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Title:
Midwives' and health visitors' collaborative relationships: A systematic review of qualitative and quantitative studies

Abstract:
Objectives
Interprofessional collaboration between midwives and health visitors working in maternal and child health services is widely encouraged. This systematic review aimed to identify existing and potential areas for collaboration between midwives and health visitors; explore the methods through which collaboration is and can be achieved; assess the effectiveness of this relationship between these groups, and ascertain whether the identified examples of collaboration are in line with clinical guidelines and policy.

Design
A narrative synthesis of qualitative and quantitative studies.

Data sources
Fourteen electronic databases, research mailing lists, recommendations from key authors and reference lists and citations of included papers.

Review methods
Papers were included if they explored one or a combination of: the areas of practice in which midwives and health visitors worked collaboratively; the methods that midwives and health visitors employed when communicating and collaborating with each other; the effectiveness of collaboration between midwives and health visitors; and whether collaborative practice between midwives and health visitors meet clinical guidelines. Papers were assessed for study quality.

Results
Eighteen papers (sixteen studies) met the inclusion criteria. The studies found that midwives and health visitors reported valuing interprofessional collaboration, however this was rare in practice. Findings show that collaboration could be useful across the service continuum, from antenatal care, transition of care/handover, to postnatal care. Evidence for the effectiveness of collaboration between these two groups was equivocal and based on self-reported data. In relation, multiple enablers and barriers to collaboration were identified. Communication was reportedly key to interprofessional collaboration.

Conclusions
Interprofessional collaboration was valuable according to both midwives and health visitors, however, this was made challenging by several barriers such as poor communication, limited resources, and poor understanding of each other's role. Structural barriers such as physical distance also featured as a challenge to interprofessional collaboration. Although the findings are limited by variable methodological quality, these were consistent across time, geographical locations, and health settings, indicating transferability and reliability.

Keywords:
Health personnel
Interprofessional Relations
Cooperative Behavior
Maternal Health Services
Midwifery
Nurses, Community Health
Nurses, Public Health
Review, Systematic

1. Introduction

Interprofessional collaborative practice is one of the priorities for maternal and child health services worldwide (World Health Organization, 2010). Reasons behind this include the growing body of evidence on the lifelong impact of pregnancy and birth on children's life chances. For example, stressors in pregnancy are associated with children being at increased risk for hyperactivity disorder, aggression, anxiety (Glover, 2011), low birth weight, and an increased risk for preterm birth (Schetter and Tanner, 2012). Other public health issues including early discharge, teenage pregnancy, sick neonates, and postpartum depression (Kurth et al., 2016; Schmied et al., 2010; While et al., 2006) rely on various health professionals working together to deliver interventions effectively (Hoddinott, Pill & Chalmers, 2007).

Whilst interprofessional collaboration has been defined variously in the literature (Xyrichis and Lowton, 2008), it is said to occur when “multiple health workers from different professional backgrounds work together with patients, families, caregivers and communities to deliver the highest quality of care” (World Health Organization, 2010, p.13). However, levels of collaboration can vary. A review of 64 studies investigating care integration in perinatal services, focussing on the collaboration between midwives and physicians, found that less than 20% of these concerned individual clinical practice, and most focussed on the effectiveness of intervention programmes such as smoking cessation services (Rodríguez and des Rivières-Pigeon, 2007). It concluded that small groups of health professionals collaborating to deliver maternal and child health services appear appropriate for both patients and care providers. D’Amour et al.’s (2008) structuration model of collaboration, informed by collective action in organisational sociology, identifies ten indicators of collaboration categorised into four dimensions. Two dimensions relate to relationships between individuals, and another two relate to organisational settings. Examples of collaboration indicators are: goals (shared common goals); trust (trusting each other’s capabilities); centrality (clear definition of collaboration, with guidance from authorities such as senior managers); and information exchange (existence and use of information infrastructure). This model suggests that collaboration can either be latent, developing or active, with *active* being the optimal level of collaboration (D'Amour et al., 2008). However, it is argued that interprofessional collaboration need not require a shared identity or integration, unlike interprofessional teamwork (Reeves et al., 2010). Reeves et al.’s (2010) conceptual framework identifies 21 factors influencing interprofessional teamwork, categorised into four domains: relational (factors directly affecting relationships, e.g., power), processual (factors affecting the implementation of collaboration, e.g. time and space), organisational (factors influencing the organisational environment where collaboration takes place, e.g. professional representation) and contextual (broader influential factors, e.g., economics). The effectiveness of interprofessional collaboration can be assessed several ways, including evaluating outcomes such as improved collaboration (Reeves et al., 2010).

In maternal and child health or perinatal services, interprofessional collaboration involves at least two groups of healthcare professionals working together, sharing knowledge, expertise and information, with a view to deliver high quality care to women, their children and families (D'Amour et al., 2008; Wiles and Robison, 1994). Known maternity care pathways include three key stages: antenatal, intrapartum (including transition to postnatal care), and postnatal care. Midwives and health visitors are key perinatal care providers in the UK. Midwives are healthcare professionals qualified to deliver maternity care, providing support

and advice from pregnancy through to the postnatal period (International Confederation of Midwives, 2011). Health visitors are “qualified nurses or midwives who have an additional diploma or degree in specialist community public health nursing” (NHS England, 2014, pp.5-6), and focus on public health promotion for women and families who have children under five years of age. This role extends to safeguarding children. Internationally, similar roles include Child and Family Health Nurses in Australia; health visitors or Sygeplejefaglig Diplomeksamen som sundhedsplejerske in Denmark; Plunket nurses in New Zealand; and Public Health Nurses in Canada. A review of practice-based interventions directly addressing interprofessional collaboration found limited data on the subject (k= 4), and found no interventions directly seeking to change interprofessional collaboration in our setting of interest. Furthermore, a Cochrane review of the effects of interprofessional education interventions on professional practice found limited research in the area (k= 6), none of which concerned midwives and health visitors in perinatal services (Reeves et al., 2008; Zwarenstein et al., 2009). To our knowledge, no systematic review of the collaborative practices between midwives and health visitors exists. Therefore, this review aimed to synthesise the evidence concerning interprofessional collaborative practice between midwives and health visitors across the care pathway, specifically, antenatal, transition to postnatal, and postnatal care.

1.1. Review questions

The specific review questions were:

1. In what ways (i.e., areas of practice/settings) do midwives and health visitors communicate and work collaboratively?
2. What methods of collaborative working and communication do midwives and health visitors employ?
3. How effective is the collaboration between midwives and health visitors?
4. Do the identified examples of communication and collaboration between midwives and health visitors adhere to policy recommendations and guidelines?

2. Methods

In accordance with the Preferred Reporting Items for Systematic Review and Meta-analysis guidelines (PRISMA, Moher et al., 2009), the review protocol is registered with the International Prospective Register of Systematic Reviews (PROSPERO; Registration number: CRD42015016666).

2.1. Literature search and study selection

Fourteen electronic databases were searched in January 2015: EMBASE, Global Health, MEDLINE, Maternity and Infant Care (MIDIRS), CINAHL, PsycARTICLES, PsycINFO, SocINDEX, Social Policy and Practice, POPLINE, TRIP, Cochrane Library, SCOPUS, and British Library EThOS. Key authors (*n*= 16) and relevant research mailing lists (*n*= 11) were contacted. Finally, reference lists of included papers were searched in June 2015. Four groups of search terms were combined: midwife, nurse or health visitor or home visitor, collaboration or joint working, and communication. The full MEDLINE search strategy is provided on Supplementary File 1.

