guidance, in April 2018 it was reported that 24% of UK women still have no access to specialist perinatal mental health services, and large areas of the UK remain without access to mother-baby units[32].

The lack of consistent implementation globally and the development of future implementation plans suggests it is both timely and important to understand what factors may affect implementation of perinatal mental healthcare. These factors are likely to occur at four levels, described by Ferlie and Shortell (2001): 1) individual; 2) care team; 3) organisational structure; and 4) the wider environment[33,34]. Further, a service may be implemented well, but factors along the care pathway may hinder access. For example, Goldberg and Huxley (1992)[35] provide a framework for understanding how a person reaches mental health services and becomes defined as mentally ill. As a person moves through the care pathway, (defined by Goldberg and Huxley (1992) as community, primary care, mental health services and mental health services admissions) there are factors that act as filters, preventing people from accessing mental healthcare. The first filter is “illness behaviour”, where a person needs to pay attention to their symptoms and then make the decision to seek help. If this is not done, this is the first “filter” out of the care pathway. The second is the healthcare professional’s ability to recognise

mental illness, third is referral onto mental health services and the last filter is admission to hospital beds. These frameworks clearly show an interplay of factors likely to affect implementation.

It is therefore important to identify the facilitators and barriers to implementing assessment, care and treatment for perinatal mental health problems into health and social care services, at individual, healthcare professional, organisational and wider environmental levels. To do this, a systematic review of the literature was carried out to identify barriers and facilitators to perinatal mental healthcare implementation and map them onto a framework to create actionable recommendations.

METHOD

Protocol

The protocol has been registered on PROSPERO (CRD42019142854).

Study selection

Search results were imported into Endnote, duplicates and ineligible publications were removed by NR. Remaining studies were imported into EPPI-Reviewer 4, where results were screened by title and abstract by NU. A proportion (10%) of the results were double screened by RW. Decisions to include or exclude were concordant between reviewers in 88.11% of cases (1037/1177). Full text screening was carried out by RW. A proportion (10%) were double screened by NU and decisions to include or exclude were concordant between reviewers in 90.90% of cases (100/110). All disagreements were discussed and resolved by RW and NU. The decision to double screen 10% was based on: The high level of agreement on screening suggesting that the inclusion/exclusion criteria were clear and that screening was accurate, the

size of the review involving 11,061 papers title/abstract and 931 full text papers, and the similar approach to double coding in other reviews[37-39].

Data collection process and data items

Data extraction was carried out by RW using EPPI-Reviewer 4 which allows for line by line coding. A new "codeset" labelled "Data Extraction" was created and contained every item to be extracted from the data (e.g. year of publication, country of study). Each paper was read in full, and relevant parts of the text highlighted (for example the country of the study) and applied to the relevant code. Partial duplication (10% e.g. 5 papers) was carried out by NU (3 papers) and HC (2 papers). Agreement was high (85%). The data that were extracted was guided by Cochrane Systematic Review for Intervention Data Collection form[40] (Appendix p13).

Critical appraisal of studies

Methodology sections of included texts were assessed for quality using Joanna Briggs Critical Appraisal Tools for Qualitative Research[41], Cross-sectional[42] and Text and Opinion[43]. Each point on the checklists can be coded into Yes/No/Unclear/Not applicable. Each tool was separated into domains that reflected the question of interest (Appendix p14). Where most questions within a domain were answered with "yes", this domain was rated as having high quality; where the majority were answered with "no" this domain was rated as having low quality. Medium quality was where there was a mixture of "yes" and "no" answers.

RW completed the assessment for the included papers and NU double coded 16 papers. NU initially screened 9 papers, which were discussed, and conflicts were resolved. Following this, the final 7 papers were screened by NU. Coders assigned the same score to papers 81.25% of the time (13/16). All disagreements were discussed and resolved by RW and NU and the final appraisal for these 16 papers is based on agreed answers.

Synthesis of results

Results were analysed by RW using a thematic synthesis[44]. Enhancing Transparency in Reporting the Synthesis of Qualitative research (ENTREQ) guidelines[45] were followed (Appendix p17). First, line by line data extraction of statements referring to facilitators or barriers to implementing perinatal mental health assessment, care and treatment was carried out. Next, codes were re-read and assigned a descriptive theme based on its meaning and content. Themes were developed and revised as each study was re-read. Once all codes had been assigned into themes, various implementation frameworks were assessed for their fit to the data (Consolidated Framework for Implementation (CFIR)[46] Reach Effectiveness Adoption Implementation Maintenance (RE-AIM)[47] and Ferlie and Shortell's Levels of Change framework[33]) in order to structure themes in a translatable way. Given the aims of the review and the emerging themes, the structure provided by Ferlie and Shortell's system levels framework was found to fit best to and was therefore used. Themes were then grouped to reflect different stages of the care pathway adapted from Goldberg and Huxley's Pathways to Care model[35] (e.g. deciding to disclose, assessment of perinatal mental health, access to care, treatment). Mapping of descriptive themes was developed deductively from the initial theoretical framework and then inductively revised as new themes emerged by RW. The mapping of descriptive themes was discussed by all review authors leading to the development of the analytical themes (recommendations). Where consistent barriers were identified (e.g. lack of training) a recommendation to overcome this barrier was made (e.g. provide healthcare professionals with training). Where consistent facilitators were identified a recommendation to utilise this facilitator was made. Following this, implementation strategies that matched the analytical themes were drawn from a dictionary of implementation strategy terms and definitions[48,49].

