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# Assessing the risk of postnatal depression in mothers receiving the health visiting service: a best practice implementation project

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## ABSTRACT

**Objectives:** The project aimed to assess health visitors' concordance with evidence-based criteria regarding identification and support of postnatal depression in mothers receiving the health visiting service.

**Introduction:** Timely identification is critical to support mothers at risk of postnatal depression. Undetected and untreated postnatal depression can result in severe consequences for the mother's health, infant health and development, and well-being of the family as a whole. Due to their unique role of universal home visiting, health visitors are ideally placed to identify and support mothers, and evidence-based practice is key to positive outcomes.

**Methods:** A baseline audit was carried out using evidence-based audit and feedback informed by the JBI Model of Evidence-based Healthcare and guided by the seven-phase implementation framework, involving 12 health visitors and 60 health visiting records from one health board in Wales, UK. The first step involved project development and generating evidence. A baseline audit was completed and a training program on perinatal and infant mental health was implemented. Finally, a post-implementation audit was completed involving 6 health visitors and 30 health visiting records.

**Results:** Receiving training in perinatal and infant mental health resulted in an improvement in baseline audit results. Health visitor concordance with best practice guidelines increased, with three of the six criteria in the post-implementation audit reaching 100% concordance, and two other criteria increasing to 83% and 93%, respectively.

**Conclusion:** The implementation project achieved improvements in concordance with best practice recommendations for identifying and supporting mothers experiencing, or at risk of experiencing, postnatal depression.

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**Keywords:** clinical audit; evidence-based practice; health visitor; implementation; perinatal mental health; postnatal depression

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### What is known about the topic?

- In the UK, health visiting services reach more families with babies and children from pregnancy to age 5 than any other service.
- Health visitors are ideally placed and play a significant role in the recognition, assessment, and support of perinatal mental health and postnatal depression.

- The consequences of unrecognized and untreated postnatal depression not only affect the health and well-being of parents, but can also adversely affect the health and development of babies and young children.

### What does this paper add?

- There is variation in health visitors' concordance with evidence-based recommendations for identifying and supporting maternal postnatal depression in the antenatal and postnatal period.
- A one-day face-to-face training session involving the Institute of Health Visiting Perinatal and Infant Mental Health Awareness training program was conducted for health visitors. The program, which was delivered by a trained specialist health visitor in perinatal and infant mental health, increased concordance with evidence-based recommendations.
- The unique leadership role of trained specialist health visitors in perinatal mental health significantly contributes to improvements in evidence-based perinatal mental health care in health visiting services.

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## INTRODUCTION

**P**ostnatal depression (PND) is a mental health disorder experienced by women during the perinatal period, from pregnancy to the first year following the birth of the child.<sup>1</sup> It is characterized by transient mood changes, ranging from mild symptoms such as melancholy, tearfulness, and fatigue, to more intense symptoms such as anxiety, changes in eating and sleeping patterns, irritability, agitation, and suicidal thoughts.<sup>2</sup> Interpretation and expression of symptoms can vary depending on cultural context.<sup>3</sup>

Mental health problems such as stress, anxiety, and depression are common during the perinatal period, with at least one in every ten postnatal women experiencing mental health disorders.<sup>4</sup> The prevalence and incidence of PND in new mothers varies between 12% and 17%.<sup>2</sup> A prior history of anxiety or depression can increase the risk of women experiencing PND. Maternal PND is found to be the strongest risk factor for paternal depression, with evidence indicating between 8.4% to 10.4% of fathers experience PND between the first trimester of their partner's pregnancy and up to 1 year following the birth of the baby.<sup>5,6</sup>

The consequences of PND not only affect the health and well-being of the mother, father, or partner, but the impact can also have long-term adverse effects on the health and development of babies and young children, especially in relation to their later emotional and behavioral development. Babies experience the most rapid brain growth during the perinatal period, and healthy development is reliant on responsive, loving, and attuned relationships.<sup>7</sup> Undetected and untreated PND can cause disruptions in parents' responses to their baby's needs, which in turn, can negatively affect their cognitive, emotional, social, and physical development.<sup>7</sup> Screening and assessment of women during pregnancy and in the perinatal period should be an integral part of care provided during this time. This enables early recognition of symptoms and identification of those at risk of developing PND.<sup>8</sup>