2.2. Eligibility criteria

Studies were included if they met the following criteria:

- Empirical research
- Written in English
- Explored one or a combination of the following: areas of practice in which midwives and health visitors work collaboratively; methods that midwives and health visitors employ when communicating and collaborating with each other; effectiveness of collaboration between midwives and health visitors; and whether collaborative practice between midwives and health visitors adhere to policy recommendations and guidelines.

Studies were excluded if they met any of the following criteria:

- Animal studies, study protocols, conference proceedings, editorials and opinion pieces or commentaries, reports, reviews, news items

All titles and abstracts were screened independently by two reviewers against the eligibility criteria.

2.3. Quality assessment

Qualitative studies were assessed using the Critical Appraisals Skills Programme (CASP) Qualitative Checklist (Critical Appraisal Skills Programme, 2013). Quantitative studies were assessed using the Center for Evidence-Based Management (CEBMa) Appraisal of a Survey Checklist (n.d.). Where a study had both quantitative and qualitative data, both tools were used, allowing for both types of data to be assessed for quality separately (Sirriyeh et al., 2012). The CASP qualitative checklist is a widely-used study appraisal tool, developed specifically for assessing the validity, relevance and applicability or transferability of healthcare evidence (Critical Appraisal Skills Programme, 2013). The CEBMa checklist is specifically designed for the appraisal of surveys (n.d.). Two researchers (RA, JN) independently assessed all studies included for methodological quality. Disagreements were resolved via consensus.

2.4. Data extraction and synthesis

Data extraction forms were specifically developed and piloted before use, in line with Centre for Research and Dissemination recommendations (2009). Data extracted included: aim(s), methods, and relevant findings (see Table 1 for a summary). One researcher (RA) extracted all the data from the included studies.

Qualitative and quantitative evidence making use of varying methods was gathered; this heterogeneity did not allow for a meta-synthesis. The absence of randomised controlled studies did not warrant a meta-analysis. Data analysis revealed key themes that were derived using tools such as tabulation, which is helpful for identifying “patterns across studies” (Popay et al., 2006, p.17). The analysis was conducted in accordance with Popay et al.’s (2006) guidance on conducting narrative syntheses. Following the organisation of extracted data in tabular format (Table 1), one researcher (RA) coded the relevant findings according to the review questions. Thus, a deductive thematic approach was undertaken. Quantitative comparisons were not possible due to differences in question items between the studies. Emergent themes were reviewed with the research team to ensure that the synthesis reflected the studies’ findings and conclusions in relation to the review aims and

questions. The findings are presented narratively, considering each review question sequentially.

3. Results

In the following section, the study characteristics and quality are first considered followed by presentations of findings in relation to each of the four aims. Electronic database searches generated 5,329 papers. Additional records identified through reference lists and key authors generated 155 articles, totalling 5,484 papers for screening. No new papers were identified from contacting research mailing lists. After screening titles and abstracts, 5,237 articles were excluded. Following full-text screening of the remaining 247 records, 18 articles (16 studies) met the eligibility criteria and were included in this review. The study selection flowchart is presented in Figure 1.

3.1. Study characteristics

Fifteen studies were published in peer-reviewed journals. One was an unpublished PhD thesis (Penny, 2015). Nine studies (10 articles) with a qualitative design were included. Two studies with a quantitative design were included. Five studies (six articles) with mixed-methods design were included. Six studies were from Australia, five from the UK, three from Sweden, one from Norway, and one from Canada. Studies were published between 1984 and 2015. There were approximately 1,426 midwives and 2,239 health visitors in the studies reviewed, as one study did not report a breakdown of their sample (Psaila et al., 2014a). Study aims and findings are detailed in Table 1.

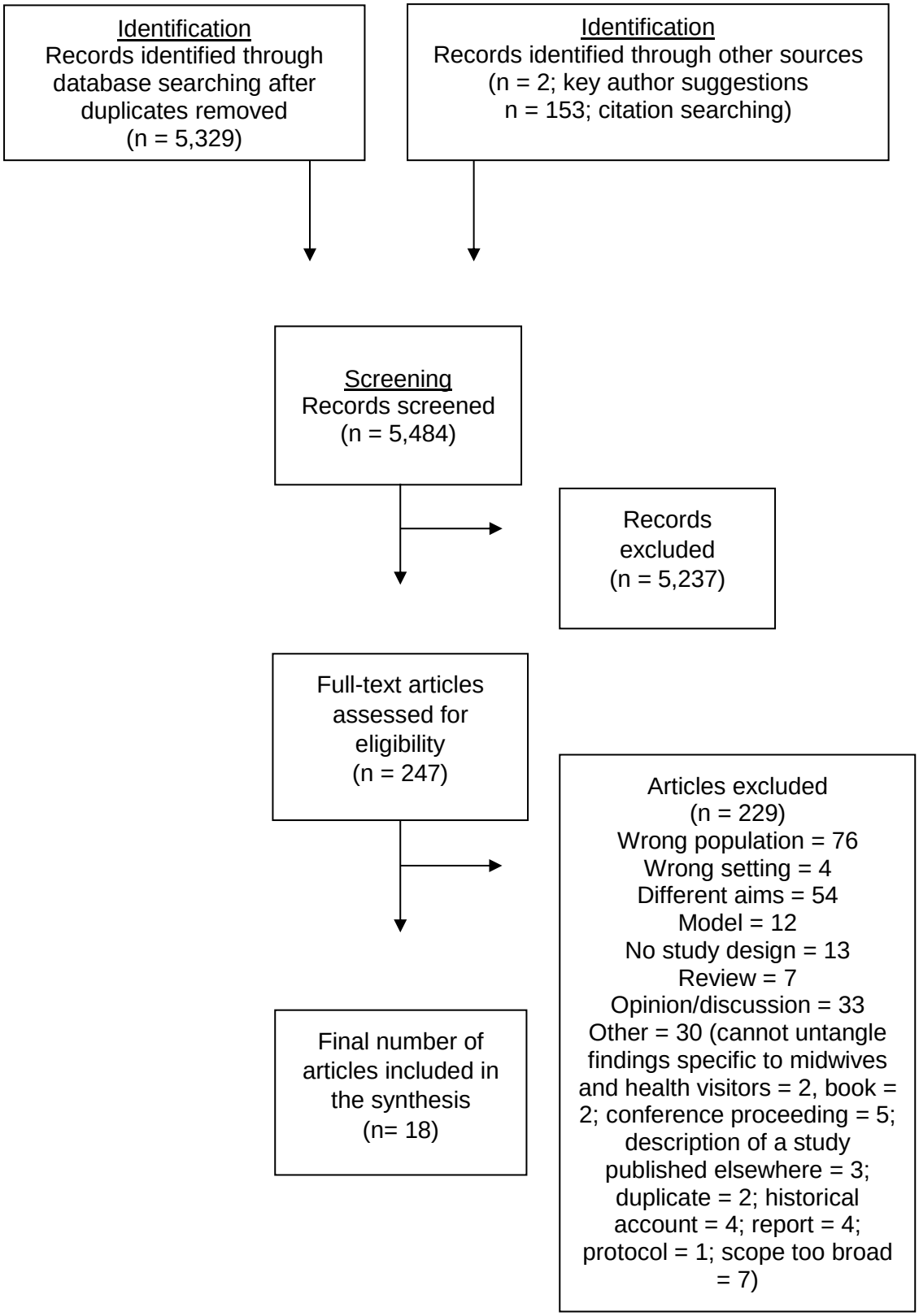

Figure 1. Study selection flowchart.