RESULTS

Database searching identified a total of 21,535 citations. After removing duplicates, and ineligible publications, 11,061 citations were left which were screened by title and abstract. The full texts of 931 papers were screened. This left 43 studies to be included in the review. Forward and backward searches identified a further 3 papers. Therefore, 46 studies were included in the qualitative synthesis (Figure 1).

Included studies were heterogenous with different samples, sample sizes, assessment, care or interventions being implemented, the country of origin and the methodology used to assess implementation barriers and facilitators. Studies were mainly (n = 39) carried out in higher income countries[50] with well-established highly ranked healthcare systems[51] most commonly the USA (n = 16). Implementation occurred in a wide range of settings including hospitals (n = 14); primary care (n = 12); community-based care (n = 12); online or remote (n = 3); maternity care (n = 3) and specialist perinatal mental healthcare (n = 2). No studies examined implementation in social care settings. Most of the studies (n = 22) looked at the implementation of comprehensive care services (including assessment, referral and treatment); 18 studies were about the implementation of interventions and six were about assessment only.

Ten papers described the implementation of perinatal mental healthcare: one was a cross-sectional qualitative survey of healthcare professionals, and the remaining papers (n = 35) interviewed key stakeholders (healthcare professionals (n = 19); women (n = 9); both (n = 7)) about their views and experiences on the implementation of care. Sample sizes ranged from 6-809 with a mean of 46.81; Median = 24; IQR = 16.25 – 33.35 (Appendix p19).

For the qualitative studies, all but one text had high quality in the design and methodology domain. All studies had high quality in the interpretation of results domain. Most

studies (n = 28) had high quality in the participants domain, the remaining had medium quality. For the researcher influence domain, only four studies had considered the impact of the researcher on the participants and had located the researcher culturally and theoretically, therefore only four studies were rated as high quality in this domain, the rest were rated as medium (n=8) or low quality (n=25). For text and opinion, all papers had high quality in all domains (author credentials; opinion development; literature support). The cross-sectional study had high quality in methodology and analysis, but medium for the participant domain (Appendix p14). All studies remained for inclusion in the review. However, themes extracted were those supported by higher quality papers; none were substantiated solely by lower quality papers.

Definitions of descriptive themes can be found in Appendix p29. Barriers and facilitators to implementation were influenced by individual, healthcare professional, interpersonal, organisational, political and societal factors, as well as the type of care implemented and beliefs about medication. A system-level figure of the results can be found in Figure 2. Each level of these factors maps on to at least one part of the care pathway (Figure 3). More detailed information of how each of these system factors are mapped onto the care pathway can be found in Appendix p38. Each system level factor will be outlined below, and within each, barriers and facilitators will be presented following the chronology of the care pathway outlined in Figure 3 (see Table 1 for reflective quotes). Although design and delivery of care is a sub-theme for organisational factors, it will be described separately due to the quantity of studies (n = 38). An analysis of the barriers and facilitators across different health and social care settings can be found in Appendix p40.

Individual level barriers to assessment were the presence of a partner (n = 3); a lack of awareness or knowledge about perinatal mental health problems (n = 3) and additional personal

difficulties (n = 3). During assessment, a barrier preventing women from disclosing was family presence, or family beliefs about mental illness (n = 4). Once a woman was offered treatment, a barrier to accessing this was a reluctance or inability to attend (n = 14) due to lack of time, childcare and transport. Other factors that impacted access to treatment included additional personal difficulties (n = 4) and lack of family support (n = 2). After a woman had accessed treatment, there were many individual level factors that could act as barriers to a positive perception of the treatment offered. These included health beliefs (n = 2); psychological readiness (n = 2); symptoms of psychological difficulties (n = 2); additional personal difficulties (n = 4) and lack of family support (n = 5).

At the healthcare professional level, having someone to be women's advocate during their first contact facilitated further contacts (n = 2). On the other hand, disinterested or rude staff (n = 4) were barriers to care. During assessment, the most widely cited barriers to implementation was lack of, or poor training (n = 8); and heavy workloads or lack of time (n = 13). Facilitators for assessment were having a dedicated person to carry out assessment (n = 3) and good supervision/support (n = 3). Referral on to other services was influenced by many factors, but the most frequently cited barriers were a lack of collaborative working (n = 3) and poor communication between healthcare professionals (n = 3). The most frequently reported barriers to the provision of optimal treatment were lack of confidence (n = 7); lack of, or poor training (n = 5), lack of collaborative working (n = 10) and heavy workloads/lack of time (n = 9). The most cited facilitator to the provision of optimal care was the characteristics of the healthcare professionals (n = 13), those who were open, non-judgmental, willing to listen and motivated were valued by women.

At the interpersonal level, during assessment, the most common barriers were language barriers (n = 8) and a lack of open and honest communication (n = 5) between women and healthcare professionals. Facilitators to assessment were the development of a trusting relationship (n = 6) and open and honest communication (n = 5). On the other hand, a lack of a trusting relationship acted as a barrier to disclosure (n = 2). The most cited barriers to provision of optimal care was a lack privacy and confidentiality (n = 5) and lack of continuity of carer (n = 3). The most common facilitator was the development of trusting relationships (n = 7).

Women's reluctance to take medication influenced their decision to consult (n = 3) and one study reported women stating that they did not need help during assessment because they did not want to be offered medication. Midwives and nurses sometimes avoided referring women to their General Practitioner as they believed that women would be prescribed medication. Furthermore, beliefs about medication were reported to impact on optimal care in three studies.