In the UK, health visitors (HVs) are nurses and midwives registered with the Nursing and Midwifery Council (NMC) who have undertaken further education at master's level and have gained award to become Specialist Community Public Health Nurse (SCPHN) health visitors, listed on the third part of

the NMC register. They work in the community setting and play an important role in the delivery of child health programs across the UK. In Wales, HVs implement the Healthy Child Wales Programme (HCWP).<sup>9</sup> This program aims to support the health and well-being of children from conception to pre-school age (typically 4–5 years) through universal core contacts and scheduled home visits. The program covers three areas of intervention: screening, immunization, and surveillance (monitoring and supporting child development). Assessment, recognition, and support of perinatal mental health is a core component of the HCWP and a crucial aspect of health visiting.<sup>9</sup> Home visiting during the perinatal period places HVs in a unique position to use their clinical skills and professional judgment and build trusting relationships with mothers to identify PND and offer early support.

For the purpose of this project, best practice recommendations were obtained from JBI evidence summaries, which provide evidence-based clinical practice recommendations for the assessment of antenatal and postnatal mental health.<sup>10,11</sup> The evidence summaries are based on a structured search of the literature, including systematic reviews, qualitative and quantitative research, and clinical practice guidelines from the National Institute for Health and Care Excellence (NICE).<sup>8</sup> Evidence-based clinical recommendations stipulate that HVs should receive training on assessment of PND, have access to evidence-based resources to support practice, and that women should be screened from pregnancy to the first year after birth using the two-item Whooley depression questions and the two-item Generalized Anxiety Disorder scale<sup>8,10,11</sup> (Table 1).

Timely identification of PND by HVs is vital to support mothers. It is timely to explore this important aspect of health visiting to identify good practice and areas where improvements can be made through the implementation of evidence-based recommendations.

## OBJECTIVES

This project aimed to assess HVs' concordance with evidence-based criteria (Table 1) for identifying and supporting mothers experiencing, or at risk of experiencing, PND. Criteria ranged from training in PND, health visiting universal contacts, strategies for the assessment of PND including the use of tools, and onward referrals.

**Table 1: Evidence-based clinical practice recommendations for the assessment of antenatal and postnatal mental health**

1.	Health visitors should receive training on the assessment of postnatal depression to develop their skills to provide psychological interventions (person-centered or cognitive behavioral therapy approaches) and culturally safe care for postnatal depression.
2.	Health visitors should have access to evidence-based resources and ongoing education and training each year on mental health services and support, including screening for postnatal depression.
3.	Screening and assessment for postnatal depression should begin from the first contact with a pregnant woman and continue through pregnancy and the first year after birth.
4.	During pregnancy and postpartum (first year after birth), women should have access to health visitors.
5.	Screening should be performed using the two-item Whooley depression questions: i) During the past month, have you often been bothered by feeling down, depressed, or hopeless? ii) During the past month, have you often been bothered by having little interest or pleasure in doing things?
6.	Women should also be screened for anxiety using the two-item Generalized Anxiety Disorder (GAD-2) scale: i) Over the past 2 weeks, how often have you been bothered by feeling nervous, anxious, or on edge? ii) Over the last 2 weeks, how often have you been bothered by not being able to stop or control worrying?  If a woman responds positively to either of the depression questions or scores 3 or more on the GAD-2 scale, or is at risk of a mental health problem, or there is a clinical concern, full assessment is recommended using the Edinburgh Postnatal Depression Scale (EPDS) or the Patient Health Questionnaire-9 (PHQ-9) in the case of depression, or the GAD-7 in the case of anxiety disorders, or a referral to their general practitioner (GP) or mental health professional.

The specific objectives were to:

- determine current concordance with best practices
- identify barriers and facilitators to achieving concordance with best practices
- develop strategies to enhance concordance with best practices
- enhance HVs' knowledge regarding best practices relating to PND
- enhance HVs' practice of recognition and assessment of PND.