Table 1

Summary of study findings

Reference	Aim(s)	Methods		Sample	Results
		Setting	Design/data collection method(s)		
Qualitative studies					
Bar-Zeev et al. (2012)	Examining the quality and safety of the postnatal transition of care from a regional hospital to remote health services.	Australia (Regional and remote areas)	Design: Cross-sectional Methods: retrospective cohort, interviews, observation Sampling: Purposive, snowball	Total sample size (N= 60) Midwives = 14 Health visitors = 7 Others (district medical officers, remote area nurses, Aboriginal health workers, doctors, paediatric nurses) = 39	**Problems encountered:** Poor communication, lack of co-ordination; lack of clinical governance and leadership, and poor knowledge of roles and working practices in health centres by hospital staff.
Barimani and Hylander (2008)	Explore care providers' experience of cooperation in the antenatal, postnatal, and child health care chain of care	Sweden (Large city)	Design: Cross-sectional Data collection: Focus groups (60–90 min); two interviews (20–30 min) Sampling: Theoretical sampling	Total sample size (N= 32) Midwives = 19 Child healthcare nurses = 13	All midwives and child health care nurses agreed linkage was non-existent in the antenatal-postnatal-child health care chain. **Facilitators of linkage:** - Information transfer - Connection - Adjustment

					Barriers and enablers to linkage: - Position in chain of care - Distance - Gain
Barimani and Hylander (2012)	Investigate strategies for continuity of care for expectant and new mothers, as experienced by both midwives/child health care nurses and mothers	Sweden (Large city)	<u>Design:</u> Cross-sectional <u>Data collection:</u> Interviews; observation and documents <u>Sampling:</u> Theoretical sampling based on Barimani et al. 2008	Total sample size (N= 20) Midwives = 9 Child healthcare nurses = 11	Data revealed that vision of joint action was not realised. No common protocols or goals were established and implemented.
Munro et al. (2013)	Explores barriers and facilitators of interprofessional models of maternity care between physicians, nurses, and midwives in rural British Columbia, Canada, and the changes that need to occur to facilitate such models	Canada (Rural communities)	<u>Design:</u> Cross-sectional <u>Method:</u> One in-depth interview or one focus group, plus the optional review of the findings to assess their accuracy, relevance, and comprehensiveness. <u>Sampling:</u> Extreme case sampling	Total sample size (N= 73) Midwives = 7 Public health nurses = 7 Others (labour and delivery nurses, doctors, birthing women, community-based providers, administrators, decision-makers) = 59	Midwives reported that resistance (from health professionals including nurses) based on negative perceptions of midwifery was the biggest challenge to interprofessional collaboration. Public health nurses reported that increased interprofessional collaboration with midwives could be beneficial in managing postpartum care for women.

Penny (2015)	Understand concept of collaboration as it existed in the care continuum between maternity and community healthcare settings.	Australia	Design: Cross-sectional Method: Interviews Sampling: Purposive	Total sample size (N= 30) Midwives = 10 Child health nurses = 10 Women = 10	Role knowledge was important in securing a position in the care process. Child health nurses and midwives used structured frameworks to assess need, and focussed on professional and organisational obligations.
Psaila et al. (2014a)	Describe innovations designed to improve continuity for women and their babies, specifically focused on the transition between maternity and Child and Family Health services.	Australia (State, rural and metropolitan data)	Design: Cross-sectional Method: Interviews (four face-to-face and three via telephone); three focus groups (60-90 min) Sampling: Purposive	Total sample size (N= 33) Split not reported	Innovations identified: - Streamlining information exchange - Roles supporting co-ordination of care - Using funding and resources in innovative ways - Joint working - Co-locating services
Psaila et al. (2014c); Schmied et al. (2015)	Examine concept of continuity across maternity and child and family health service continuum; Explores health professionals' perceptions of the challenges and opportunities related to implementing a	Australia	Design: Cross-sectional Method: Discussion groups; teleconference; face-to-face focus groups; e-conversation Focus groups; teleconferences (60 to 90 min).	Total sample size (N= 132) Midwives = 45 Child health nurses = 60 Others (GPs, practice nurses)= 27	Data revealed that information transfer was inconsistent, services were not equally accessible to all, policy expectations and workforce equity were mismatched, and role knowledge was poor. Opportunities and strategies identified were integrating midwifery and child and family health, having regular multidisciplinary meetings,

	national approach to universal CFH		Sampling: Purposive		and linking all child health services under one funding arrangement.
Regan and Ireland (2009)	Clinical experiences and perceptions of working within an exemplar cross-organisational practice model	UK	No clear method reported	Total sample size (N= 2) Midwives = 1 Health visitors = 1	Good communication facilitated by flexible funding arrangements between trusts, continued maintenance of professional boundaries and practice, shared office and resources, and immediate feedback by midwives and health visitors.
Wiles and Robinson (1994)	Views and experiences of teamwork	UK	Design: Cross-sectional Method: Semi-structured interview questionnaires Sampling: Random sample of 20 practices (N= 86) invited	Total sample size (N= 133) Midwives = 17 Health visitors= 17 Others (district nurses, receptionists, GPs, practice managers, practice nurses) = 99	Team Identity - 59% of midwives and 76% of health visitors felt part of a team Shared philosophies of care - 53% of health visitors and 41% of midwives reported shared philosophies of care Understanding of roles and responsibilities - 71% of midwives and 53% of health visitors felt other health care professionals understood their role clearly Disagreement with team members regarding roles/responsibilities - 41% of both midwives and health visitors reported disagreement

					- Unclear cut-off point for transition from midwifery to health visiting led to confusion and conflicting advice
Quantitative studies					
Clancy et al. (2013)	Examine collaboration issues relating to public health nursing in different sized Norwegian municipalities	Norway (National data)	Design: Cross-sectional Method: National survey Sampling: Convenience (questionnaire sent to frame population)	Total sample size (N= 1,596) Midwives = 115 Health visitors = 849 Others (child protection workers, doctors) = 632	Most important factors for successful collaboration: - Trust, respect, and collaborative competence Importance of collaboration in carrying out role: - Midwives rated collaboration with public health nurses as useful, at the same time gave the lowest ratings for the importance of collaborating with them
Farquhar et al. (1998)	Views of health visitors working alongside midwifery teams.	UK (South-east England)	Design: Cross-sectional Method: Survey Sampling: Convenience (questionnaire sent to frame population)	Total sample size (N= 35) Midwives = 0 Health visitors = 35	Defining team midwifery: - Only 2/35 (5.7%) of health visitors identified three of the four components of team midwifery, as defined by the team midwifery steering group Perception of team midwifery: - 9/35 (26%) reported it was

					working well locally Link midwives (n= 35, one missing data): - 21/35 (60%) reported having a link midwife Working relationships with community midwives: - 18/35 (51%) reported having a good relationship - 12/35 (34%) reported having a poor relationship Communication with community midwives (antenatal and postnatal periods): - Significantly poorer communication reported during the postnatal period (p= .002244) Structuring work with midwives: - 70% reported preferring the old system to team midwifery 60% of participants reported that team midwifery has negatively affected quality of care
Mixed-methods studies					
Bennett et al. (2001)	Discover how midwives feel about	UK (Metropolita	Methods taken from *Lavender et al., 2001*:	Total sample size (N= 468)	Partnership with health visitors: - 85% reported working with

	the public health strategy as outlined in *Making a Difference*; explore midwives' views of their role in public health	n county)	<u>Design:</u> Cross-sectional <u>Method:</u> Survey with open-ended questions <u>Sampling:</u> Purposive	Midwives = 468 Health visitors = 0	health visitors, noting that they could communicate better and should work more closely/share expertise Well-women clinics: - 58% agree with contributing to well-women clinics
Draper et al. (1984)	Discusses the relationship between the health visitor and the community midwife	UK (Urban and rural)	Methods taken from *Field et al., 1984*: <u>Design:</u> Cross-sectional <u>Method:</u> mixed-methods (survey with open-ended questions & interviews) <u>Sampling:</u> Purposive	Total sample size (N= 40) Midwives = 0 Health visitors) = 40	Ratings of relationship with community midwives: - 65% reported it was very good/good - 17.5% reported it was poor Frequency of meeting midwives responsible for the same patients: - 15/40 (37.5%) of health visitors reported meeting with midwives more than once a week, and communicated either face-to-face or via phone - 15/40 (37.5%) reported rarely meeting with midwives, and reported that contact by phone/messages was uncommon No statistical relationship between involvement in clinics or antenatal