At the organisational level, during assessment, clear workflow procedures were the only cited facilitator for implementation (n = 2), whereas unclear workflow procedures were the only cited barrier (n = 5). Referral onto other service was negatively affected by unclear or complicated referral pathways (n = 9). Lack of timely and appropriate services to refer women on to were also a barrier to referrals being made (n = 8). In addition, the lack of appropriate services acted as a barrier to women accessing treatment (n = 9). Service integration was a facilitator to women receiving optimal care (n = 3). The most common barriers to women receiving optimal care were unclear workflow procedures (n = 5) and a lack of resources (n =3).

In terms of design and delivery of care, barriers to assessment included issues with technology (n = 3), wording of screening tools (n = 3) and healthcare professional's negative perception of assessment (n = 4). Facilitators included a flexible (n = 4) and patient-centred (n =

5) delivery. Where technology was working effectively, this was a facilitator (n = 6), as was healthcare professional's positive perception of assessment (n = 7). Facilitators to women accessing care included home setting (n = 5), and the provision of practical support such as transport or childcare (n = 7). Barriers to women receiving optimal care included inappropriate treatment for women's needs (n = 5), delivery in a healthcare setting (n = 5), and the timing of delivery e.g. delivered too fast, or not enough sessions (n = 4). The most cited facilitators to optimal treatment included flexible (n = 6) and face-to-face delivery (n = 3), provided by healthcare professionals who had a positive perception of the care being offered (n = 9). The way women experienced the intervention was influenced by whether she had choice over the intervention offered (n = 4); and her perception of the intervention (n = 5).

At the political level, two studies cited changes in policy that led to difficulties implementing perinatal mental healthcare. Furthermore, lack of funding was cited by 10 studies as a barrier and impacted referral, assessment, access to treatment and provision of optimal treatment.

At the societal level, stigma was a barrier to implementation across the care pathway in terms of deciding to consult (n = 4); assessment (n = 7); referral (n = 3); access to treatment (n = 3); receiving optimal treatment (n = 2) and women's experience of treatment (n = 2). Cultural factors (e.g. culture of the country or mothers and language) also acted as a barrier to implementation across the care pathway with regards to deciding to consult (n = 4); assessment (n = 5); referral (n = 1); receiving optimal treatment (n = 3) and women's experience of treatment (n = 2).

The descriptive themes were used to identify analytical themes (recommendations) and these were used to develop implementation strategies. Recommendations are related to the

design of the care, healthcare professional, organisational, political and societal factors. Recommendations are matched with implementation strategies drawn from Expert Recommendations for Implementing Change (ERIC)[48] and Powell et al. (2012)[49] (Table 2).

DISCUSSION

This systematic review identified a wide range of barriers and facilitators to perinatal mental healthcare implementation, that were influential at different levels (e.g. individual, healthcare professional, organisational) and across the care pathway (e.g. decision to consult, assessment, access to treatment). Barriers at the individual level included no family support surrounding mental health, lack of awareness or knowledge about perinatal mental health, beliefs about medication, reluctance or inability to attend mental health services and additional personal difficulties. These barriers are in line with the 'illness behaviour' filter on the pathway to care outlined by Goldberg and Huxley (1992)[35] and previous systematic reviews[37,79].

At the healthcare professional level, a facilitator to implementation was healthcare professionals having a positive perception of the care provided, for example, where healthcare professionals internalised the value and importance of assessment, they would be more likely to assess women. This is in line with several implementation theories, such as the internalisation aspect of the Normalization Process Theory[80-81], the Diffusion of Innovation Theory and the Technology Acceptance Model which both posit that users' perceptions of an innovation are important for their decision to use an innovation[82-84]. Other facilitators to implementation were healthcare professionals who were genuinely interested in women, took time to listen and were kind and caring. This genuine interest in women suggests that intrinsic motivation, which is where individuals perform a certain action or behaviour for personal satisfaction without any external reward (e.g. praise or money)[85], may play an important role in the implementation of perinatal mental healthcare. Healthcare providers are increasingly utilising payment for performance models[86,87], such as the payment by results system used within the NHS to improve

implementation. These models are based on performance due to extrinsic motivation, and while there is some evidence that this method works[86], the results from this review did not reflect this.

Barriers to implementation at the healthcare professional level were lack of knowledge and training, in line with findings from other systematic reviews[37,79,88,89]. It is therefore important all healthcare professionals who come into contact with women during the perinatal period are given training on perinatal mental health identification and treatment.

At the design and delivery of care level, having a dedicated person to guide women through the service, or to be in charge of assessment or referrals was a facilitator to implementation. This finding is in line with the PARIHS framework of implementation which posits that a key factor for successful implementation is facilitation. This is usually achieved by an individual or team who either work to achieve a specific task, or work in a more holistic way to ensure implementation occurs[90].

At the organisational level, lack of clear referral pathways and of appropriate services to refer women to, were the most frequently cited barriers. Linked to this is the finding that the largest political level barrier to implementation was lack of funding. Lack of governmental interest in a service is likely to be reflected in little or no policy support or funding. Further, other factors such as a restructure of healthcare services can be barriers to implementation[91,92]. These barriers have been found in other systematic reviews relating to perinatal mental health[37,89] and clearly show the need for adequate funding and policy to enable perinatal mental health service provision.

