

Community-Based Initiatives to Improve Maternal and Newborn Health in High-Income Settings: A Mixed-Methods Systematic Review

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Introduction: Although community-based interventions, including Participatory Learning and Action (PLA) groups, have demonstrated significant success in improving maternal and newborn health outcomes and promoting equity in low to middle-income countries, the evidence in high-income settings remains limited. This systematic review, carried out in collaboration with Women and Children First (a UK-based charity focusing on improving the lives of women and children globally), explores community-based initiatives that are currently used in high-income countries (HICs) to enhance maternal and newborn health, as well as the effectiveness of these initiatives in improving maternal and newborn health outcomes. Additionally, the review aims to examine the relationship between community-based initiatives and PLA methodology.

Methods: This is a mixed-method systematic review with a narrative synthesis of results. MEDLINE, Embase, CINAHL, and MIDIRS databases were searched for community-based initiatives for any maternal and neonatal health outcome between 2000 and 2023. Both quantitative and qualitative studies were included and assessed for methodological quality using the Mixed-Methods Appraisal Tool. A convergent results-based synthesis approach was used.

Results: A total of 18 studies were included for review. Three main types of community-based interventions were identified: peer support, social support, and health education. Most interventions had beneficial effects on their maternal and neonatal health outcomes of interest. Qualitative analysis revealed 4 main aspects of peer support—connectedness, emotional validation, self-efficacy, and information sharing—which helps to explain the positive effects of peer support, particularly for breastfeeding and maternal mental health. The community-based initiatives linked to PLA methodology in some ways but were lacking in promoting community mobilization since the majority were aimed at the individual or group level, as opposed to engaging whole communities.

Discussion: Community-based initiatives can be effective in HICs for improving aspects of maternal and neonatal health, particularly maternal mental health and breastfeeding. There is very limited research on more participatory community-based initiatives, such as PLA, in HICs that promote community-wide engagement and mobilization. Further research is needed in this area.

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INTRODUCTION

Maternal and newborn mortality and morbidity are traditionally low in high-income countries (HICs) compared with low-income countries (LICs), with generally declining rates. However, this does not apply across all high-income settings. In the United Kingdom, maternal mortality has remained relatively static since 2009, and within the United States and Canada, rates have been increasing.^{1–3} In the United States, there were 22 maternal deaths per 100,000 live births in 2022—a figure far higher than in other HICs.² Stark inequalities are also persistently seen in maternal and neonatal health outcomes.

For Black women in the United States, the maternal mortality rate increases to an unacceptable 49.5 deaths per 100,000 live births.² In the United Kingdom, Black women are almost 4 times more likely to die from pregnancy-related conditions compared with White women.⁴ Data from the United States also demonstrate disparities in neonatal outcomes.⁵ Although maternal and newborn mortality rates are comparatively low in high-income settings, it is important to continue monitoring and addressing maternal and newborn health issues to ensure that progress is sustained, especially for vulnerable populations and marginalized groups facing disparities in accessing health care services and inequalities in health outcomes.

Participatory Learning and Action (PLA) is an approach to improve maternal and newborn health that has been widely evidenced in low-income, mostly rural, settings. PLA for maternal and newborn health involves the formation of mother and child groups, led by a trained facilitator, where the power is with communities to implement successful solutions to maternal and newborn health issues through a 4-phase community-action cycle: identification of the most important health issues, design of local solutions, implementation of

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Quick Points

- ◆ Community-based initiatives can be effective in high-income countries (HICs) for improving aspects of maternal and newborn health, particularly maternal mental health and breastfeeding.
- ◆ Types of community-based interventions vary from peer support to social support and health education and are delivered in multiple ways such as via community groups, telephone-based support, online forums, and individual-level support.
- ◆ There is very limited research on more participatory community-based initiatives, such as Participatory Learning and Action, in HICs that promote community-wide engagement and mobilization.
- ◆ Women value the connectedness, information, and self-efficacy resulting from involvement in community-based initiatives, and these efforts may fill a gap that has emerged in health care institution services due to the pressures they face.
- ◆ Efforts should be made in practice to implement such initiatives with policy makers ensuring adequate funding.

these solutions led by communities, and finally evaluation of the solutions.⁶ PLA does not simply encourage behavior change or increased knowledge but is highly participatory and aims to build the capacities of communities and empower them to take action, including addressing the underlying sociopolitical determinants of health.⁶ PLA methodology builds on the work of Paulo Freire and his theory of empowerment education—suggesting that through group dialogue, group members can develop critical consciousness, enabling them to recognize and challenge oppressive systems to work toward social change.⁷ His theory can be clearly applied to health care, as empowerment has long been considered a positive strategy for improving population health.^{8,9} More recently, the concept of community mobilization (described as strengthening communities' capacities to identify and address health problems) has been recognized as a process to facilitate this outcome of empowerment and is a key underlying concept of PLA.^{10,11}

To date, 7 randomized control trials (RCTs) have been carried out on PLA, as well as a systematic review and meta-analysis, showing a 49% reduction in maternal mortality and 33% reduction in neonatal mortality when groups were attended by at least a third of pregnant women.^{12–19} As well as having a positive impact on maternal and newborn health outcomes, PLA has been found to be cost-effective and equitable.^{19,20} In 2014, the World Health Organization (WHO) called for more participatory approaches to improve maternal and newborn health that harness the power of communities and encourage community mobilization—specifically recommending PLA with women's groups to improve maternal and newborn health outcomes, particularly in rural settings with low access to health care.^{21,22} Given the proven cost-effectiveness of PLA, and the growing body of strong evidence to support the use of PLA in LICs with the potential to significantly improve maternal and newborn health outcomes, it begs the question as to whether PLA could be used to improve maternal and newborn health in HICs. The WHO has echoed this, highlighting the need for further research and understanding around PLA in other contexts.²¹ With health care services continually needing to improve cost-effectiveness, proven effective solutions in low-income settings, such as PLA, may present learning and opportunities for HICs through reverse innovation.²³ However, at present,

PLA for maternal and newborn health has not been widely implemented in HICs.

Due to a current lack of research into the use of PLA methodology specifically in HICs, this systematic review will explore community-based initiatives for maternal and newborn health more broadly to examine what is currently implemented, and how these initiatives relate to PLA methodology, to help inform whether PLA could be used in HICs to improve maternal and newborn health outcomes.