					classes and quality of relationship with midwives. Antenatal midwives and child health nurses reported the extent of collaboration with each other pre- and post-intervention as large/very large (no statistical differences). Facilitators for implementing programme: - Collaboration with other sectors - Colleagues and working climate positive and supportive - All professionals working towards the same goal - Support from work manuals and questionnaires Barriers to implementing programme: - Workload and staff/time/resource shortage - Difficulties to start/maintain collaborative relations - Missing collaborative partners - Geographical distance - Competing demands, goals and tasks
Edvardsson et al. (2012)	Are there significant changes in professionals' self-reported collaboration between sectors following programme implementation?	Sweden	<u>Design:</u> quasi-experimental (before-and-after case study) <u>Methods:</u> Mixed-methods (intervention – Salut Programme, surveys with open-ended questions) <u>Sampling:</u> Convenience (questionnaires sent to all involved in intervention programme)	Total sample size (N= 144) Midwives = 33 Child health nurses = 66 Others (dental hygienists/dental nurses, open pre-school teachers) = 45 Mean years of experience: Midwives = 15 Child health nurses = 14	

Homer et al. (2009)	Examine the characteristics and nature of effective transitions of care in NSW between midwives and Child and Family Health Nurses; describe current approaches to transitions of care from midwives to Child and Family Health Nurses; understand barriers and facilitators to effective transition of care.	Australia	Design: Cross-sectional Method: Descriptive questionnaire (with open-ended questions) Sampling: Purposive	Total sample size (N= 67) Midwives = 33 Health visitors = 25 Others (families first co-ordinator, others not specified) = 9	Models of transition of care: - Structured non-verbal: centralised referral - Structured non-verbal: centre-based referral - Liaison - Purposeful contact - Unstructured - Shared visits The implementation of models of transition of care is reportedly inconsistent across services and is developed according to local need. Common facilitators: - Effective communication - Child and family health nurse visiting maternity unit regularly - Verbal handover - Using similar assessment tools - Co-location - Central intake point/designated person - Complete and up-to-date summaries and contact details for the woman Common barriers:

					- Lack of staff - Removal of nursing and midwifery posts - Lack of understanding and respect for one another's role/expertise - Women's lack of knowledge of child and family health nurses
Psaila et al. (2014b); Psaila et al. (2014d)	Explore and describe the process of Transition of Care between maternity services and the Child and Family Health service; Examines collaborative practice in the provision of universal health services for children and families	Australia	<u>Design:</u> Cross-sectional <u>Method:</u> Mixed-methods (cross-sectional survey with open-ended questions) <u>Sampling:</u> Convenience	Total sample size (N= 1753) Midwives = 655 Health visitors = 1098	Collaboration was reported to serve the purpose of effectively transferring client information, and worked in smaller communities. Information transfer: - 77.4% of midwives sent discharge summaries to child and family health nurses88.5% of midwives routinely send discharge summaries - 82.7% of child and family health nurses received discharge summaries within 5 days of discharge - 17.8% of child and family health nurses reported having antenatal contact with women

	Quality of information transferred: - 66.7% of child and family health nurses indicated that all necessary information was received all the time Effectiveness of transition of care: - 36.6% of midwives rated the transition process as effective/extremely effective for majority of families (vs. 40.4% for women/babies at risk) Intensity/level of collaboration - Midwives rated the intensity of collaboration with child and family health nurses a 3.5/5, whilst child and family health nurses rated the intensity of their collaboration with midwives a 3/5 Improving transition of care: - Liaison role - Joint visits, regular meetings - Providing information antenatally - Opt-out system

		- Improved information content and communication pathways - Allocation of child and family health nurses to visit hospital - Shared assessment tools Verbal handover

Table 2

Methodological quality of qualitative studies

	Bar Zeev et al. 2012	Barimani et al., 2012	Barimani et al., 2008	Bennett et al. 2001	Draper et al. 1984	Edvardsson et al. 2012	Homer et al. 2009	Munro et al. 2013	Penny et al. 2015
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Can’t tell	Can’t tell	Yes	Can't tell	Yes	Yes	Yes	Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Can't tell	Can't tell	Yes	Yes	Yes	Yes
Was the data collected in a way that addressed the research issue?	Can’t tell	Can’t tell	Can’t tell	Can't tell	Can't tell	Yes	Can't tell	Yes	Yes
Has the relationship between researcher and participants been adequately considered?	No	No	Yes	No	Yes	No	No	No	Yes
Have ethical issues been taken into consideration?	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Was the data analysis	Yes	Yes	Yes	Can't tell	Can't tell	Yes	No	Yes	Yes

sufficiently rigorous?									
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How valuable is the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Psaila et al. 2014a	Psaila et al. 2014b	Psaila et al. 2014c	Psaila et al. 2014d	Regan et al. 2009	Schmied et al. 2015	Wiles et al. 1994
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	No	Yes	Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes
Was the data collected in a way that addressed the research issue?	Can't tell	Can't tell	Can't tell	Yes	Can't tell	Can't tell	Can't tell
Has the relationship between researcher and participants been adequately considered?	No	No	No	No	No	No	No

Have ethical issues been taken into consideration?	Yes	Yes	Yes	Yes	No	Yes	No
Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	No	Yes	No
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How valuable is the research?	Yes	Yes	Yes	Yes	No	Yes	Yes

Table 3

Methodological quality of quantitative studies

	Psaila et al. 2014b	Psaila et al. 2014d	Farquhar et al., 1998	Edvardsson et al. 2012	Draper et al. 1984	Clancy et al. 2013	Bennett et al. 2001
Did the study address a clearly focused question / issue?	Yes	Yes	No	Yes	No	Yes	Can't tell
Is the research method (study design) appropriate for answering the research question?	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell
Is the method of selection of the subjects (employees, teams, divisions, organizations) clearly described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Could the way the sample was obtained introduce (selection) bias?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Was the sample of subjects representative with regard to the population to which the findings will be referred?	Can't tell	Can't tell	Yes	Yes	Can't tell	No	Yes
Was the sample size based on pre-study considerations of statistical power?	No	No	No	No	No	No	No
Was a satisfactory response rate achieved?	Can't tell	Can't tell	Yes	Yes	Can't tell	Yes	Yes
Are the measurements (questionnaires) likely to be valid and reliable?	Can't tell	Can't tell	No	Yes	No	Can't tell	No
Was the statistical significance assessed?	Yes	No	Yes	Yes	Yes	Yes	No
Are confidence intervals given for the main results?	No	No	No	No	No	No	No
Could there be confounding factors that haven't been accounted for?	Yes	Yes	No	Yes	Yes	Yes	Yes
Can the results be applied to your organization?	Yes	Yes	Can't tell	Can't tell	Can't tell	Yes	Can't tell

3.2. Study quality

Quality appraisal ratings, per tool, are presented in Tables 2 and 3. Only two of the qualitative studies considered and described the participant-researcher relationship adequately. None of the studies with quantitative components reported basing sample sizes on statistical power and confidence intervals. No article was excluded because of methodological quality.

3.3. Research question 1: In what practice areas or settings do midwives and health visitors communicate and work collaboratively?