Stigma and cultural beliefs were societal barriers to implementation, and they had an effect across the entire care pathway. Furthermore, the most commonly cited barrier in studies carried out in low income countries (Appendix p40) or with women from a refugee or minority

ethnic background was stigma. A meta-ethnography of 12 studies supports this finding, with one of the identified themes relating to women from migrant backgrounds being too embarrassed or afraid to talk about their mental health as they were concerned they would be seen as 'crazy' or 'unfit mothers'[93].

Based on these findings, future practice should focus on the design and implementation of innovative perinatal mental healthcare services/interventions that aim to overcome these barriers. For example, the review found that facilitators to implementation were women having choice over their care, and care that is appropriate, woman-centred, and flexible. To fully understand what women need in terms of appropriate care, flexibility and choice, care should be designed with women at the centre and/or co-produced, with women with lived experience of perinatal mental ill-health. One potential way this could be done is by following the example of a UK based co-production service (Croydon Service User Network), where both the design and delivery of care is carried out by professionals and service users. This is a network where members participate in the running of the service, feedback their opinions and work alongside staff to help in the running of the groups[94]. In addition, services could utilise toolkits such as "The Co-Production Star" which "enables organisations… to map how much co-production is already taking place, improve existing co-production approaches, identify the potential for new approaches and scale out co-production across services and communities"[95]. Future research should consider the development of co-production of perinatal mental health services.

New clinical teams should be created with a wide range of disciplines, which allows women choice in the care they receive. Increasing the flexibility and accessibility of services should be done through offering home visits and where this is not possible, providing out-of-hours appointments that are located in an area with good transport links, and an accessible

building to allow for pushchairs, or provision of virtual consultations using web-based platforms such as NearMe or Livi. The identification and building of working relationships and networks with other services, who give free information and advice about money, the law, housing and consumer rights, can improve resource sharing, problem solving and ensure women are offered holistic care. Increasing accessibility of care to women who are unable to, or have difficulty speaking the country's official language, needs to be facilitated through coalition building with interpreting agencies. Technology can be a facilitator to implementation, and this should be co-produced with healthcare professionals and women, to ensure ease of usability and integration into the workflow.

Healthcare professionals should be provided with necessary training in order to provide a high-quality service. Ensuring healthcare professionals provide innovative care can be encouraged through creating accreditation or membership requirements and creating a learning collaborative. Healthcare professionals need to work in an organisation that supports their efforts to provide high quality perinatal mental healthcare. Involving executive boards and ensuring healthcare professional implementation team meetings will encourage managerial understanding and should therefore promote effective implementation.

Funding is required to ensure high quality care provision. Funding needs to be available, easily accessible, and ring-fenced at local level in order to prevent essential perinatal mental health funds being diverted to other local services[96]. Funding structures may need to be revised depending on the needs of the community in which the service is delivered (e.g. affordable health insurance where free healthcare is not available). Furthermore, the building of a coalition of health visitors, midwives, general practitioners, Improving Access to Psychological Therapies

practitioners, psychologists and psychiatrists is needed to encourage referral and reduce the risk of women falling through care pathway gaps.

Limitations: The decision was made to double screen 10% of abstracts and given the large number of citations to screen, some papers may potentially have been missed, although the high concordance of the double screening makes this seem unlikely. Similarly, only 10% of the included papers had dual critical appraisal which may have influenced the quality of this appraisal, although no papers were rejected on the basis of quality. Only studies published in academic journals and English language studies were included. Relevant reports from health services, charities or third sector organisations may have been missed. This review does not address severity of illness in implementation and papers mainly focused on the majority of women who do not reach the threshold for referral to specialist services, such as for severe mental illness and psychosis. In order for the system to be effective in producing better outcomes, it needs to address the entire spectrum of illness. Future research should therefore focus on implementation of perinatal mental healthcare services for all illness severities. Further, healthcare systems across the world have different service provision related to perinatal mental health. Although the barriers identified in this review are related to a variety of service structures, there may be implementation barriers that are more relevant in specific health systems, such as free healthcare vs paid healthcare. Lastly, no research was identified that focused on the fourth filter of the Goldberg & Huxley[35] model, admission to hospital beds. Given the large gaps in inpatient perinatal mental health service provision across the UK and globally[97-99], future research is needed that focusses on the implementation of mother-baby psychiatric units, or international equivalents.

Overall, the findings from this review point to a complex interplay of individual and system level factors across different stages of the care pathway that can influence effective implementation of perinatal mental healthcare. The identified barriers and facilitators point to the need for women-centred, flexible care, delivered by well trained, knowledgeable, and empathetic healthcare professionals working within an organisational and political structure that enables them to deliver continuity of carer. The identification of these barriers and facilitators can support the implementation of perinatal mental health policy and practice internationally. Future research should focus on identifying implementation barriers and facilitators dependent on illness severity and type of healthcare service provision, and implementation of inpatient perinatal mental healthcare.