## METHODS

This evidence implementation project used the JBI Evidence Implementation Framework and the JBI Model of Evidence-based Healthcare.<sup>12</sup> The JBI implementation approach is grounded in an audit and feedback process, along with a structured approach to the identification and management of barriers and enablers to concordance with recommended practices. JBI's Practical Application of Clinical Evidence System (PACES) and Getting Research into Practice (GRiP) audit and feedback tool were also used.<sup>12</sup>

### Implementation planning

#### **Phase 1: Identification of practice area for change**

This implementation project was undertaken in a health visiting service based within a public health

community nurse setting in Wales, within one of the largest health boards in the UK. The health board provides services for approximately 475,000 people, with an average yearly birth rate of approximately 5,200 live births.<sup>13</sup> Health visiting services cover a wide geographical community with a diverse population living within contrasting areas of affluence and deprivation, with complex health inequalities.<sup>14</sup>

Health visiting teams are based within local authority and health board premises. They are overseen by senior managers, operational managers, and team leaders. HVs manage caseloads of approximately 250 children. Families with children under the age of 5 years are allocated a named HV. HVs visit families in their homes and hold child health clinics. Records of contact with families are stored on a digital information system.

This project aimed to explore health visiting concordance with evidence-based criteria (Table 1) through an audit and feedback strategy. This involved use of the JBI PACES and GRiP audit and feedback tool.<sup>12</sup> At the time of the project, the project leader was a senior lecturer and SCPHN health visiting program manager at Cardiff University. The project leader collaborated with senior managers, operational managers, and a specialist health visitor (SHV) in perinatal mental health to undertake this project.

**Phase 2: Engaging change agents**

The project leader established a project team in collaboration with the health board's senior management health visiting team. The team consisted of the project leader, two senior managers, and ten operational managers/team leaders.

**Phase 3: Assessment of context and readiness to change**

Due to the impact of the COVID-19 pandemic and the emerging research at the time which indicated gaps in mothers' perinatal mental health care,<sup>15</sup> the project team agreed on the need for change to support and facilitate improvements in health visiting practice and enable better perinatal mental health outcomes.

**Baseline assessment and implementation planning****Phase 4: Review of practice**

The baseline audit was conducted between September and November 2021. Ten team leaders and operational managers audited 12 HVs using audit criteria questions and analyzing five records from each health visiting caseload. The audit criteria were informed by the best available evidence<sup>8,10,11</sup> and consisted of nine items (Table 2).

**Phase 5: Implementation of changes to practice, including situational analysis using GRiP**

During February and March 2022, the project leader organized virtual meetings with the project team to

**Table 2: Audit criteria, sample, and method used to measure percentage concordance with best practice**

Audit criteria	Sample for baseline audit	Sample for follow-up audit	Method used to measure concordance
1. Pregnant women receive health visits during their pregnancy.	12 health visiting caseloads and analysis of 5 records from each caseload.	Criteria not audited as local policy stipulates only targeted visits during pregnancy (see Table 3, barrier 2).	Health visiting records audited to identify whether an antenatal visit was conducted. A score of YES or NO was recorded.
2. Women receive health visits during the postnatal period (first year after birth).	12 health visiting caseloads and analysis of 5 records from each caseload.	6 health visiting caseloads and analysis of 5 records from each caseload.	Health visiting records audited to identify whether a primary birth visit was conducted by day 14 post birth. A score of YES or NO was recorded.
3. Health visitors receive training on the assessment of postnatal depression.	12 health visitors	6 health visitors	Health visitors asked whether they had received training on the assessment of postnatal depression. A score of YES or NO was recorded.
4. Health visitors receive training to develop their skills in providing psychological interventions (person-centered or cognitive behavioral therapy approaches) for postnatal depression.	12 health visitors	6 health visitors	Health visitors asked whether they had received training on person-centered or cognitive therapy approaches for postnatal depression. A score of YES or NO was recorded.
5. Health visitors have access to evidence-based resources on the assessment and management of postnatal depression.	12 health visitors	6 health visitors	Health visitors asked whether they had access to evidence-based assessment tools and resources. A score of YES or NO was recorded.
6. Health visitors have access to continuing education programs on the assessment and management of postnatal depression.	12 health visitors	6 health visitors	Health visitors asked whether they had access to continuing education programs on the assessment and management of postnatal depression. A score of YES or NO was recorded.