This systematic review aims to synthesize the existing literature on community-based initiatives in HICs and their relevance to PLA methodology. It will provide valuable insights for the collaborating community partner, Women and Children First (WCF), into current community-based initiatives in HICs—adding to their understanding and aiding future work around PLA applicability in high-income settings.

The specific objectives are primarily to (1) explore what types of community-based initiatives have been used in HICs to improve maternal and newborn health, and (2) determine whether these community-based initiatives have been effective in improving maternal and newborn health outcomes. The secondary objective is to determine how the community-based initiatives relate to PLA methodology.

METHODS

This systematic review was carried out between March 2023 and September 2023, in collaboration with WCF as part of University College London's Community Research Initiative program.

The JBI Manual for Evidence Synthesis, specifically chapter 8, outlining their recommended approach to mixed-methods systematic reviews, was used to guide this review.²⁴ The reporting of this review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline (Supporting Information: Appendix S1).²⁵ The protocol for this review was registered with PROSPERO: registration number: CRD42023434159

Inclusion and Exclusion Criteria

In order to clarify our search strategy and research question, we used the PICOS framework (Population,

Table 1. Inclusion Criteria by PICOS Heading

PICOS Heading	Inclusion Criteria
Population	Women in the perinatal period and newborns, neonates, and infants in high-income countries.
Intervention	Community-based initiatives or interventions addressing MNH.
Comparison	If a control group is available, usual or standard care/no involvement with community initiative will be the control/comparator.
Outcome	Any MNH outcomes: Maternal mortality Maternal morbidity Perinatal mental health Neonatal mortality Neonatal morbidity
Study design	Randomized control trials, other observational studies (case-control and cohort), and qualitative studies.

Abbreviation: MNH, maternal newborn health.

Intervention, Comparison, Outcomes, and Study Design), which is an established framework to assist in formulating eligibility criteria for systematic reviews.²⁶ Our inclusion criteria by PICOS headings can be found in Table 1.

Our populations of interest were women in the perinatal period and newborns, neonates, and infants in HICs. We defined HICs using The Organization for Economic Cooperation and Development 2022 criteria.²⁷ We decided to narrow our search criteria to obtain records that could be screened within our timeframe and with available resources; therefore, the search was focused on 4 HICs: the United States, Australia, the United Kingdom, and Canada. Further justification for this is that these countries have relatively comparable health systems and maternal and newborn health outcomes.

Our interventions of interest for inclusion were any community-based initiatives or interventions to improve maternal and newborn health outcomes—although we acknowledged that the term *community-based* may have subjective theoretical and practical meanings. We based our definition of community-based on the model used within the concept analysis by Guta et al on the meaning of community-based in relation to maternal and newborn health, which suggests the 4 main constructs of community-based care are community as the setting, as the resource, as the agent, and as the target.²⁸ They also determined 3 main attributes of community-based care in relation to maternal and newborn health: the provision of home or community-level skilled care, linkages of health services, and community participation and mobilization.²⁸ This notion of community participation and mobilization also relates heavily to the principles of PLA.¹⁹ We, therefore, used this definition of community as the setting, resource, agent, and target to guide our inclusion of studies for the review. We aimed for all 4 constructs to be present for inclusion in

the review and, in doing so, hoped to find interventions that were more empowering and led by communities, rather than those that were extractive or hierarchical. We also considered the attributes of home- or community-level care, linkage of health services, and community participation and mobilization when deciding whether an intervention was truly community-based. For example, breastfeeding support delivered at home by a maternity support worker or midwife, although in the community, would not be suitable for inclusion as this intervention is derived from the health care institution and delivered by health care professionals. However, a peer support volunteer from the community delivering breastfeeding support at home would be suitable for inclusion.

Depending on the study design, if control or comparison groups were available, these were those who had received usual or standard care, with no involvement in the community-based intervention. We chose to include any maternal and newborn health outcome, to explore what outcomes are being addressed with community-based interventions. We therefore chose not to limit study design as certain intervention outcomes may be better assessed via qualitative methods, such as perinatal mental health, in which the focus may be on thoughts and feelings, or when assessing experiences of certain interventions to ascertain whether participants feel they are effective. We excluded articles published before 2000 and those that were not available in English. We also excluded conference abstracts and posters.

Information Sources and Search Terms

We searched titles and abstracts within the following databases: MEDLINE, Embase, MIDIRS, and CINAHL. The following search terms were used (searched as keywords and any applicable MeSH Terms when conducting the MEDLINE search): *Community-based initiative**, *Community-based intervention**, *Community initiative**, *Community intervention**, *Community-centred*, *Community led*, *Community participation*, *Community network**, *Community action*, *Community mobilisation*, *Community empowerment*, *Community group**, *Community support*, *Mothers' group**, *Mothers' forum**, *Participatory action*, *Participatory learning and action*, *Participatory learning*, *Peer support*, *Peer group**, *Peer mentor*, *Social support*, *Social support group**, *Social group*, *Women's group**, *Women's self-help group**, *Co-production*, *Maternal health*, *Newborn health*, *Infant health*, *Infant mortality*, *Maternal and newborn health*, *Maternal mortality*, *Maternal morbidity*, *Neonatal mortality*, *Neonatal morbidity*, *Perinatal health*, *Perinatal mortality*, *Perinatal morbidity*, *Pregnancy*, *Pregnancy outcomes*, *Perinatal mental health*, *Maternal mental health*, *Postpartum depression*, *Postnatal depression*, *New mothers*, *United Kingdom*, *Australia*, *United States*.

Searches were limited to articles published from 2000 to the present and that were available in the English language. For full search strategies, please see Supporting Information: Appendix S2.

Other Data Sources

A grey literature search was performed as the use of PLA methodology in HICs is an emergent field, and therefore there may have been articles that were yet to be published. Because

publishing findings may also be a barrier for communities, grey literature searching may have harnessed useful information from reports such as by community organizations. We screened references of included articles and also contacted authors of an ongoing study of PLA in the United Kingdom. We also searched on Google and screened the first 5 pages of results.

Study Selection

Following the literature searches, results were downloaded into EndNote for deduplication. The remaining references were then exported into Rayyan for further detection of duplicates, and then screening. Titles and abstracts were screened by the first and second author independently, and the third author also screened 35%. Any conflicts were saved into an Excel spreadsheet and resolved through discussion. Following this, full-text screening was completed by the first author, and 15% of the full texts were also screened independently by the third author.