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Table 1. Reflective quotes of barriers and facilitators to implementation across system level factors and the care pathway

Individual level factors	
Assessment	
Additional personal difficulties as a barrier to assessment	I remember being frustrated and ticking at the end, fine, fine, fine, or whatever it was, good, good, good, no I'm not depressed. I mean they are not going to give a job to my husband. You don't want a youngster coming in and telling you "Did you take into account this?", it's patronising (Mother, Shakespeare et al., 2003[52], p. 618)
Deciding to disclose	
Presence of family members as a barrier to disclosing mental health difficulties	I think they were actually stifled in being able to speak and talk and get it out because their partner was always sitting beside her (General practitioner, Noonan et al., 2018[53], p. 5).
Access to treatment	
Reluctance or inability to attend as a barrier to accessing treatment	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 (Mother, Young et al., 2019[54], p. 938)
Additional personal difficulties as a barrier to accessing treatment	I have this one client. . .(who) has so many issues going on, abusive relationship which she got out of and then custody battle with the children that are going to be a year in June and she is also pregnant. . .She had so much going on that she rejected the (mental health) referral (Community Health Worker, Boyd et al., 2011[55], p.4).
Women's experience of care	
Symptoms of psychological difficulties as a barrier to perceiving treatment positively	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. 'Cause I thought being so far away it was too much time and effort to get there (Mother, Hadfield et al., 2019[56], p. 3523)
Lack of family support as a barrier to perceiving treatment positively	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 (Mother, Masood et al., 2015[57], p. 4).
Healthcare professional factors	
Contact with healthcare professionals	
Disinterested or rude staff as a barrier to care	The only reason I perhaps would have held back was if perhaps I'd felt she wasn't taking it seriously, I probably would have just closed- you know, closed the conversation and thought 'oh well, that was- that was a missed opportunity then' (Mother, Williams et al., 2016[58], p. 44)
Assessment	
Lack of training as a barrier to assessment	I've never received any formal training in this area. I do not feel adequately trained to detect postpartum depression (Obstetric provider, Kim et al., 2009[59], p.170)
Lack of time as a barrier to assessment	How much extra time do you need to allocate when you get a high positive? You need to have the capacity within your system to manage it if you've got someone who's suicidal (HEALTHCARE PROFESSIONAL, Nithianandan et al., 2016[60], p. 6).
Referral	

Poor communication between healthcare professionals as a barrier to referral	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 (Social worker, Bina et al., 2018[61], p. e80).
Provision of optimal care	
Lack of confidence as a barrier to provision of optimal care	Look, I feel insecure at the moment, as I have not yet had the chance to try IPT (Interpersonal Therapy), and I have to practice, and along with that get ready to try this method with a client and feel comfortable with it (Social worker, Bina et al., 2018[61], p. e79).
Lack of collaborative working as a barrier to optimal care	If the psychiatrist had just called the OB and had a conversation instead of discontinuing the patient's meds…then she's in crisis and then we have to try and get her in with our psychiatrist[s] [specializing in perinatal mental health] who are like the only psychiatrists…that will prescribe to pregnant women…The patient's like falling apart by then (HEALTHCARE PROFESSIONAL, Byatt et al., 2013[62], p. 171).
Characteristics of the healthcare professional as a facilitator to optimal care	She doesn't make little snippy comments about if your house is a mess or something. She was always there if I have a question or something and she always gets back to me no matter what (Mother talking about home visitor, Doering et al., 2017[63], p. 523)
Interpersonal factors	
Assessment	
Language barriers as a barrier to assessment	We have a lot of different cultures of women and a lot of different languages and . . . you can think that she speaks and reads English . . . but I think . . . [it] might not be quite understood (Nurse, Segre et al., 2014[64], p. 449).
Deciding to disclose	
Lack of a trusting relationship as a barrier to disclosure	I didn't trust them I suppose so I didn't tell the health visitors how I was feeling (Mother, Shakespeare et al., 2003[52], p. 618).
Provision of optimal care	
Development of trusting relationships as a facilitator to the provision of optimal care	I: How important do you think the therapeutic relationship is in a therapy for postnatal depression? P: well really important because if you go to a session and you feel like you don't get on with that person, or they're judging you or you just don't have a rapport with them, then you're not gonna bother are you (Mother, Hadfield et al., 2019[56], p. 3525).
Beliefs about medication	
Deciding to consult	
Women's reluctance to go on medication as a barrier to consulting	I won't go on medication, and that's all they have. I hear that a lot, too… (Home visitor about women, Doering et al., 2017[63], p. 532)
Provision of optimal care	
Healthcare professionals' beliefs about medication as a barrier to optimal care	[Women report] "Oh I was seeing so and so but when they found out I was pregnant they discontinued my medication." That…happens frequently. Very frequently…their provider won't [prescribe] because of their pregnancy (Midwife discussing women's care; Byatt et al., 2013[62], p. 171).
Organisational factors	
Assessment	
Clear workflow procedures as a facilitator to assessment	Our practice has a 28-week packet that includes the EPDS [Edinburgh Postnatal Depression Scale], pre-registration forms, cord blood

	donation information, and the L&D [Labour and Delivery] form. We give patients the packet to complete while waiting for the glucose tolerance test (Obstetric provider discussing clear time to hand out EPDS, Kim et al., 2009[59], p. 170)
Referral	
Unclear or complicated referral pathways as a barrier to referral	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 (General practitioner, Noonan et al., 2018[53], p. 5).
Referral and accessing treatment	
Lack of timely and appropriate services as a barrier to referral and women accessing treatment	I could see that [the depression 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 (Home visitor, Doering et al., 2017[63], p. 532)
Provision of optimal care	
Lack of resources as a barrier to optimal care	We do not have drugs for people with mental problems (Midwife working in resource poor setting, Nakku et al., 2016[65], p. 7).
Design and delivery of care	
Assessment	
Wording of the tools as a barrier to assessment	I have some moms [who] ask questions about it, like, 'What does it mean were things are getting on top of me? What do you mean?' You know, so they, they don't always understand the questions (Home visitor, Doering et al., 2017[63], p. 532)
Technology as a facilitator to assessment	We would be quite good in fact in asking and it's probably because of that little reminder on the screen (General practitioner, Noonan et al., 2018[53], p. 5)
Healthcare professional's negative perception as a barrier to assessment	Oh here's another job to do, another little survey we get to fill out, another something we have to do on the computer (Nurse about screening, Segre et al., 2014[64], p.449)
Access to care	
Provision of practical support as a facilitator to accessing care	And we were offered a crèche facility; I used to take him there; otherwise it would have been really difficult for me (Mother, Masood et al., 2015[57], p. 4).
Provision of optimal care	
Flexibility of treatment as a facilitator to optimal care	"It [the online intervention] was just there … that you could dip into and dip out of (Mother, O'Mahen et al., 2015[66], p. 86)
Healthcare professional's positive opinion of treatment as a facilitator to provision of optimal care	I enjoyed session two because there were lots of twists and turns there. The mother would share her first problem and you stop her so we can talk about that problem. You ask her what she has to say about her problem. Sometimes she would leave without giving you a solution, but next time she returns with a solution. The fourth session also helped them a lot. They thought of how to move on with their lives (Community Health Worker, Munodawafa et al., 2017[67], p. 7).
Women's experience of care	
Women's positive perception of intervention	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. If I don't feel like eating, I look at my diet chart in the health file which motivates