Table 2: (Continued)

Audit criteria	Sample for baseline audit	Sample for follow-up audit	Method used to measure concordance
7. Women who receive health visits are screened for potential depression using the two-item Whooley depression questions.	12 health visitor caseloads and analysis of 5 records from each caseload.	6 health visitor caseloads and analysis of 5 records from each caseload.	Health visiting records audited to identify whether the two-item Whooley depression questions had been asked.  A score of YES or NO was recorded.
8. Women who receive health visits are screened for potential anxiety using the two-item Generalized Anxiety Disorder (GAD-2) scale.	12 health visitor caseloads and analysis of 5 records from each caseload.	Not audited as the perinatal mental health training did not train health visitors in use of the tool on this occasion.	Health visiting records audited to identify whether the two-item GAD-2 scale questions had been asked.  A score of YES or NO was recorded.
9. If a woman responds positively to either of the depression questions or scores 3 or more on the GAD-2 scale, or is at risk of a mental health problem, or there is a clinical concern, full assessment is recommended using the Edinburgh Postnatal Depression Scale (EPDS) or the Patient Health Questionnaire-9 (PHQ-9) in the case of depression, or the GAD-7 in the case of anxiety disorders, or a referral to their general practitioner (GP) or mental health professional	12 health visit caseloads and analysis of 5 records from each caseload.	Not audited due to negative responses to Criterion 7.	Health visiting records audited to determine whether positive responses to the Whooley questions or GAD-2 scale had resulted in full assessments or referrals to the general practitioner or mental health professional.  A score of YES or NO was recorded.

discuss and analyze the audit results and consider barriers to Getting Research into Practice (GRiP).<sup>12</sup> At this time, senior managers of the project team had been considering creating a new role for an SHV in perinatal mental health to support the health visiting workforce. Indeed, the Phase 1 audit results justified and confirmed management decisions. The project was paused until August 2022 when the post holder was in place. Further virtual meetings took place between the project leader and the SHV in perinatal mental health where audit results and strategies to GRiP were discussed. The project team agreed on implementation strategies to train the health visiting workforce in the Institute of Health Visiting (IHV) Perinatal and Infant Mental Health (PIMH) Awareness Training,<sup>16</sup> with the first cohort of HVs undertaking training in October 2022.

## Impact, evaluation, and sustainability

### Phase 6: Re-assessment of practice

A follow-up audit was carried out in the same health board using a similar approach to the first audit. However, only six of the nine audit criteria were used, with a reduced sample size of six newly qualified HVs and five records from each health visiting case load

( $n = 30$  records in total) (Table 2). All HVs had undertaken the IHV PIMH Awareness Training as part of the implementation phase.<sup>16</sup> The follow-up audit was completed in December 2022, 2 months after the first cohort of HVs had completed training, thus allowing an adequate timeframe for enough new births so that new health visiting records could be audited.

### Phase 7: Consideration of the sustainability of practice changes

Analysis of follow-up audit results enabled the project team to critically consider areas where further training, support, and guidance were needed to enable sustained change.

## Analysis

Quantitative analysis was used to report on data collected from the pre-audit and post-audit. Audit questionnaires were collated and embedded into Microsoft Excel. The Results section reports the comparison between both audits. Results data on changes in concordance were measured using descriptive statistics in the form of percentage changes from the baseline.



## RESULTS

### Implementation planning

The practice area was identified, and a project team established. Due to the emerging research at the time indicating gaps in mothers' perinatal mental health care,<sup>15</sup> the project team agreed on the need for change and to explore this important aspect of health visiting practice locally. The aim was to facilitate improvements and enable better outcomes in the perinatal mental health of mothers.

### Baseline assessment and implementation

The baseline audit was undertaken between September and November 2021 (Table 2). Twelve HVs participated, and five records from each health visiting caseload were audited using the audit criteria. Data are presented in Figure 1. Concordance with two of the criteria was 100% (Criteria 2 and 5). Criterion 7 indicated 90% concordance, Criteria 3 and 4 indicated 83.33%. There was 58.33% concordance with Criterion 6, 36.67% concordance with Criterion 1, and only 33.33% concordance with Criterion 9. The most notable results were 100% concordance with Criterion 2 (*Women receive health visits during the postnatal period*) and Criterion 5 (*Health visitors have access to evidence-based resources on assessment and management on PND*). This is compared with 0% concordance with Criterion 8, where none of the 60 health visiting records audited indicated that women were screened for potential anxiety.