Data Extraction

Data extraction was carried out by the first author, whereby full texts were accessed and information on the setting, population demographics, sample size, aim, description of community initiative, methods, length of follow-up (if applicable), main outcome measures, and findings were extracted onto a data collection sheet for each study. This information was then summarized into a table.

Quality Assessment of Studies

Because this review includes both quantitative and qualitative studies, in order to assess the methodological quality of included studies, the Mixed Methods Appraisal Tool (MMAT) was used, as it allows for the appraisal of the most common types of study methodologies.²⁹ The tool categorizes studies into 1 of 5 study designs, and then asks 5 questions appropriate to each study design to help critically appraise the quality of the study.²⁹ The appraisal was carried out by the first author, who, after identifying the category of each study, answered “yes,” “no,” or “can’t tell” to the relevant questions as per the user guide.²⁹ The user guide discourages from calculating an overall score but advises a more detailed presentation of each criterion. Records were not excluded based on low methodological quality, as this is discouraged.²⁹

Data Synthesis

The synthesis of evidence in mixed-methods systematic reviews is still a relatively new and emergent field, with a range of approaches.³⁰ Two main types of synthesis are covered in the literature: convergent and sequential.³⁰ Within convergent synthesis, 3 main subtypes exist—data-based, results-based, and parallel-results convergent synthesis.³¹ Data-based convergent synthesis is the most widely used, likely because it is less complex; however, results-based synthesis can provide more detailed analysis and is more appropriate when there is more than one research question or objective, such as in this review.³¹ Therefore, for this review, quantitative and qual-

itative findings were narratively synthesized separately in response to the review objectives. Meta-analysis was not conducted as part of quantitative synthesis due to heterogeneity in terms of study design, intervention design, outcome measures, and different effect measures across studies. Following narrative synthesis, the evidence was then integrated using configurative analysis involving a comparison of the quantitative and qualitative evidence.²⁴ Interventions investigated in quantitative studies were analyzed in conjunction with the experiences of participants explored in qualitative studies in an attempt to establish connections and integrate the evidence.

Stakeholder Engagement and Public Involvement

WCF is a UK-based charity working to improve maternal and newborn health in some of the most deprived countries in the world. With local partners, they set up community health groups that empower women to identify and overcome barriers to their health. This review was carried out in collaboration with WCF; therefore, they have been continually engaged with throughout. This collaboration arose from a workshop (organized by the Community Research Initiative at University College London) with community partners. The first author actively engaged with the partner from WCF, to decide on a research topic that would be useful to them, aims and objectives, search terms, and inclusion and exclusion criteria. The first author also invited the collaborating partner to participate in the screening process, where they completed approximately 35% of the title and abstract screening and 15% of the full-text screening.

The first author also engaged with members of the public at a public involvement session where they discussed plans for the systematic review project and then listened to their feedback, valuable perspectives, and insight. An interesting discussion involved including *coproduction* as a search term. Members at the session had experience in coproduction and considered that the principles of coproduction align with our definition of *community based*, where the community is the agent, as the community does hold power in coproduced interventions, although it may be shared. The first author fed these discussions back to the collaborating partner and, together, decided to include coproduction as a search term.

RESULTS

The literature search carried out in July 2023 yielded 2236 records. After deduplication, 1793 records were screened by title and abstract. After title and abstract screening, 126 records were included for full-text screening, of which 15 met our inclusion criteria. Grey literature searching identified 3 further studies, giving a total number of 18 studies that have been included in this review. The study selection process is displayed in Figure 1.

Scope of the Included Records

A list and detailed summary of the included records, including descriptions of the community-based initiatives within the studies, is provided in Supporting Information: Appendix S3. A summary of the included studies (grouped by intervention

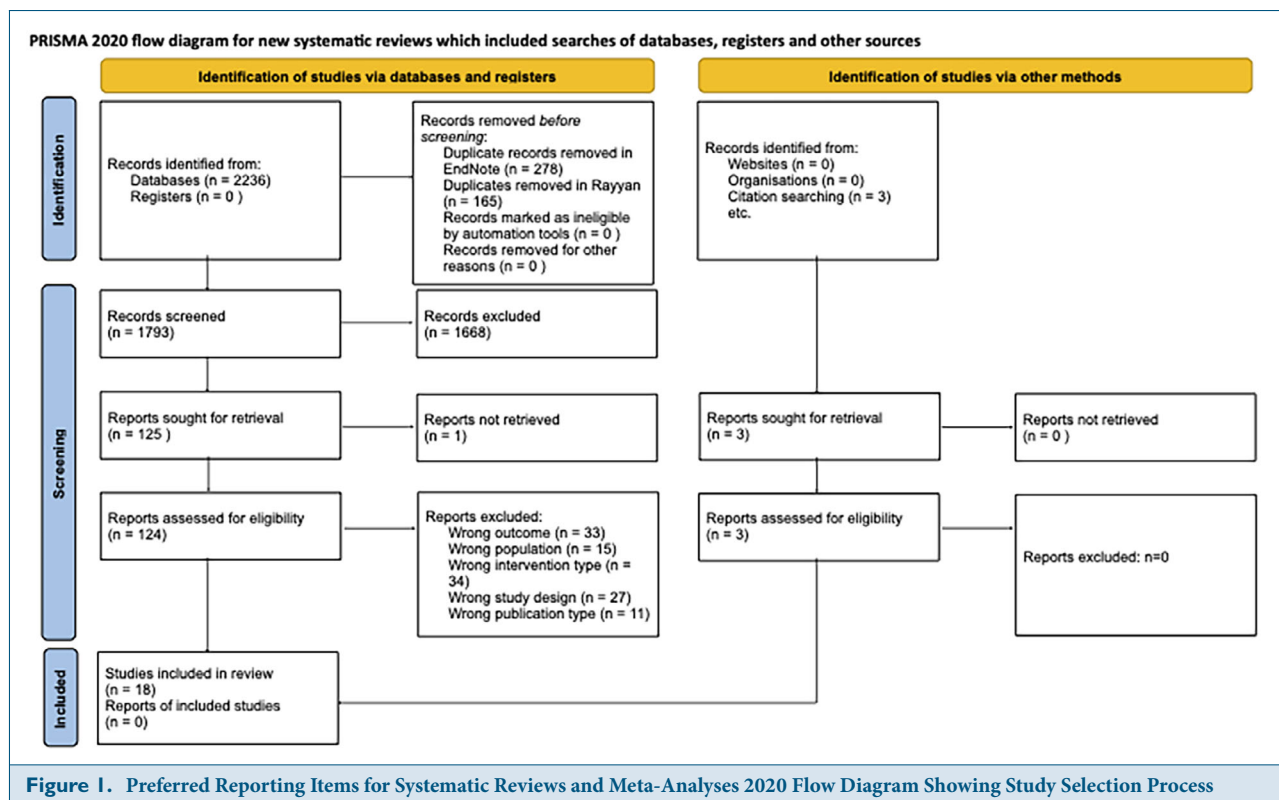


Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 Flow Diagram Showing Study Selection Process