	me to eat (Mother, Atif et al., 2020[68], p. 9).
Political factors	
Changes in policy as a barrier to implementing perinatal mental healthcare	Changes in the system have made things even more complex for clients dealing with anything in terms of mental health (Canada; Social Worker, Ganann et al., 2019[69], p. 197).
Lack of funding as a barrier to implementing perinatal mental healthcare	At times, the VHTs [Village Health Teams] 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 (Uganda; General Nurse, Nakku et al., 2016[65], p. 7). I think if this [treatment] is not offered free or rebatable in some way, I just can't see women taking it up (Australia; Psychiatrist, Ormsby et al., 2018[70], p. 172).
Societal factors	
Stigma as a barrier to implementing perinatal mental healthcare	Mental disorders, cancer and TB, if these three things have happened to the patient or in her family, they don't disclose easily. They think it is something which will bring shame to their family (Gynaecologist, Atif et al., 2019[68], p. 6). Oh well, I think there's plenty, I mean I think there's a huge stigma about feeling depressed particularly postnatal depression and people want to be, not to be thought of as a, you know, not being good mothers (Mother, Shakespeare et al., 2003[52], p. 618). 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 (Peer volunteer, Atif et al., 2016[71], p. 6)
Cultural factors as a barrier to implementing perinatal mental healthcare	…they attribute it 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 (Nurse-midwife, McCauley et al., 2019[72], p. 5).

Table 2. Recommendations and implementation strategies for perinatal mental healthcare

Descriptive theme supporting recommendation*	Recommendation (analytical theme)	Implementation strategies (ERIC implementation strategies)
	Design of the care	
Appropriateness of care Choice Clear delivery Continuity of carer Delivery in healthcare setting Delivery in home setting Family Fitting in with women's lifestyle Flexibility Language barriers Medication Open inclusion criteria Patient centred Practical support Privacy and confidentiality Relevance to women Service integration Symptoms of psychological difficulties Technology Techniques women found useful Timing Trusting relationship Women's additional personal difficulties Women's perception of the care Women's reluctance or inability to attend Wording of assessment tools	Women to have choice in the care they receive so that it is relevant, acceptable and fits in with their lifestyle. Women to be offered care that is appropriate to their individual needs. Women to be given the choice about their family being involved in care. Care should be woman centred, one–to-one with continuity of carer. Care should be delivered clearly and honestly, and each aspect of care should be clearly explained. Care needs to be easily accessible (e.g. open inclusion criteria, central location, ways women can access care to be well advertised in healthcare settings or the community). Care to be flexible in terms of times of appointments and where they are offered (e.g. offering support during an infant health check, at home). Additional practical support to be offered including childcare, travel expenses, links with citizens advice or social work. A private space for women and healthcare professionals to discuss women's feelings and care.	Conduct local consensus discussions with providers and stakeholders (including women) so service design is relevant. Create new clinical teams by adding new disciplines which allows women choice in the care they receive. Develop strategies with women to problem solve around uptake and adherence. Involve women and their family members in design of care and implementation efforts to ensure service delivery is acceptable to women and their families. Obtain and use women and her family's feedback to ensure service design is relevant. Form partnerships with other agencies that can provide additional support (e.g. citizens advice). Where possible, locate main building in a central location with good transport links, use accessible sites with access for pushchairs, co-plan locations of appointments with women or consider home visits to increase access. Conduct local needs assessment to identify what is needed within the community. Develop resource sharing agreements to enhance available

	Provision of interpreters or translations of assessment materials/therapy tools. Technology enabled care for both women and healthcare professionals, for example virtual consultations via only platforms (e.g. NearMe, Livi, Skype).	space for service provision. Promote identification and building of working relationships and networks which will promote collaborative problem solving, pooled resources and shared goals. Form partnerships with other agencies that can provide additional support (e.g. translation services, interpreters). Conduct local needs assessment to identify what are the most common languages spoken within the community. Recruit and train multilingual staff. Use data experts, through hiring or consultations to inform the management and use of data. Use data warehousing techniques to integrate clinical records across facilities and organisations. Encourage co-production or user experience testing of technology to ensure ease of usability and integration into the workflow.
Characteristics of healthcare professionals providing the care		
Communication between healthcare professionals Confidence of healthcare providers Healthcare professionals' perception Knowledge of healthcare providers Open and honest communication Previous experiences Training Trusting relationship	Healthcare professionals providing the care should be open, non-judgmental, willing to listen, motivated, sensitive to verbal cues and interested in women. Provision of a dedicated person to act as women's advocate. Knowledgeable and confident healthcare providers who have had relevant training, including	Healthcare professionals to receive accreditation for participating in training about, and providing high quality care, team working, and clear communication. Multidisciplinary working, and development of engagement across disciplines. Conduct ongoing training to ensure those providing the care