The project team analyzed the baseline audit results and discussed barriers to evidence-based practice. The JBI GRiP approach was used to identify strategies to get research into practice. The objectives were to support and enhance health visiting practice relating to PND and evidence-based recommendations.

The project team agreed on a strategy of implementing IHV's evidence-based PIMH Awareness training<sup>16</sup> to enhance HVs' knowledge, skills, and evidence-based practice. This was implemented by the SHV in perinatal mental health, who had completed the appropriate training with IHV to cascade the PIMH Awareness training. The first training session took place in October 2022. The first cohort to complete the training was a small group of newly qualified HVs.

The implementation project needed to overcome barriers and develop strategies to overcome those barriers (Table 3).

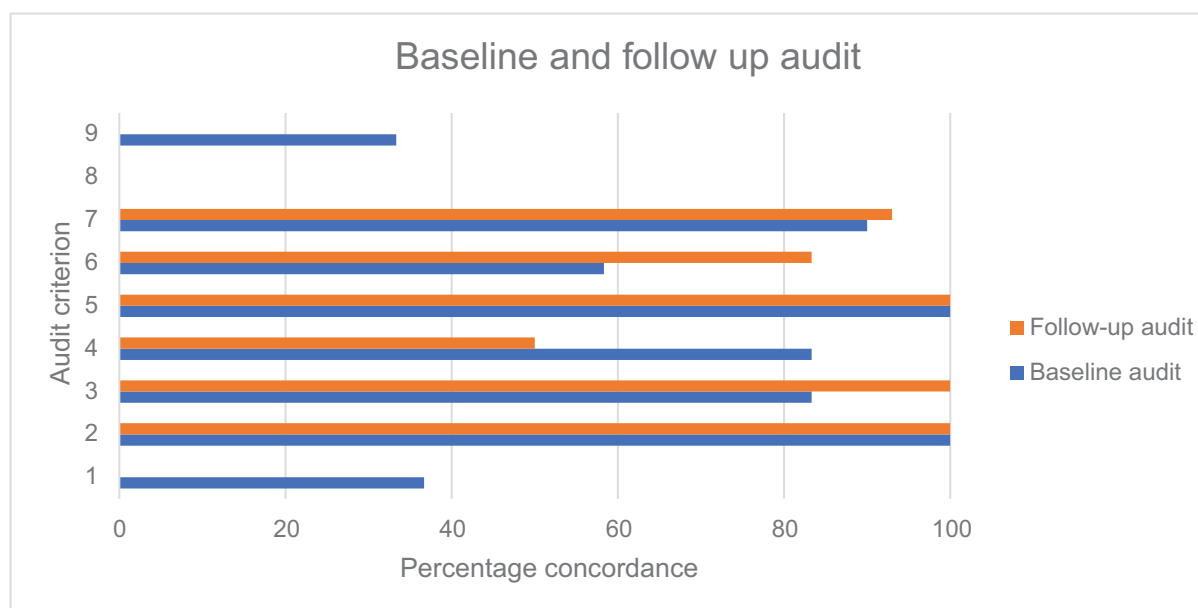
### Impact evaluation and sustainability

The follow-up audit was conducted in December 2022. Due to continued constraints in the health visiting workforce and the project team's desire to meet project timelines, a strategy was agreed to reduce the sample size for the follow-up audit by half, to six HVs and 30 health visiting records. The audit criteria were also reduced from nine to six. Criterion 1 (*Pregnant women receive home visits during their pregnancy*) was excluded due the HCWP<sup>9</sup> mandate on targeted antenatal contacts only. Criterion 8 was excluded because the perinatal mental health awareness training<sup>11</sup> did not include use of the GAD scale. Audit data relating to Criterion 9 were recorded as "not applicable" due to health visiting records indicating negative responses to Criterion 7 (two-item Whooley depression questions); therefore, Criterion 9 was excluded as it became irrelevant. Overall, the implementation project proved successful in improving concordance with best practices. Criterion 3 increased to 100%, Criterion 6 increased by 30% from 58.33% to 83.33%, Criterion 7 also increased by 3% to 93%. Two criteria remained static at 100%, while Criterion 4 decreased from 83% to 50%.

## DISCUSSION

The objectives of the project were to assess concordance of HVs with evidence-based criteria for identifying and supporting mothers experiencing, or at risk of experiencing, PND. It sought to identify barriers to achieving concordance and develop effective strategies to enhance concordance with evidence-based practice. This project was undertaken with a health visiting service based within a public health community nurse setting in Wales, UK.