Source: Page et al, 2021.²⁵

type) and their main findings can be found in Table 2.^{32–49} Four of the included studies were based in Canada, 7 were in the United States, 2 were in Australia, and 5 were in the United Kingdom. Study designs were varied, but most used quantitative methodology; there were 2 mixed-methods studies and 2 qualitative studies. The interventions focused on a range of outcome measures, with perinatal mood disorders, including postnatal depression, being the most frequently measured outcome ($n = 12$), followed by breastfeeding ($n = 7$), mother-infant bonding ($n = 3$), birth outcomes ($n = 2$), and infant development ($n = 2$). In terms of characteristics of the populations included in the studies, almost half of the community-based interventions ($n = 8$) targeted marginalized or underserved populations such as ethnic minority groups^{41,48,49} and women living in deprived neighborhoods or from low socioeconomic backgrounds.^{26,40,44,45,47}

Quality of Included Records

Overall, the included studies demonstrate good methodological quality. For qualitative studies, the main concerns were limited description of how themes were derived, and in one study, insufficient use and interpretation of quotations to substantiate the findings. For the mixed-methods studies, the main concerns involved limited explanation and justification of the analysis method and approach for integrating qualitative and quantitative data. Interpretation of the outputs of integration was also lacking. The main concerns with studies categorized as quantitative RCTs were limited descriptions of certain aspects of the randomization process, such as allocation concealment, and limited descriptions of whether researchers were masked. Addition-

ally, there were substantial loss-to-follow-up and low response rates, with not always a clear description of how this was handled.

A detailed critical appraisal of included studies using the MMAT is provided in Supporting Information: Appendix S4.

Types of Community-Based Initiatives Used in High-Income Settings to Improve Maternal and Newborn Health

Three types of community-based initiatives—peer support, social support, and health education—were identified (Table 2). Peer support was the most reported, appearing in 12 of the included studies. To aid with categorization of the studies, we used the definition of a *peer* as someone who could be considered an equal with similar sociodemographic characteristics and with similar lived experiences to those they are offering support to.⁵⁰ *Support* relates to assistance, encouragement, and empathy within the reciprocal relationship of peers.⁵⁰ Peer support varied in terms of delivery, including face-to-face, telephone-based, and online forums. Five studies evaluated peer support at the group level,^{32,33,39,42,43} whereas the rest evaluated individual peer support, and 2 of the interventions combined individual and group-based peer support.^{39,42}

Six studies included interventions described as providing social support, defined as the perception of being cared for, valued, and part of a social network, and may come from family members, friends, or other community ties.⁵¹ Peer support is differentiated from social support due to the element of shared experience in peer support. Again, delivery varied, and included group-based social support and individual social

Table 2. Summary of Included Studies, Grouped by Intervention Type

Author (Date)	Setting	Aim	Outcome of Interest	Study Design	Sample Size	Main Findings
Peer support interventions						
Amani et al ³² (2021)	Ontario, Canada	To determine if a 9-wk CBT intervention delivered by peers is effective in reducing symptoms of postpartum depression and anxiety and improves social support and the mother-infant relationship.	PMH and mother-infant bonding	RCT	73	Significant improvements in symptoms of depression ($F_{1,47} = 22.52, P < .01$) and anxiety ($F_{1,45} = 20.56, P < .05$) in peer CBT group; improvements stable at 6-month follow-up. Perceptions of impaired mother-infant bonding ($t_{15} = 3.72, P < .01$) decreased at 6-mo follow-up in the peer CBT group.
Dennis et al ³³ (2009)	Ontario, Canada	To evaluate the effectiveness of telephone-based peer support in the prevention of PND.	PMH	RCT	701	At 12 weeks, 14% of the intervention group women and 25% of the control group had an EPDS score > 12 ($\chi^2 = 12.5; P < .001$; 95% CI, 5.9-19.6; RR reduction 0.46; 95% CI 0.24-0.62).
Letourneau et al ³⁴ (2015)	New Brunswick, Canada	To evaluate the effect of telephone-based peer support on maternal depression and social support.	PMH	Quasiexperimental	64	Significant decreases in depression scores were seen for all 3 study time periods: intake to midpoint, $Z = -5.2, P .001$; midpoint to final, $Z = -2.77, P = .006$; and baseline to final, $Z = -4.94, P = .001$.
Bridges ³⁵ (2016)	Australia	To gain an understanding of the experiences of mothers using closed Facebook groups attached to the Australian Breastfeeding Association.	Breastfeeding	Qualitative	23	Main theme: support; 4 subthemes: community, complementary, immediate, and information.
Campbell et al ³⁶ (2014)	Texas, United States	To determine whether women with singleton births who had not previously breastfed that had a WIC peer counselor were more likely to initiate breastfeeding than women without a WIC peer counselor.	Breastfeeding	Retrospective cross-sectional	3070	Women were more likely to breastfeed if they had peer counselor contact during pregnancy (OR, 1.36), in the hospital (OR, 2.06), and after birth (OR, 1.85) than women without peer counselor contact.
Di Meglio et al ³⁷ (2010)	Rochester, New York, United States	Evaluate the effect of telephone peer support on breastfeeding duration among adolescents.	Breastfeeding	RCT	78	No significant difference in "any breastfeeding" duration (median, 75 vs 35 d; hazard ratio 0.71, 95% CI, 0.39-1.30; $P = .26$). Exclusive breastfeeding was significantly increased in the intervention group (median, 35 vs 10 d; hazard ratio, 0.26; 95% CI, 0.10-0.70; $P = .004$).