	training in communication skills. Healthcare professionals should feel positively about the care they are providing.	are knowledgeable about perinatal mental health and the service provided. Create a learning collaborative to encourage learning of all providers, and therefore aid implementation. Identify and prepare champions to act as women's advocates. Make training dynamic to ensure engagement with training.
Organisational factors		
Clear workflow procedures Collaborative working Dedicated person Supervision	A healthcare system that supports healthcare professionals through supervision, collaborative working and a clear point of contact. Clear workflow procedures so that each individual involved in the care understands their role.	Conduct local consensus discussions with those providing the care, to ensure they feel the strategy is relevant for addressing women's needs. Involve key stakeholders from all levels in pathway mapping exercises to identify and solve blocks and barriers. Involve executive boards in the implementation effort to ensure they provide relevant resources needed. Organise implementation team meetings with healthcare professionals to ensure those in charge are given protected time to reflect on the implementation effort. Provide clinical supervision.
Political factors		
Clear referral pathways Funding Lack of appropriate or timely services Lack of resources Organisational structure Policy Women's reluctance or inability	**Global recommendations:** Free healthcare or clear and easily accessible insurance policies where free healthcare is unavailable. Adequate funding to ensure each perinatal mental healthcare	**Global Implementation Strategies:** Access funding through charities, insurance policy income and other means. Alter patient/consumer fees where free healthcare is not

to attend	service has the practical resources it needs to function (e.g. support staff, staff development, online resources, medication). Ensuring there are clear pathways to refer to timely appropriate services. Ensuring healthcare policy is supportive of perinatal mental health services. Recruitment of more staff to ensure adequate resources for service delivery. **UK recommendations:** Adequate funding to ensure there are appropriate services that women can be referred to within and across catchment areas (e.g. across NHS trusts).	available, such as in the USA, create fee structures where women pay less for preferred treatments. Build a coalition of health visitors, midwives, primary care practitioners, psychologists and psychiatrists or international equivalents to encourage referral and reduce risk of women falling through care pathway gaps. Promote identification and relationship building with other services such as social care, citizens advice, drug and alcohol services and charities to form partnerships whereby resources (including physical space for treatment) are shared ensuring women are provided with holistic support. Involve executive boards to ensure communication between desired innovation and funders. Use other payment schemes to ensure service providers are rewarded for their work. Create or review a workforce development strategy to understand workforce needs and put actions in place to meet these needs. **UK Implementation strategies** Access new funding such as through application to the Perinatal Mental Health Community Services Development Fund[73] to facilitate service delivery. Utilise commissioning guidance produced by National Collaborating Centre for Mental Health[31] on service development. This includes multi agency

		working across health services and the care pathway; developing an understanding of local need; building a case for the new service model; creating staff recruitment and training plans and monitoring the impact of the new service.
Wider societal factors		
Culture Family Health beliefs Medication Stigma	Research suggests public mental health campaigns can increase knowledge about mental illness and improve attitudes about people with mental illness[74-78]. Therefore, increasing women's, families' and the public's mental health literacy through education within the community, during childbirth classes and at healthcare appointments should be carried out.	Conduct local consensus discussions with providers and stakeholders (including women) to understand what is needed in terms of mental health literacy. Involve women and their family members in design of care and implementation efforts to ensure mental health literacy delivery is relevant, appropriate and delivered in the correct settings.

Note. The descriptive themes were used to identify analytical themes (recommendations) and these were used to develop implementation strategies. *Definitions and representative quotes of descriptive themes can be found in Appendix 7.