The JBI Evidence Implementation Framework, JBI PACES, and JBI GRiP audit and feedback tools<sup>12</sup> were used to conduct the project, involving three phases of activity. Firstly, a project team was established and a baseline audit was completed. The baseline audit sample size was 12 HVs and 60 health visiting records. The second phase involved analysis of the baseline



#### Audit criteria

1. Pregnant women receive health visits during their pregnancy. (Baseline audit: 60 of 60 records, Follow-up audit: N/A).
2. Women receive health visits during the postnatal period (first year after birth). (Baseline audit: 60 of 60 records, Follow-up audit: 30 of 30 records).
3. Health visitors receive training on the assessment of postnatal depression. (Baseline audit: 12 of 12 health visitors, Follow-up audit: 6 of 6 health visitors).
4. Health visitors receive training to develop their skills in providing psychological interventions (person-centered or cognitive behavioral therapy-based approaches) for postnatal depression. (Baseline audit: 12 of 12 health visitors, Follow-up audit: 6 of 6 health visitors).
5. Health visitors have access to evidence-based resources on assessment and management of postnatal depression. (Baseline audit: 12 of 12 health visitors, Follow-up audit: 6 of 6 health visitors).
6. Health visitors have access to continuing education programs relevant to the assessment and management of postnatal depression. (Baseline audit: 12 of 12 health visitors, Follow-up audit: 6 of 6 health visitors).
7. Women who receive health visits are screened for potential depression (using the two-item Whooley depression questions). (Baseline audit: 60 of 60 records, Follow-up audit: 30 of 30 records).
8. Women who receive health visits are screened for potential anxiety (using the two-item Generalized Anxiety Disorder [GAD] scale). (Baseline audit: 60 of 60 records, Follow-up audit: 30 of 30 records).
9. Women who respond positively to either of the depression questions, or score 3 or more on the GAD-2 scale, or are perceived to be at risk of a mental health problem, or there is a clinical concern, undergo full assessment using the Edinburgh Postnatal Depression Scale or the Patient Health Questionnaire-9 in case of depression, or the GAD-7 in case of anxiety disorders, or are referred to their general practitioner. (Baseline audit: 60 of 60 records, Follow-up audit: 30 of 30 records).

**Figure 1: Concordance (%) with best practices in the baseline and follow-up audits.**

results and the implementation of evidence-based strategies to improve concordance. The project team identified three barriers and devised strategies to overcome these (Table 3). The third phase of activity involved undertaking a follow-up audit to assess the effect of the implemented strategies. The sample size for the follow-up audit was half that of the baseline

audit, (6 HVs and 30 health visiting records). This decision was made due to the project team's desire to meet project timelines while under the constraints of a staffing crisis. The audit criteria were also reduced from nine to six criteria. Criterion 1 was excluded due to the HCWP<sup>9</sup> mandate on targeted antenatal contacts only.

**Table 3: Getting Research into Practice (GRiP) analysis**

Barrier	Strategy	Resource
1. The COVID-19 pandemic prevented the timely implementation of the project, largely due to pressures on the workforce due to COVID-related illness, a retiring workforce, and restrictions on home visits.	<ul style="list-style-type: none"> <li>• Meetings with the project team, discussion, and agreement of new timelines for communication and activities while recognizing constraints on the workforce.</li> <li>• Develop agreed timeframe.</li> <li>• The COVID-19 recovery stage meant routine universal home visits could be unrestricted.</li> </ul>	<ul style="list-style-type: none"> <li>• Formation of an agreed action plan and timelines for communication and activities.</li> </ul>
2. The Healthy Child Wales Programme (HCWP) indicates that women should only receive targeted visits by health visitors during their pregnancy from 28 weeks if: <ul style="list-style-type: none"> <li>• Expecting first baby</li> <li>• Learning difficulties</li> <li>• Safeguarding concerns</li> <li>• Emotional and mental health issues</li> <li>• Unborn baby has a medical condition</li> <li>• Multiple pregnancy.</li> </ul> These recommendations differ from the evidence-based NICE guidelines.	<ul style="list-style-type: none"> <li>• Discussion on how health visitors should determine when women should receive targeted visits during pregnancy.</li> <li>• Ensure health visitors have access to the HCWP and summary sheet of universal scheduled contacts, which specifies when women should receive targeted visits during pregnancy, as a minimum.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide website address links to the HCWP.</li> <li>• Provide website address to evidence-based guidelines, NICE.</li> </ul>
3. Routine education and training programs on postnatal depression are not provided by the health board for health visitors.	<ul style="list-style-type: none"> <li>• Appoint a specialist health visitor in perinatal mental health as strategic lead to support and train the health visitor workforce and ensure practice is evidence-based.</li> <li>• Discussion to consider evidence-based education and training programs on perinatal mental health.</li> </ul>	<ul style="list-style-type: none"> <li>• Specialist health visitor in perinatal mental health.</li> <li>• Institute of Health Visiting Perinatal, Infant Mental Health evidence-based training program.</li> </ul>