All studies identified examples of communication and collaboration in antenatal care, transition of care, and/or postnatal care, reflecting known maternity care pathways. Caring for women after handover through to postnatal care – ensuring continuity – was the chief reason reported for collaboration for midwives and child and family health nurses during this period (Psaila et al., 2014d). Specific areas of postnatal care include breastfeeding (Schmied et al., 2015), referral to social (Penny, 2015) and local community services (Homer et al., 2009). Primary care and public health were also identified as areas of collaboration for midwives and health visitors (Bennett et al., 2001; Clancy et al., 2013). Although all key stages of maternity care were identified as areas for collaboration, levels of collaboration between midwives and health visitors varied widely in practice.

3.4. Research question 2: What methods of collaborative working and communication do midwives and health visitors employ?

This section discusses the methods of communication and collaboration utilised by midwives and health visitors. Each of these will be presented in turn.

3.4.1. Face-to-face contact

Face-to-face contact was the most widely cited method of communication, which included group meetings, joint visits, or joint discharge planning (Bar-Zeev et al., 2012; Barimani and Hylander, 2012; Barimani and Hylander, 2008; Clancy et al., 2013; Draper et al., 1984; Farquhar et al., 1998; Homer et al., 2009; Munro et al., 2013; Penny, 2015; Psaila et al., 2014c; Schmied et al., 2015). Group meetings attended by midwives and health visitors were reported to be beneficial, especially when supporting families with psychosocial needs (Schmied et al., 2015). Moreover, informal methods of face-to-face contact were identified including tea breaks and shared lunchrooms (Barimani and Hylander, 2008; Munro et al., 2013).

3.4.2. Telephone contact

Telephone contact was reported in four studies as a means of communication (Bar-Zeev et al., 2012; Draper et al., 1984; Psaila et al., 2014b; Psaila et al., 2014c). Telephone contact was found helpful for facilitating interprofessional working (Psaila et al., 2014b) or enabling joint discharge planning (Bar-Zeev et al., 2012). Indeed, 25.6% (n= 164/650) of participants reported using telephone contact to access support from child and family health nurses with some variation dependent on geographical location (Psaila et al., 2014b). In a UK study, 37.5% (n= 15/40) of health visitors reported using telephone contact for meetings with midwives (Draper et al., 1984).

3.4.3. Women's records

Four studies (six articles) identified women's medical records as a means to communicate (Homer et al., 2009; Psaila et al., 2014a; Psaila et al., 2014b; Psaila et al., 2014c; Psaila et al., 2014d; Schmied et al., 2015). Records were shared between the professionals either through hard copies or electronically, and found to be used largely in transition of care, in conjunction with other collaboration methods. For instance, maternity staff advised women to book their first postnatal appointment with the child and family health centre, then women's discharge notes were sent via fax (Homer et al., 2009).

Moreover, an Australian state-wide initiative utilised an electronic database to link women with local child and family health nurses. Women's physical and psychosocial needs, entered into the system by midwives, were emailed to the relevant child and family health nurse (Psaila et al., 2014a; Psaila et al., 2014c). National survey data revealed that 35.7% (n= 232/650) of midwives reported using electronic referral (Psaila et al., 2014b) with some variation across locations (Psaila et al., 2014b; Schmied et al., 2015). Sharing electronic medical records provided convenient access to accurate information, especially for families with complex needs (Psaila et al., 2014b; Psaila et al., 2014d).

3.5. Research question 3: How effective is the collaboration between midwives and health visitors?

No controlled studies assessing the effectiveness of collaboration against identified outcome measures were found for inclusion in this review. However, nine studies explored collaboration's effectiveness using self-report measures (Bar-Zeev et al., 2012; Barimani and Hylander, 2008; Clancy et al., 2013; Draper et al., 1984; Farquhar et al., 1998; Psaila et al., 2014a; Psaila et al., 2014b; Psaila et al., 2014c; Psaila et al., 2014d; Regan and Ireland, 2009; Schmied et al., 2015; Wiles and Robison, 1994). Some reported that the collaborative relationships between these health professionals were somewhat effective (Psaila et al., 2014a, Regan and Ireland, 2009, Clancy et al., 2013) but needed improvement. A small UK community practice reported that their success was largely due to having a shared office where communication barriers could be overcome (Regan and Ireland, 2009). Although it was reported that a closer relationship between midwives and child and family health nurses could be established in rural Australia, midwives reported having stronger collaborative relationships with other healthcare professionals than with child and family health nurses (Psaila et al., 2014d).

Although 51% (n= 18/35) of health visitors in a UK study reported having 'good' working relationships with midwives, only 8% (n= 3/35) rated their relationship with midwives as 'excellent' (Farquhar et al., 1998). Health visitors who worked with midwives antenatally were found to have positive relationships with their colleagues, illustrated by reports of frequent and good communication (Draper et al., 1984). Yet, during transition of care, international data suggest that collaboration is ineffective. For instance, only 20% of participants (including midwives and health visitors, amongst others) in Bar-Zeev and colleagues' (2012) study found at least one aspect of the discharge process effective. Similarly, midwives and child health care nurses in Sweden reported that relationships with parents in the postpartum period deteriorated because of poor collaboration (Barimani and Hylander, 2008).

As part of this analysis, a number of enablers and barriers to collaboration and communication were identified. Each of these, beginning with the enablers of communication and collaboration will be discussed sequentially.

3.5.1. Enabling factors of collaboration

Enablers of collaboration included good communication (Clancy et al., 2013; Homer et al., 2009; Psaila et al., 2014d; Regan and Ireland, 2009), mutual respect and support for colleagues (e.g. Psaila et al., 2014b; Psaila et al., 2014d; Regan and Ireland, 2009), liaison staff roles (Penny, 2015), co-location (Schmied et al., 2015) and joint working (Farquhar et al., 1998).

3.5.1.1. Good communication

A UK case study found that good communication enabled the midwife and health visitor to address women's needs early, which resulted in continued support until two years after the birth (Regan and Ireland, 2009). This also enabled midwives and child and family health nurses to transfer or share relevant and accurate information with each other on time (Penny, 2015; Psaila et al., 2014d).

3.5.1.2. Mutual respect and support for colleagues

A large UK survey found that the majority of midwife respondents (n= 325/468, 85%) reported working alongside health visitors (Bennett et al., 2001). Shared experiences and learning were found to enrich the midwife-health visitor collaborative relationship (Bennett et al., 2001). Being part of a 'team' was reported to be influential in fostering collaboration between midwives and health visitors (Homer et al., 2009; Munro et al., 2013; Penny, 2015; Wiles and Robison, 1994). A large Norwegian study found that midwives valued collaborating with health visitors (Clancy et al., 2013). Moreover, a Swedish study found that supportive and positive colleagues contributed to service delivery (Edvardsson et al., 2012). Espousing a team approach with families was reportedly beneficial, enabling families to seek support actively, connect with local services, and have a platform for raising issues and concerns with the relevant health professionals (Psaila et al., 2014a). In sum, respecting and supporting colleagues' role and ability enabled collaboration (Barimani and Hylander, 2008) and afforded these health professionals the opportunity to meet their own responsibilities and uphold policy recommendations.

3.5.1.3. Co-location

Geographical proximity allowed for increased contact (Clancy et al., 2013) as found in five studies (Clancy et al., 2013; Edvardsson et al., 2012; Homer et al., 2009; Psaila et al., 2014d; Schmied et al., 2015). Shared office space provided the opportunity to give immediate feedback and discuss client support needs (Clancy et al., 2013; Regan and Ireland, 2009).