(Continued)

Table 2. (Continued)						
Author (Date)	Setting	Aim	Outcome of Interest	Study Design	Sample Size	Main Findings
Forster et al ³⁸ (2019)	Victoria, Australia	Determine whether proactive telephone-based peer support during the postnatal period increases the proportion of infants being breastfed at 6 mo of age.	Breastfeeding	RCT	1152	Infants of women in the intervention arm were more likely to be receiving breast milk at 6 mo of age (intervention 75%, usual care 69%; adj. RR 1.10; 95% CI, 1.02-1.18).
Wade et al ³⁹ (2009)	Northumberland, United Kingdom	Identify whether offering women additional support to help them maintain their breastfeeding had a positive effect on other areas of their lives.	Breastfeeding and PMH	Qualitative	16	Women reported positive effects on their mental health, self-esteem, and confidence.
Thomas et al ⁴⁰ (2023)	Brooklyn, New York, United States	Assess whether participation in Healthy Start Brooklyn's By My Side Birth Support Program (maternal health program providing community-based doula support during pregnancy, labor and birth, and the early postpartum period) was associated with improved birth outcomes.	Birth outcomes	Quasiexperimental using matched cohort	603	Significantly fewer participants in the By My Side program had a preterm birth than control participants (5.6% vs 11.9%, $P < .0001$), and significantly fewer had a low birth weight newborn (5.8% vs 9.7%, $P = .0031$). There was no statistically significant difference in the odds of a cesarean birth between participants and those in control group.
Yun et al ⁴¹ (2010)	Missouri, United States	Evaluate the effectiveness of peer support programs for women participating in the WIC in Missouri.	Breastfeeding	Program evaluation	23,390	After controlling for maternal sociodemographic characteristics, those who received peer counseling from the antenatal period were more likely to initiate breastfeeding (OR, 1.21; 95% CI, 1.03-1.43). Those who only received postpartum support were less likely to initiate breastfeeding. Among antenatal participants in peer-counselor agencies, a longer duration of WIC enrolment was associated with a higher rate of breastfeeding initiation.

(Continued)

Table 2. (Continued)

Author (Date)	Setting	Aim	Outcome of Interest	Study Design	Sample Size	Main Findings
Peer support and social support interventions						
Mugweni et al ⁴² (2019)	Medway, Kent, United Kingdom	To evaluate a PSS, which supports positive PMH and attachment between women with PMH problems and their child, to evidence its impact on maternal mental health and maternal-infant interaction. Developed in collaboration with multiple stakeholders, including parents.	PMH mother-infant bonding	Mixed-methods	123	Significant improvement in anxiety ($t_{55} = 6.96, P < .01$; 95% CI, 3.15-5.70) and depression ($t_{55} = 6.58, P < .01$; 95% CI, 3.03-5.68) on the HADS, and on the GAD-7 ($t_{12} = 4.54$; $P = .001$; 95% CI, 3.48-9.90) after the PSS. Anxiety postservice (mean = 9.08, SD = 4.96) was lower than baseline anxiety (mean = 15.77, SD = 4.68). Emotional and practical support contributed to improvements in mental health and mother-child interactions.
Prevatt et al ⁴³ (2018)	United States	To assess the effectiveness and satisfaction of the peer-support intervention for women experiencing PND.	PMH	Mixed-methods, community-based participatory research	73	Postparticipation depression scores were similar to those of the community sample at follow-up ($P = .447$). Pre and post analysis among attendees: decrease in depression symptoms with significant interactions for time $\times$ complications ($P \leq .001$) and time $\times$ birth method ($P \leq .017$). High program satisfaction.
Social support interventions						
Kenyon et al ⁴⁴ (2016)	West Midlands, United Kingdom	Explore the effectiveness of lay support to improve maternal and child outcomes in disadvantaged families.	PMH, mother-infant bonding, and breastfeeding	RCT	1324	In the powered subgroup of women with 2 or more social risk factors, mean EPDS (MD, -0.79 ; 95% CI, -1.56 to -0.02) was significantly better. For all women, no significant differences were seen in depression scores (MD, -0.59 ; 95% CI, -1.24 to 0.06). Mother-infant bonding was slightly better in the intervention group, but no significant difference in all other secondary outcomes.

(Continued)

Table 2. (Continued)					
Author (Date)	Setting	Aim	Outcome of Interest	Study Design	Sample Size
Wiggins et al ⁴⁵ (2005)	Camden and Islington, London, United Kingdom	Evaluate the effect of 2 forms of postnatal social support for disadvantaged inner-city mothers on maternal and child health outcomes.	PMH	RCT	731
Social support and health education interventions					
Benzies et al ⁴⁶ (2020)	Alberta, Canada	To design, implement, and evaluate a brief PMH and infant intervention, W2P, for first-time mothers to improve perinatal mental health during the transition from pregnancy to early parenthood and improve infant development.	PMH and infant development	Longitudinal study	454
					EPDS scores decreased significantly in W2P participants at 2 mo postpartum -1.30 ; $P \leq .001$ (95% CI, -1.67 to -0.93); 6 mo postpartum -1.54 ; $P \leq .001$ (95% CI, -1.98 to -1.11).
					Infant development: at 2 mo, W2P infants performed significantly better than infants in the ASQ-3 normative sample on the communication and personal-social domains. At 6 mo, W2P infants performed significantly better than infants in the normative sample on all domains.
Brown et al ⁴⁷ (2020)	Southwark, London, United Kingdom	To evaluate the PACT project's 2 main objectives: (1) use community-organized and led methods to engage women from mothers from local populations that tend to access statutory health services relatively less, and (2) improve PMH and other health-related outcomes.	PMH	Repeated measures evaluation	61
					Statistically significant decrease in GAD-7 scores: from 6.87 (5.62) at baseline to 4.76 (3.85) at follow-up $P = .001$ ($t = 3.36$, $df = 57$). Statistically significant decline in PHQ-9 scores: Baseline scores = 7.66 (SD = 6.37). Follow-up scores = 4.83 (SD = 4.15). $P < .001$ ($t = 3.78$, $df = 57$).