The baseline audit indicated low concordance with Criterion 1, possibly as a result of the random selection of health visiting notes audited. Criterion 8 was excluded from the follow-up audit because the IHV PIMH Awareness training<sup>16</sup> did not include use of the GAD scale; therefore, it was unrealistic to examine changes in this criterion resulting from the implementation strategy. As follow-up audit data indicated negative responses to Criterion 7, this meant that no data were captured for Criterion 9, which became non-applicable. Therefore, it was not possible to assess the effect of implementation strategies for this criterion on this occasion.

Evidence indicates that HVs lack confidence in the area of perinatal mental health due to poor or insufficient training.<sup>17</sup> Furthermore, they experience anxiety resulting from the lack of available resources and professional support.<sup>18</sup> A recent study showed a demand by HVs for additional training in this area of practice.<sup>19</sup> The findings of a recent report indicate that SHVs in perinatal and infant mental health play a significant role in supporting the wider health visiting workforce. The report recommends that every health visiting service across the UK commission an SHV.<sup>20</sup>

The implementation project resulted in some significant implications. It reinforced the need for the health board to appoint an SHV in perinatal mental health. It highlighted gaps in available PND education and training for the health visiting workforce. Implementation of the IHV's PIMH Awareness Training<sup>16</sup> resulted in positive improvements in the follow-up audit. Routine PND screening using the two-item Whooley depression scale increased by 3% to 93%, Criterion 3 relating to training increased from 83.33% to 100%, and Criterion 6 increased from 58.33% to 83.33%. As the follow-up audit only involved HVs who had attended training, it was anticipated that Criterion 6 would achieve 100%; however, this was not the case, possibly due to HVs potentially identifying further training needs. Criterion 4 decreased from 83.33% to 50%. One explanation for this could be that the follow-up sample only audited newly qualified HVs who had not yet completed mandatory health board training in motivational interviewing (a person-centered approach). Furthermore, there may have been some misunderstanding with the technical terms used in this criterion, and the project team believe further



clarity could have possibly influenced the outcome pre and post audit.

The implications of this implementation project indicate the need to ensure a robust continuing education and training in perinatal and infant mental health is available, and that the program includes a focus on the two-item GAD scale. The health board plans to continue making improvements to evidence-based health visiting practice relating to perinatal mental health. This will include the introduction of perinatal mental health HV champions who will be suitably prepared to train and support the health visiting workforce.

## CONCLUSION

In the UK, health visiting services reach more families with babies and children from pregnancy to age 5 years than any other service. HVs are vital to supporting pregnant women, mothers, and the family as a whole during the perinatal period and beyond, through universal health visiting. Due to their unique role of home visiting, HVs are ideally placed to identify and support maternal mental health. Applying evidence-based practice is key to positive outcomes. The implementation project achieved some significant changes, and plans are in place to ensure continued improvements through the development of perinatal mental health HV champion roles and opportunities for the health visiting workforce to engage in continued professional development in perinatal mental health.

## ETHICAL CONSIDERATIONS

The project was registered as a quality improvement activity within the participating health board, and regulations were adhered to throughout. Steps were taken to ensure confidentiality, anonymity, and safe storage of data.

## CONSENT FOR PUBLICATION

All authors give consent for publication.

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## AUTHOR CONTRIBUTIONS

The first author AH was the project leader. The second author RR and third author KJ contributed significantly.

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