3.5.1.4. Joint working, activity or action

Joint working offered an opportunity to deliver accurate information and advice, and to establish trusting relationships with families (Psaila et al., 2014a). This involved joint home visits, meetings, needs assessments, antenatal education classes and parenting support groups (Draper et al., 1984; Edvardsson et al., 2012; Farquhar et al., 1998; Penny, 2015; Regan and Ireland, 2009). Joint working enabled midwives and child and family health

nurses to obtain a comprehensive picture of a client's needs, conduct joint discharge planning, thereby addressing these needs adequately (Bar-Zeev et al., 2012; Penny, 2015). Joint discharge planning was described as particularly advantageous for supporting women with more complex needs such as extended hospital stays (Penny, 2015), and socially and/or emotionally vulnerable women (Homer et al., 2009). A UK case study demonstrated that conducting joint assessments and referrals, as well as sharing relevant resources and information offered women maximum support in a team context (Regan and Ireland, 2009). Similarly, Barimani and Hylander (2012) found that joint action facilitated successful transition of care. Through established connections and set meetings where information could be shared, midwives and health visitors reported to achieve continuity of care (Homer et al., 2009). When these opportunities were absent, relevant information was acquired through informal contacts with staff members, to ensure continuity (Penny, 2015).

3.5.1.5. Liaison staff

Homer and colleagues (2009) found that around a quarter (n= 17/67) of their study participants considered liaison staff important in providing continuity of care. Having liaison staff meant that information is transferred, clients are referred, and visits are arranged as needed. Thus, support to women and families is adequately provided (Psaila et al., 2014a; Psaila et al., 2014d). This role was associated with good communication, established contact with families, and timely and accurate information sharing. In Australia, liaison staff facilitated the transfer of discharge summaries to relevant child and family health services after babies were born (Homer et al., 2009).

3.5.2. Barriers to collaboration

Barriers to collaborative practice reported in the reviewed articles included poor communication (Bar-Zeev et al., 2012; Psaila et al., 2014c; Regan and Ireland, 2009), distance (Barimani and Hylander, 2012; Edvardsson et al., 2012), limited resources and support (Penny, 2015; Psaila et al., 2014b), divergent philosophies of care (Psaila et al., 2014c; Wiles and Robison, 1994), and poor knowledge of each other's roles (Homer et al., 2009). Each of these will be discussed in turn.

3.5.2.1. Poor communication

Poor communication was associated with delays in care (Regan and Ireland, 2009), inaccurate information transfer (Homer et al., 2009), and missed opportunities for early intervention (Regan and Ireland, 2009). Four studies identified poor communication as an impediment to collaboration in antenatal care (Farquhar et al., 1998; Psaila et al., 2014a; Psaila et al., 2014c; Regan and Ireland, 2009; Schmied et al., 2015). Another example is a study involving health visitors in southeast England reporting poorer communication with midwives during the postnatal period (*n*= 22/35, p= .002244), with only 62% of health visitors (n= 21/35) reporting links with midwives (Farquhar et al., 1998).

3.5.2.2. Distance

UK midwives reported that their detachment from GP practices contributed to reduced levels of team working (Wiles and Robison, 1994). Collaboration in larger communities was reported to be difficult to achieve and have negative impacts (Clancy et al., 2013). The same

was found in remote and urban Australian communities (Schmied et al., 2015), as well as other urban areas in the UK and Sweden (Draper et al., 1984; Edvardsson et al., 2012). Similarly, the physical distance between antenatal clinics and child health care services in a large Swedish city reportedly hindered midwives from conducting joint activities with child health care nurses, resulting in weakened connections (Barimani and Hylander, 2008).

3.5.2.3. Limited resources and support

High workloads and staff shortages were reported impediments to collaboration in three studies (Edvardsson et al., 2012; Penny, 2015; Schmied et al., 2015). Limited resources (e.g. limited staff and funding) and managerial support meant that midwifery and child and family health nursing capacity was stretched especially in remote areas where few staff were willing to work (Schmied et al., 2015). Limited resources and support was associated with the fragmentation of information collected and shared, making workloads difficult to manage amongst available staff members (Penny, 2015). Further, a lack of funds was associated with delayed interventions in one UK case study (Regan and Ireland, 2009).

3.5.2.4. Poor knowledge of each other's role

Misunderstanding of role function has been suggested to negatively affect the care process (Schmied et al., 2015). For example, not knowing the tasks each profession is accountable for (i.e. task-based), and the timeframe each profession is responsible for (i.e. time-based) (Barimani and Hylander, 2008; Psaila et al., 2014d; Schmied et al., 2015) can lead to a woman being given conflicting advice, receiving limited support, or being advised of a service that a midwife or child and family health nurse may not necessarily be able to provide (Penny, 2015). Moreover, there can be confusion in terms of the professional responsible for delivering certain aspects of care. For example, during the handover period, when midwifery and child and family health services overlap (Psaila et al., 2014b), it was observed that having multiple professionals involved can be problematic, resulting in a lack of accountability amongst staff (Bar-Zeev et al., 2012). Further, a large survey of UK midwives found that they perceived certain aspects of care (e.g. well-women clinics) as beyond their role (Bennett et al., 2001). Barimani and colleagues (2012) found that child health care nurses in a large Swedish city had little awareness of midwives' competences, particularly in the area of breastfeeding. Yet, another study found that both midwives and child and family health nurses "perceived themselves as the best positioned to co-ordinate care for the family" (Psaila et al., 2014c, p.7). Finally, women's lack of knowledge of the health visitor role can present as a barrier, negatively affecting midwives' and health visitors' collaborative efforts (Homer et al., 2009).

3.5.2.5. Inadequate information transfer

Homer and colleagues (2009) found that child and family health nurses had experiences where important information about women was withheld by midwives, which they associated with poor communication and understanding of role boundaries. This finding was referred to as *selective sharing* in another study, whereby information (e.g. a diagnosis) can be withheld by health professionals to avoid misinterpretation of women's notes (Penny, 2015). This was also found in one large Australian study, where psychological assessments were undertaken by 86.9% (n= 291/335) of public sector midwives, yet only 38.9% (n= 130/334) of them included assessment information in women's discharge summaries. Inadequate information

transfer also negatively affected relationships between midwives and child and family health nurses: nurses reported concerns over giving advice to other professionals (including midwives), regarding women they are not linked with (Schmied et al., 2015). Australian child and family health nurses reported that limited and sometimes inaccurate information provided by midwives affected their ability to attend adequately to women's needs (Homer et al., 2009; Psaila et al., 2014b; Schmied et al., 2015). In rural Australia, discharge was reported to be difficult, owing to poor co-ordination of information transfer (Bar-Zeev et al., 2012). Child health care nurses in a large Swedish city reported that midwives provided them with inadequate summaries and records (Barimani and Hylander, 2008), as was found in other metropolitan areas in Sweden and Australia where workloads were heavy (Edvardsson et al., 2012; Schmied et al., 2015). This reportedly resulted in restricted opportunities for women to connect with health visitors after birth.

3.5.2.6. Divergent philosophies of care

Divergent philosophies of care was cited as a barrier to collaboration in six studies (Bar-Zeev et al., 2012; Barimani and Hylander, 2008; Homer et al., 2009; Munro et al., 2013; Penny, 2015; Psaila et al., 2014c; Schmied et al., 2015). One study found that because these health professionals practised independently of each other, service delivery tended to be fragmented (Homer et al., 2009). It was found that 53% of UK health visitors (n= 9/17) felt they had a shared philosophy of care with midwives, whilst fewer midwives (41%; n= 7/17) felt the same (Wiles and Robison, 1994). This reportedly affected midwives' and health visitors' level of accountability to their clientele, and risked women and their families being given inadequate information and interventions, if any at all (Penny, 2015). Finally, Canadian midwives reported interprofessional work to be challenging as other professions may have negative views of their practice (Munro et al., 2013).