(Continued)

Table 2. (Continued)

Author (Date)	Setting	Aim	Outcome of Interest	Study Design	Sample Size	Main Findings
Health education interventions						
Carty et al ⁴⁸ (2011)	Michigan, United States	To assess how a sustained community intervention to reduce racism and infant mortality influenced knowledge, beliefs, and experiences of racism and to explore how perceived racism is associated with self-rated health and birth outcomes.	PMH and physical health	Cross-sectional study	629	REACH intervention participants reported better self-rated physical health and mental health than non-REACH participants. More extreme average emotional reactions to racism increased the odds of low birthweight by 24% (OR, 1.24; 95% CI, 0.99-1.55).
Kieffer et al ⁴⁹ (2013)	Detroit, Michigan, United States	To examine the effectiveness of the Healthy MOMS Healthy Lifestyle Intervention in reducing depressive symptoms among pregnant and early postpartum Latina women.	PMH	RCT	275	Mean CES-D scores of MOMS women at baseline (13.23), follow-up (11.24), and postpartum (10.56). Scores decreased significantly between baseline and follow-up ($P = .002$), but decrease between follow-up and postpartum was nonsignificant ($P = 0.30$). Overall decrease in mean CES-D score from baseline to postpartum highly significant for MOMS group ($P < .001$).

Abbreviations: ASQ-3, Ages and Stages Questionnaires, Third Edition; CBT, cognitive-behavioral therapy; CES-D, Center for Epidemiologic Studies-Depression; EPDS, Edinburgh Postnatal Depression Score; GAD-7, Generalized Anxiety Disorder 7 item scale; HADS, Hospital Anxiety and Depression Scale; MD, mean difference; MOMS, Healthy Moms on the Move; OR, odds ratio; PACT, Parents And Communities Together; PHQ-9, Patient Health Questionnaire 9 item scale; PMH, perinatal mental health; PND, postnatal depression; PSS, Perinatal Support Service; RCT, randomized control trial; REACH, Racial and Ethnic Approaches to Community Health; RR, relative risk; W2P, Welcome to Parenthood; WTC, Special Supplemental Nutrition Program for Women, Infants, and Children.

support via home visits. The providers of social support also varied, and included peer support community groups that also provide social support, existing family members acting as mentors, support workers or volunteer befrienders, and lay pregnancy outreach workers.

Two interventions involving social support also described educational aspects; the Welcome to Parenthood (W2P) program offered a 2-hour parent education session alongside their six-week mentorship program, and the Parents And Communities Together (PACT) project implemented a 12-week “parent university” health education course, alongside weekly “mumspace” groups for social support.^{46,47} The wider PACT project adopted a community-organizing approach, aiming to empower families to make healthier choices and improve access to health care.⁴⁷ Similarly, the Healthy Lifestyle Intervention, as part of the Healthy Moms on the Move (Healthy MOMS) project, provided 14 weekly sessions led by Spanish-speaking women in the community, aimed at empowering women to develop knowledge and skills to reduce socio-environmental barriers to healthy eating and regular exercise, and offered exercise and cooking classes.⁴⁹ A further initiative involving educational aspects was the Racial and Ethnic Approaches to Community Health (REACH) project, which aimed to improve awareness and understanding of racism and empower communities to undo racism, as well as work with health care providers to combat institutional racism.⁴⁸ The PACT, Healthy MOMS, and REACH projects took a more whole-community approach, as opposed to focusing on individuals within the community or community groups, such as the other 15 included studies.

Effectiveness of Existing Community-Based Initiatives in Improving Maternal and Newborn Health

Synthesis of Quantitative Evidence

The majority of interventions evaluated within studies in this review had a beneficial impact on their maternal and newborn health outcomes of interest and are displayed in Figure 2.

Peer support interventions appear to improve maternal and newborn health outcomes. Nine out of 10 peer support intervention studies found a beneficial impact on their maternal and/or newborn health outcome of interest – 5 found improvements in perinatal mental health,^{32,34,42,43} 3 found an increased likelihood of breastfeeding,^{36,38,41} and one (a doula support programme) found peer support resulted in fewer preterm births and low birthweight newborns.⁴² One study reported conflicting findings, with no significant difference in any breastfeeding duration between a peer support breastfeeding intervention for adolescent mothers and the control group.³⁷ However, exclusive breastfeeding was significantly increased in the intervention group. This was the only peer support intervention that did not report benefits; however, it must be noted that this study had a high dropout rate, and only 1 of the 5 adolescent peer volunteers remained involved in it for the entire duration.

Social support interventions had varying impacts on maternal and newborn health outcomes. Wiggins et al found no evidence to support the use of social support community groups for reducing depression in disadvantaged women.⁴⁵

Similarly, Kenyon et al found that social support by lay pregnancy outreach workers made no difference to depression scores up to 6 weeks postpartum; however, in their subgroup of women with 2 or more social risk factors, a significant improvement in depression scores was seen.⁴⁴ Social support and health education combined appear to be more beneficial in improving maternal and newborn health outcomes.^{46,47} All 4 studies that included aspects of health education reported benefits for maternal mental health.

Synthesis of Qualitative Evidence

Four studies used qualitative methodology, all exploring peer support interventions—2 for breastfeeding support and 2 for perinatal mental health conditions.^{35,39,42,43} Despite heterogeneity in the type of peer support and outcomes addressed, the findings presented distinct similarities in how participants described the support they received. Four main themes emerged from qualitative analysis of community-based peer support interventions: connectedness, emotional validation, self-efficacy, and information sharing (Table 3).