Figure 1. Summary of searches

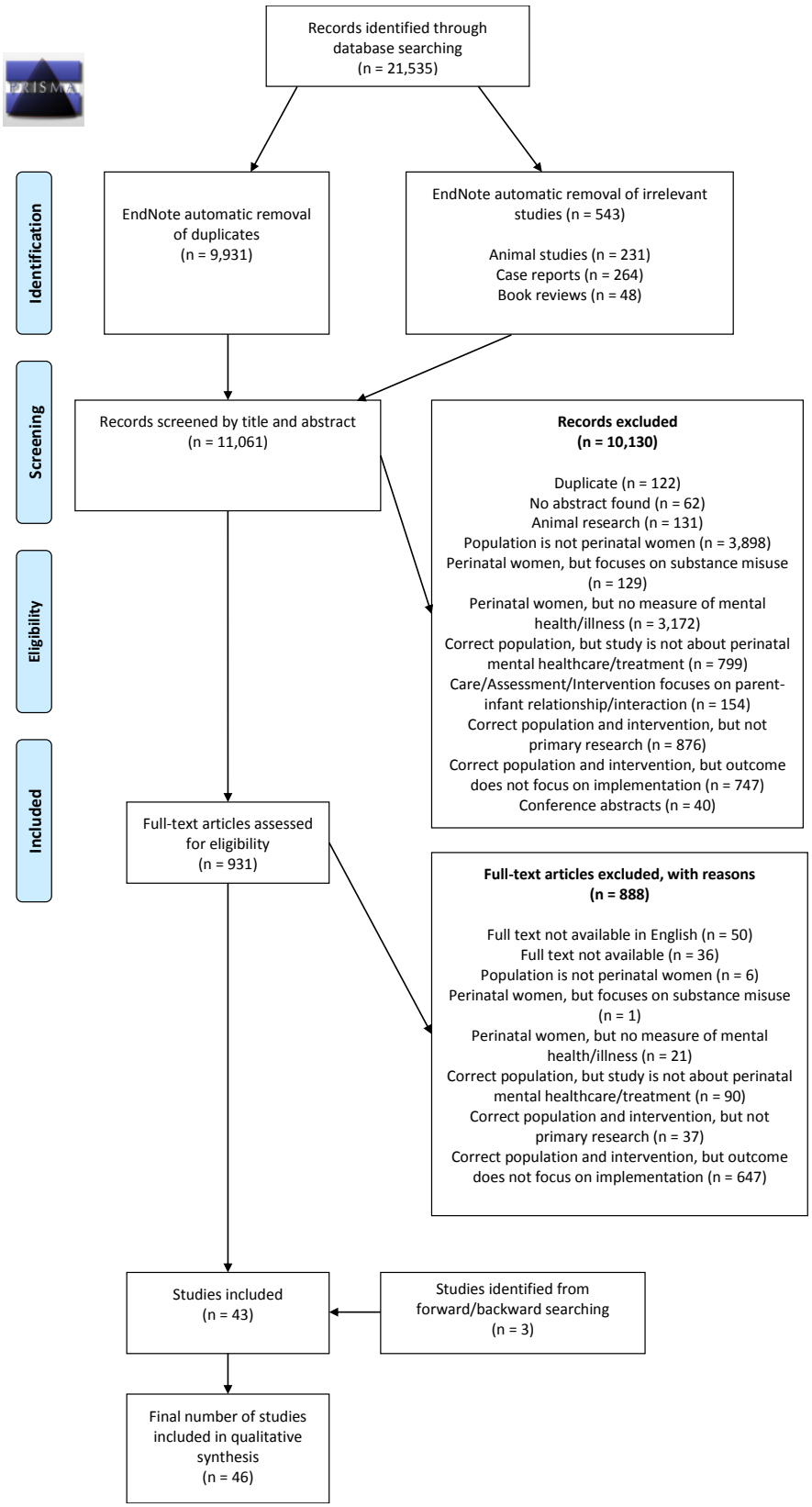

Figure 2. System-level overview of barriers and facilitators

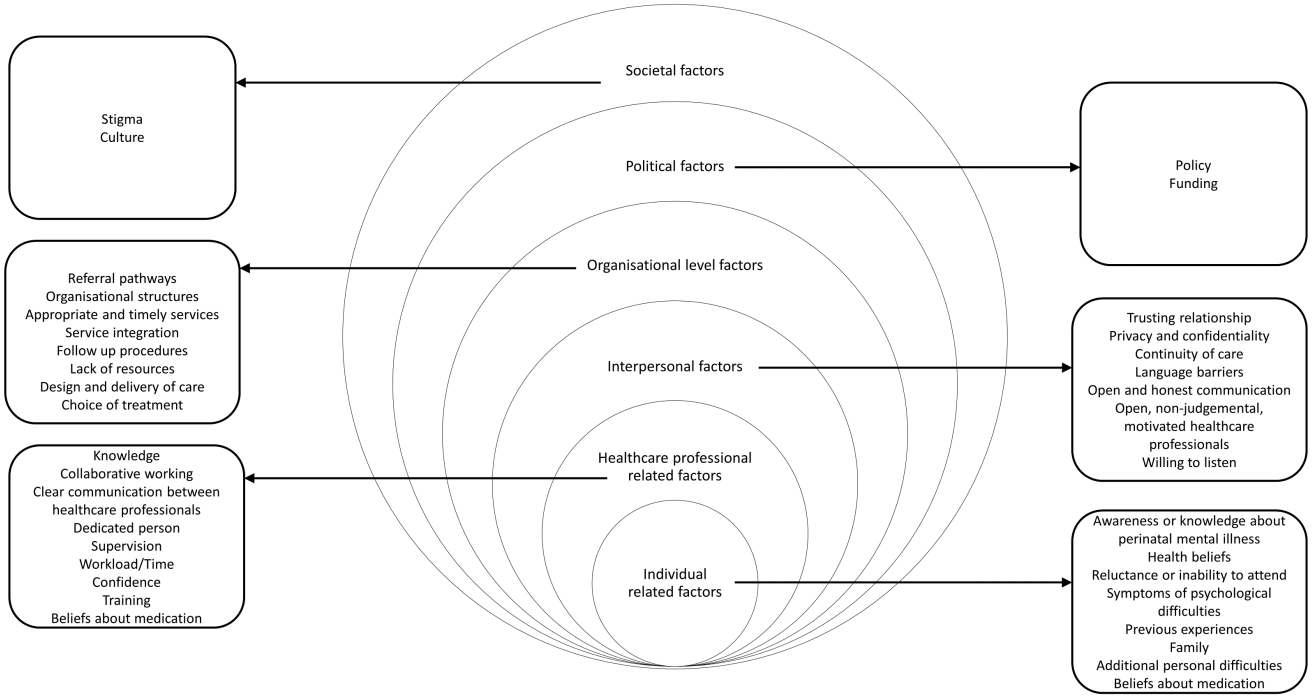

Figure 3. Barriers and facilitators across the care pathway