3.6. Research question 4. Do the identified examples of communication and collaboration between midwives and health visitors adhere to policy recommendations and guidelines?

Relevant policies and recommendations were considered in the context of the studies conducted. A central finding across the studies was that although government initiatives and policies encouraged collaborative working in maternal and child health services, data suggest that collaboration in practice was rare. Taking Australian government policy as an example, the drive for interprofessional collaboration in maternity care (Australian Government National Health and Medical Research Council, 2010) did not translate fully into practice, with national survey data revealing low levels of collaboration (Psaila et al., 2014b). Similarly, UK midwives and health visitors are expected to work in partnership (National Institute for Health and Care Excellence, 2014), yet evidence suggests that this was not taking place (Farquhar et al., 1998, Bennett et al., 2001).

4. Discussion

The current review synthesised the evidence concerning interprofessional collaboration between midwives and health visitors. Overall, the studies reviewed showed that midwives and health visitors valued interprofessional collaboration, and shared the goal of delivering high-quality care to women, their children and families. Despite the acknowledgement of the increasing importance of integration in healthcare services in the last two decades (Rodríguez and des Rivières-Pigeon, 2007), the current review showed that in practice,

collaboration between midwives and health visitors can be challenging, due to interrelated factors such as limited resources and poor knowledge of each other's role, amongst others.

Moreover, although these healthcare professionals reported positive views of interprofessional collaboration (e.g. Barimani and Hylander, 2012), evidence of interprofessional collaborative practice in maternal and child health services was rare (Bar-Zeev et al., 2012; Homer et al., 2009) and at best, of modest success according to self-report measures (Edvardsson et al., 2012; Regan & Ireland, 2009).

Variables influencing the effectiveness of collaboration between midwives and health visitors in practice include the barriers and enablers identified in this review, most notably, communication. This is in line with existing theories of collaboration which feature communication as a team process (Reeves et al., 2010). Indeed, the wider interprofessional collaboration research suggests that multiple factors influence the performance of interprofessional behaviour, and these can be behavioural, organisational or contextual (Reeves et al., 2010). For instance, Norwegian data suggested that those working in small communities had greater ability to collaborate than those in large communities (Clancy et al., 2013). However, Australian data suggested that those in small remote communities tend to be isolated (Bar-Zeev et al., 2012), echoing the literature which suggests that variations in interprofessional collaborative practice could be influenced by the contextual domain or broader issues (i.e. country, culture) in which the health professionals are nested (Reeves et al., 2010). Relatedly, UK data showed a relationship between the number of midwives with whom health visitors worked and health visitors' levels of satisfaction with their interprofessional relationships (Draper et al., 1984). This indicates that relational and processual factors influence interprofessional collaboration between midwives and health visitors, in line with previous research (D'Amour et al., 2008; Reeves et al., 2010). Finally, successful collaborative efforts identified in this review were characterised by good communication, opportunities to work together, availability of resources, and a clear understanding of professional roles (Psaila et al., 2014a; Psaila et al., 2014b; Psaila et al., 2014c; Regan and Ireland, 2009; Schmied et al., 2015). However, it is concerning that issues related to poor co-ordination, which had already been identified in a 1959 review of maternity services in England and Wales (Hunter, 2012), still exist. In conclusion, organisations are influential, both positively and negatively, on the implementation of interprofessional collaboration.

4.1. Methodological limitations of included studies

Data heterogeneity presented certain limitations. First, no studies containing quantitative data based their sample size on statistical power, increasing the risk for both Type I and Type II errors. Second, there were no controlled studies found for inclusion in this review. Furthermore, the lack of intervention and pre- and post-studies limited our ability to aggregate findings on collaboration's effectiveness and impact on health outcomes and job satisfaction. The mixed evidence on the effectiveness of collaboration was reliant on self-reports of effectiveness; thus, findings need to be interpreted with caution.

Despite variations in study quality, the studies presented congruent findings across different settings and contexts, which indicates that the results are transferrable. For instance, common themes on the ways through which collaboration is or could be achieved were found including the desire for good communication. This suggests that strategies to improve

methods of communication between health professionals need to be further developed and evaluated for effectiveness. Taken together, this evidence synthesis provides a global perspective on the collaborative relationships between midwives and health visitors.

4.2. Strengths and limitations of the review

A strength of this review was the comprehensive and robust systematic search. Additionally, the inclusion of published and unpublished research with no time filter restriction allowed for an inclusive synthesis. Whilst the use of decades-old studies can be seen as a limitation considering ever-changing maternal and child health services, a prescribed time period for this review will have resulted in a smaller number of studies for review (Meline, 2006). Further, papers for inclusion were determined by study design and relevance to the purpose of the review (The Cochrane Collaboration, 2011). Indeed, the current review specifically concerns the nature and conduct of interprofessional collaborative working between midwives and health visitors. As such, the behaviour or phenomenon of interest transcends the time in which the studies were conducted, their settings and the international service models reviewed. Finally, study quality was assessed by two independent researchers, and was considered in the discussion of the results.

However, this review has limitations which should be considered. The review focussed on midwives and health visitors, however, some studies included health professionals other than the two groups specified. We were unable to analyse some data separately between these groups, thus, a decision was made to keep to findings explicitly relating to midwives and health visitors only. Data heterogeneity is a commonplace scenario in reviews of health services and policy research studies (Rodríguez & Rivières-Pigeon, 2007). A narrative approach was utilised to address this.

4.3. Clinical practice and research implications

The review findings illustrate the enablers of collaboration between midwives and health visitors in maternal and child health services, such as good communication and co-location. Policy makers should consider the barriers to collaboration (e.g. information transfer) when planning and commissioning services. The utility of interprofessional collaboration should also be taken into account.

In terms of achieving optimal levels of collaboration, the evidence remains equivocal. This warrants further study, particularly when government initiatives call for increased collaboration despite scant robust and theoretically-informed evidence. Whilst some of the studies referred to relevant theory, it remains unclear what the most influential factors are to interprofessional collaboration between these two groups, partly because collaboration is vaguely defined (Xyrichis and Lowton, 2008). Indeed, interventions to increase interprofessional collaborative practice between midwives and health visitors need to be tested against available theories of interprofessional practice (D'Amour et al., 2008; Reeves et al., 2010), and evaluated for effectiveness and cost-effectiveness.

5. Conclusion

This review revealed the challenges to collaborative practice as well as midwives' and health visitors' visions of effective interprofessional collaboration. Whilst some discussed enablers to collaboration, others explored difficulties in implementing collaboration in practice. Studies highlighted the importance of increased support through the provision of opportunities to

collaborate, to communicate clearly one's role function to relevant professionals, and to increase shared resources. However, this may be challenging due to structural or organisational barriers, which need to be considered when attempting to understand interprofessional collaborative behaviours. Successful interprofessional collaboration can be characterised by being able to connect with each other early, being flexible and having a team approach. Ultimately, midwife-health visitor collaboration is valuable and can be beneficial for all parties involved in the service context.