The theme of connectedness was evident in women reporting feeling less alone and isolated and through finding a community and social network built around support and understanding.^{35,42,43} Women described how the interventions allowed them to connect with like-minded people with shared experiences.^{35,43} Emotional validation came from sharing experiences with peers, as women reported feeling this was nonjudgmental support, which made them feel safe to share their concerns and experiences.⁴² For example, one participant said, “We are all going through a lot of the same things...we can discuss without judgment.”⁴³ Participants in the online Facebook group also reported feeling safe, through the group being a private, closed group rather than a public platform.³⁵ Sharing experiences via peer support helped to normalize women’s thoughts and feelings, provided affirmation, and made them feel validated.^{35,43}

The peer support interventions contributed to increased self-efficacy, as women reported feeling more confident in their capabilities as a mother and their parenting skills.^{39,42,43} Listening to others and reflecting on individual progress gave women the confidence and a feeling of empowerment to help others and give back to the group, and it can continue the cycle of community engagement, as women who have attended and recovered reported becoming volunteer peers^{35,43}: “A year or so later another mum posted a similar problem on the FB group and I could quickly point her in the right direction which was a great feeling—how far I had come to be able to help someone else” (P22).³⁵

A key component of the peer support interventions addressed in the qualitative studies is information sharing, with participants in one study identifying this as a reason for joining the groups in the first place, as they viewed peers as “experts.”³⁵ Participants in another study reported how sharing experiences offered new information or ideas and provided attention that they felt was lacking in the hospital due to staff being so busy³⁹: “I was saying to someone at the group that I would probably stop [breastfeeding] when I went back to work... and they were saying had I thought about [expressing

Community Intervention Type	Author	Study Design	Outcome Domain				
			Perinatal Mental Health	Breastfeeding	Birth Outcomes	Infant Development	Mother-Infant Bonding
Peer support	Amani, B. Merza, D., and Savoy, C. (2021)	Randomized control trial	▲				▲
Peer support	Dennis, C.L. et al (2009)	Randomized control trial	▲				
Peer support	Letourneau, N. et al (2015)	Quantitative - non randomized	▲				
Peer support & social support	Mugweni et al (2019)	Mixed-methods	▲				▲
Peer support & social support	Prevatt, B-S., Lowder, E.M, and Desmarais, S.L. (2018)	Mixed-methods	▲				
Peer support	Campbell, L.A. et al (2014)	Quantitative - non randomized		▲			
Peer support	Di Meglio, G., McDermott, M.P and Klein, J.D. (2010)	Randomized control trial		◀▶			
Peer support	Forster, D. et al (2019)	Randomized control trial		▲			
Peer support	Yun, S. et al (2010)	Quantitative - non randomized		▲			
Peer support	Thomas, M. et al (2023)	Quantitative - non randomized			▲		
Social support & health education	Benzies, K. et al (2020)	Quantitative - non randomized	▲			▲	
Social support & health education	Brown, J. Et al (2020)	Quantitative - non randomized	▲				
Social support	Kenyon, S. Et al (2016)	Randomized control trial	◀▶	◀▶	◀▶	◀▶	▲
Social support	Wiggins, M. et al (2005)	Randomized control trial	◀▶				
Health education	Carty, D. Et al (2011)	Quantitative - non randomized	▲				
Health education	Kieffer, E.C. et al (2013)	Randomized control trial	▲				

Figure 2. Effect Direction Plot Displaying the Effect Direction of Outcomes Within the Quantitative Studies Included in This Review
Results are presented whether significant or not.

Effect direction: upward arrow ▲ = positive health impact; downward arrow ▼ = negative health impact; sideways arrow ◀▶ = no change, mixed effects, or conflicting findings. Sample size: Final sample size (individuals) in intervention group. Large arrow ▲ >300; medium arrow ▲ 50-300.

breastmilk] and I hadn't even thought about it" (FG2 participant A).³⁹

Breastfeeding mothers using the Facebook group reported that online support was beneficial in terms of immediateness of information or advice and was a useful addition to face-to-face support, but they expressed that online support could not replace face-to-face support and the value of human connections it brings.³⁵ One criticism of peer support group interventions was that when the group size is too large, women tend to talk over each other and there is insufficient time for everyone to have a chance to speak. Another was that hearing others discussing their experiences can be triggering and traumatic.⁴³

The majority (9 of 10) of quantitative or mixed-method studies that evaluated peer support interventions found a beneficial impact on their maternal and newborn health outcome of interest, which compares similarly to the qualitative studies, which all described the benefits of peer support interventions. All 5 of the quantitative studies that evaluated peer support in-

terventions on the impact on maternal mental health reported an improvement in mental health. The qualitative findings of connectedness and emotional validation could help to explain these positive effects. Again, the positive value of peer support for breastfeeding described by participants in qualitative studies provides further support and insight into why the quantitative studies evaluating peer support may have identified positive impacts on breastfeeding.

How Do the Community-Based Initiatives Relate to PLA Methodology?

We found no direct examples of PLA being used in HICs for maternal and newborn health outcomes, although the types of initiatives identified (peer support, social support, and health education) and our findings of connectedness, emotional validation, self-efficacy, and information sharing closely relate to known mechanisms of PLA: learning about health, spreading information, building confidence, and increasing

Table 3. Summary of Findings from Qualitative Studies

Main Theme	Subthemes	Studies Contributing to the Finding
Connectedness	"I am not alone"	Bridges, 2016, ³⁵ Mugweni et al, 2019, ⁴² Prevatt et al, 2018. ⁴³
	Shared experiences	
	Increased social network	
Emotional validation	Feeling cared for	Bridges, 2016, ³⁵ Mugweni et al, 2019, ⁴² Prevatt et al, 2018. ⁴³
	Nonjudgemental support: this is a "safe place"	
	Affirmation and validation of feelings or concerns	
Self-efficacy	Increased confidence as a mother	Bridges, 2016, ³⁵ Wade et al, 2009, ³⁹ Mugweni et al, 2019, ⁴² Prevatt et al, 2018. ⁴³
	Increased confidence in parenting abilities	
	Increased confidence in help seeking	
Information sharing	Sharing authentic experiences	Bridges, 2016, ³⁵ Wade et al, 2009. ³⁹
	"I hadn't thought about that"	
	Peers as experts	

community capacity.⁵² Although our qualitative analysis only involved peer support interventions which increased self-efficacy and provided a platform for shared learning, social support also relates to these mechanisms of PLA as the social process of learning is known to lead to increased confidence and knowledge.²⁰

PLA methodology is inherently participatory and encourages active participation of and engagement of community members. All the included interventions involved the participation of community members in some form (peers, family members as mentors, lay support workers, and community organizations); however, levels of engagement differed. Few studies aimed for community-wide engagement to strengthen communities' capacities.^{48,49} The United Nations Children's Fund (UNICEF) minimum standards for community engagement recommend that communities are involved in all stages of analysis, planning, design, implementation, and evaluation and processes should be in place to enable this active collaboration and engagement.⁵³ In order to be truly participatory, communities should be encouraged to identify their own maternal and newborn health issues and needs, as opposed to participation simply validating the aims of interventions already decided by others.⁵² Overall, the community-based interventions identified were lacking in this element of active participation and community-wide engagement, limiting the ability of communities to identify their own maternal and newborn health issues and strategies for improvement.