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393 References

394 Bar-Zeev, S.J., Barclay, L., Farrington, C., Kildea, S., 2012. From hospital to home:
395 The quality and safety of a postnatal discharge system used for remote
396 dwelling Aboriginal mothers and infants in the top end of Australia. Midwifery
397 28 (3), 366-373.
398 Barimani, M., Hylander, I., 2012. Joint action between child health care nurses and
399 midwives leads to continuity of care for expectant and new mothers.
400 International Journal of Qualitative Studies on Health and Well-being 7
401 (18183).
402 Barimani, M., Hylander, I., 2008. Linkage in the chain of care: a grounded theory of
403 professional cooperation between antenatal care, postpartum care and child
404 health care. International Journal of Integrated Care 8, e77-e77.
405 Bennett, N., Blundell, J., Malpass, L., et al., 2001. Midwives' views on redefining
406 midwifery 2: public health. British Journal of Midwifery 9 (12), 743-746.
407 Center for Evidence Based Management, n.d. What is critical appraisal?,
408 http://www.cebma.org/frequently-asked-questions/what-is-critical-appraisal/
409 (28 October 2015).
410 Clancy, A., Gressnes, T., Svensson, T., 2013. Public health nursing and
411 interprofessional collaboration in Norwegian municipalities: a questionnaire
412 study. Scandinavian Journal of Caring Sciences 27 (3), 659-668.
413 Critical Appraisal Skills Programme, 2013. History, http://www.casp-
414 uk.net/#!history/cnxo (28 October 2015).
415 D'Amour, D., Goulet, L., Labadie, J.-F., San Martín-Rodriguez, L., Pineault, R., 2008.
416 A model and typology of collaboration between professionals in healthcare
417 organizations. BMC health services research 8 (1), 1.
418 Draper, J., Farmer, S., Field, S., 1984. The working relationship between the health
419 visitor and community midwife. Health Visitor 57 (12), 366-368.
420 Edvardsson, K., Ivarsson, A., Garvare, R., Eurenius, E., Lindkvist, M., Mogren, I.,
421 Small, R., Nyström, M.E., 2012. Improving child health promotion practices in
422 multiple sectors - outcomes of the Swedish Salut Programme. BMC Public
423 Health 12, 920.
424 Farquhar, M., Camilleri-Ferrante, C., Todd, C., 1998. Working with team midwifery:
425 health visitors' views of one team midwifery scheme. Journal of Advanced
426 Nursing 27 (3), 546-552.
427 Glover, V., 2011. Annual research review: prenatal stress and the origins of
428 psychopathology: an evolutionary perspective. Journal of Child Psychology
429 and Psychiatry 52 (4), 356-367.
430 Homer, C.S., Henry, K., Schmied, V., Kemp, L., Leap, N., Briggs, C., 2009. 'It looks
431 good on paper': transitions of care between midwives and child and family
432 health nurses in New South Wales. Women & Birth: Journal of the Australian
433 College of Midwives 22 (2), 64-72.
434 Hunter, B., 2012. Midwifery, 1920-2000: The reshaping of a profession. In: Borsay,
435 A., Hunter, B. (Eds.), Nursing & midwifery in Britain since 1700. Palgrave
436 Macmillan, Great Britain, pp. 151-169.
437 International Confederation of Midwives, 2011. ICM International Definition of the
438 Midwife,
439 http://www.internationalmidwives.org/assets/uploads/documents/Definition%2
440 0of%20the%20Midwife%20-%202011.pdf (28 October 2015).
441 Kurth, E., Krähenbühl, K., Eicher, M., Rodmann, S., Fölmli, L., Conzelmann, C.,
442 Zemp, E., 2016. Safe start at home: what parents of newborns need after

443 early discharge from hospital – a focus group study. BMC Health Services
444 Research 16 (1), 1-14.
445 Meline, T., 2006. Selecting studies for systematic review: Inclusion and exclusion
446 criteria. Contemporary Issues in Communication Science and Disorders 33
447 (21-27).
448 Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., 2009. Preferred Reporting Items for
449 Systematic Reviews and Meta-Analyses: The PRISMA Statement. Annals of
450 Internal Medicine 151 (4), 264-269.
451 Munro, S., Kornelsen, J., Grzybowski, S., 2013. Models of maternity care in rural
452 environments: Barriers and attributes of interprofessional collaboration with
453 midwives. Midwifery 29 (6), 646-652.
454 NHS England, 2014. 2015 – 16 National Heath Visiting Core Service Specification.
455 Penny, R.A., 2015. The concept of collaboration: a critical exploration of the care
456 continuum.
457 Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N.,
458 Roen, K., Duffy, S., 2006. Guidance on the conduct of narrative synthesis in
459 systematic reviews.
460 Psaila, K., Fowler, C., Kruske, S., Schmied, V., 2014a. A qualitative study of
461 innovations implemented to improve transition of care from maternity to child
462 and family health (CFH) services in Australia. Women and Birth: Journal of
463 the Australian College of Midwives 27 (4), e51-e60.
464 Psaila, K., Kruske, S., Fowler, C., Homer, C., Schmied, V., 2014b. Smoothing out the
465 transition of care between maternity and child and family health services:
466 Perspectives of child and family health nurses and midwives'. BMC
467 Pregnancy and Childbirth 14 (1).
468 Psaila, K., Schmied, V., Fowler, C., Kruske, S., 2014c. Discontinuities between
469 maternity and child and family health services: health professional's
470 perceptions. BMC Health Services Research 14, 4.
471 Psaila, K., Schmied, V., Fowler, C., Kruske, S., 2014d. Interprofessional
472 collaboration at transition of care: Perspectives of child and family health
473 nurses and midwives. Journal of Clinical Nursing 24, 160–172.
474 Reeves, S., Lewin, S., Espin, S., Zwarenstein, M., 2010. Interprofessional teamwork
475 for health and social care. Blackwell Publishing Ltd.
476 Reeves, S., Zwarenstein, M., Goldman, J., Barr, H., Freeth, D., Hammick, M.,
477 Koppel, I., 2008. Interprofessional education: effects on professional practice
478 and health care outcomes. Cochrane Database of systematic reviews 1 (1).
479 Regan, P., Ireland, L., 2009. In the moment: A health visitor and a midwife describe
480 their experiences of working in an exemplar interprofessional service model in
481 Warrington. Community Practitioner 82 (5), 34-35.
482 Rodríguez, C., des Rivières-Pigeon, C., 2007. A literature review on integrated
483 perinatal care. International Journal of Integrated Care 7, e28.
484 Schetter, C.D., Tanner, L., 2012. Anxiety, depression and stress in pregnancy:
485 implications for mothers, children, research, and practice. Current opinion in
486 psychiatry 25 (2), 141.
487 Schmied, V., Homer, C., Fowler, C., Psaila, K., Barclay, L., Wilson, I., Kemp, L.,
488 Fasher, M., Kruske, S., 2015. Implementing a national approach to universal
489 child and family health services in Australia: professionals' views of the
490 challenges and opportunities. Health & Social Care in the Community 23 (2),
491 159-170.

Schmied, V., Mills, A., Kruske, S., Kemp, L., Fowler, C., Homer, C., 2010. The nature and impact of collaboration and integrated service delivery for pregnant women, children and families. Journal of Clinical Nursing 19 (23-24), 3516-3526.

Sirriyeh, R., Lawton, R., Gardner, P., Armitage, G., 2012. Reviewing studies with diverse designs: the development and evaluation of a new tool. Journal of evaluation in clinical practice 18 (4), 746-752.

The Cochrane Collaboration, 2011. Cochrane Handbook for Systematic Reviews of Interventions, http://handbook.cochrane.org/ (09 June 2016).

While, A., Murgatroyd, B., Ullman, R., Forbes, A., 2006. Nurses', midwives' and health visitors' involvement in cross-boundary working within child health services. Child: Care, Health & Development 32 (1), 87-99.

Wiles, R., Robison, J., 1994. Teamwork in primary care: the views and experiences of nurses, midwives and health visitors. Journal of Advanced Nursing 20 (2), 324-330.

World Health Organization, 2010. Framework for action on interprofessional education & collaborative practice. WHO, Geneva.

Xyrichis, A., Lowton, K., 2008. What fosters or prevents interprofessional teamworking in primary and community care? A literature review. International Journal of Nursing Studies 45 (1), 140-153.

Zwarenstein, M., Goldman, J., Reeves, S., 2009. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews 3 (3).