DISCUSSION

This systematic review has summarized the available evidence on community-based initiatives to improve maternal and newborn health outcomes in Australia, Canada, the United Kingdom, and the United States, with varying types of support identified: peer support, social support, and health education. Most interventions involved peer support, which has shown positive effects on maternal and newborn health outcomes—namely, improved perinatal mental health and breastfeeding support. Social support appears to be more beneficial when combined with health educational aspects.

The prior research on peer support for maternal and newborn health in HICs is limited and conflicting. A systematic review found that peer support had a positive effect on breastfeeding continuation in HICs but was not as effective as in LICs, and in the United Kingdom, peer support interventions were found it to be ineffective.⁵⁴ This is in contradiction to more recent UK studies evaluating more proactive peer support—for example, one included in this review and one feasibility study that both observed positive outcomes.^{38,55} This could suggest that earlier, more-intensive support is effective. Difficulties arise in assessing peer support interventions for breastfeeding due to clinical heterogeneity in the timing of support, the duration, and the setting (individual vs group-based, online vs face-to-face). In terms of peer support for perinatal mental health conditions, our findings are similar to those of previous research, suggesting that peer support can be an effective measure in reducing postnatal depression in HICs.^{56,57} Again, clinical heterogeneity was found in these studies, further suggesting the potential of mediators in peer support interventions, such as intensity and frequency.⁵⁷ These studies all also included LICs, and it appears there is a lack of research around peer support interventions focusing on HICs alone.

The community-based interventions with higher levels of community participation are more strongly linked to PLA. However, few studies included in this review aimed for community-wide participation.^{47–49} The majority were aimed at the individual or group level, even though increasing community participation can bring increased community mobilization and more sustainable change.⁵⁸ We screened articles with relevant examples of community-based initiatives striving for community mobilization; however, they were solely descriptive without evaluations of outcomes. This is perhaps because interventions promoting community mobilization often involve multiple processes and multiple agencies and are often carried out over long periods, making evaluation complex.⁵⁹

We did not find any specific examples of PLA interventions that included outcomes being used to improve maternal and newborn health outcomes in HICs to include in our review. We are aware of the current Nurture Early for Optimal

Nutrition study aimed at improving feeding practices among communities of South Asian origin in East London; however, this is currently in the pilot feasibility stage.⁶⁰ A previous systematic review of postnatal women's groups (not specifically using PLA) to improve maternal and newborn health in HICs found limited and incompletely described evidence.⁶¹ More promising results were reported when the obstacles of sample size and group attendance were overcome—studies reported positive impacts on primary outcomes with higher attendance rates and psychoeducational or cognitive behavioral components in their group approaches. This links to a systematic review of PLA women's groups in LICs reporting better outcomes when groups were attended by 30% of the population.¹⁹ This highlights the need for more collective engagement when designing community-based interventions—aiming for community-wide engagement and encouraging communities to take ownership of maternal and newborn health issues and actions to address them.⁶²

The strengths of this review—working in collaboration with a community partner, as well as consulting members of the public—have increased the relevance and usefulness of this project. Additionally, the analysis of both quantitative and qualitative research has provided a deeper understanding of what types of community-based interventions have been implemented in HICs and what are the successes and challenges. Double screening helped to increase the chance of relevant studies being included and minimized the risk of human error.⁶³

A limitation of this review, although useful to explore the scope of current community-based initiatives, is the broadness of the term *community-based initiative* and that multiple maternal and newborn health outcomes were explored, which made the literature more complex to analyze due to heterogeneity. Additionally, high dropout and loss-to-follow-up rates were noted during quality assessment, which could have affected the validity of the results.

This review poses several clinical and policy implications. Women value the connectedness, information, and self-efficacy resulting from involvement in community-based initiatives, and they may fill a gap that has emerged in health care institution services due to the pressures they face and, in the United States, lack of universal health care.^{2,39} Efforts should, therefore, be made in clinical practice to implement such initiatives with policymakers ensuring adequate funding. It is necessary to ensure community-based interventions are culturally appropriate and are designed in collaboration with the communities they are aiming to help. This increases the chance of sustained participation and subsequent mobilization for change, which may also assist in reducing maternal and newborn health inequalities in HICs, including the United States.⁶⁴ Initiatives should aim to increase knowledge and capacity yet move away from traditional didactic methods delivering technical messages to empower communities to identify and address maternal and newborn health issues.⁵² When designing and implementing community-based initiatives for maternal and newborn health, evaluation should be planned and designed a priori, and policymakers should ensure sufficient relevant research funding is made available, as more evidence on the use of community-based initiatives in HICs is required. This is especially urgent given the cur-

rent pressures faced by health care services, such as workforce shortages and inadequate access to care in the United States, and that previous research in LICs has indicated PLA is a cost-effective method for improving maternal and newborn health outcomes.^{2,19}

Future research should focus on specific types of community-based interventions in HICs, including PLA, to aid policy decisions. Future research could also be narrowed to examine which types of interventions are most effective for specific maternal and newborn health outcomes, and among which populations, which may assist in reducing maternal and neonatal health inequalities in specific populations in the United States. More research is also needed to examine potential mediators such as duration, frequency, and intensity of interventions.

CONCLUSION

Community-based initiatives can be beneficial in HICs for improving aspects of maternal and newborn health—particularly maternal mental health and breastfeeding. Types of community-based interventions vary from peer support to social support and health education and are delivered in multiple ways, such as via community groups, telephone-based support, online forums, and individual-level support. Peer support and social support foster a sense of community that can provide valuable emotional validation and reassurance, as well as a platform for information sharing to promote informed decision-making and enhance capacity. Health educational aspects of community-based interventions appear to be effective, particularly for improving maternal mental health. There is very limited research on more participatory community-based initiatives, such as PLA, in HICs that promote community-wide engagement and mobilization. Further research is needed in this area and funding should be made available to support evaluation of community-based initiatives to aid policy decisions.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Checklist

Appendix S2. Search Strategies

Appendix S3. Summary of Included Records

Appendix S4. Quality Assessment of Included Studies Using Mixed-Methods Appraisal Tool

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