

Examining the transformation of midwifery education in Australia to inform future directions: An integrative review

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ABSTRACT

Background: Integral to quality midwifery practice is the education of midwives. Like other countries, Australia faces ongoing challenges in delivering midwifery education programs. Reasons include escalating program costs, challenges in securing meaningful clinical experiences, subsumption of midwifery with nursing, and associated loss of identity in some institutions.

Aim: To critically examine the literature exploring the historical and current drivers, supports and impediments for entry-to-practice midwifery programs to identify strategies to strengthen midwifery education in Australia.

Methods: A structured integrative literature review using Whittemore and Knafel's five-stage framework was undertaken; 1) problem identification, 2) literature search, 3) data evaluation, 4) data analysis, and 5) presentation of results.

Findings: The literature search identified 50 articles for inclusion. The thematic analysis identified four key themes: i. a commitment to educational reform, ii. building a midwifery workforce, iii. quality maternity care through midwifery education, and iv. progressing excellence in midwifery education.

Discussion: Extensive literature describes the evolution of midwifery education in Australia over the last 30 years. Through collaboration and amidst opposition, quality midwifery education has been established in Australia. Identification of midwifery as a distinct profession and transformative leadership have been integral to this evolution and must be grown and sustained to prevent a decline in standards or quality.

Conclusion: There is a need to address priorities in midwifery education and for the evaluation of midwifery programs and pedagogy. The provision and maintenance of quality education and practice require shared responsibility between education providers and health care services.

Abbreviations: ACM, Australian College of Midwives; ACMI, Australian College of Midwives Incorporated; AHPRA, Australian Health Professional Regulation Authority; AMAP, Australian Midwifery Action Plan; ANEST, Australian National Education and Standards Taskforce; ANF, Australian Nursing Federation; CCE, Continuity of Care Experience; ICM, International Confederation of Midwives; NMBA, Nursing and Midwifery Board of Australia; WHO, World Health Organization.

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Statements of Significance

Problem or Issue

Quality midwifery education is integral to the quality of midwifery practice and ensuring the best outcomes for women and babies. Midwifery education in Australia has undergone significant changes over the last 30 years.

What is Already Known

The move to higher education for midwifery entry-to-practice programs was embraced in the early 2000's. The introduction of national practice and education standards were major quality initiatives.

What this Paper Adds

Identification of midwifery as a distinct profession and transformative leadership has led to substantial changes in midwifery education in Australia. Provision and maintenance of quality education and practice require shared responsibility between education providers and health care services.

Introduction

Globally, quality midwifery care has been identified as a key factor in preventing the mortality and morbidity of women and children. [1,2] Integral to quality midwifery care is the education of midwives. [1] The World Health Organization (WHO) argues in order to strengthen midwifery, midwives must be educated to international standards. [1] The International Confederation of Midwives (ICM) provides global standards for midwifery education, and midwives who meet these standards can practice the full scope of midwifery [1,3].

Midwifery is one of the oldest professions, and in Australia, long before Europeans arrived, Aboriginal-led midwifery care was practised for countless generations. [4] After colonisation, childbirth practices became reflective of Britain, and most babies were born at home with a midwife. Like English midwives at that time, none of the early midwives had formal training. [4] Several well-documented 'class and gender' mechanisms occurred in the late 1800 s, placing midwives under the control of medicine. [5] (p5) Whilst midwifery training programs were initially set up for nurses and non-nurses, medicine and nursing opposed the training of independent midwives. They determined that midwives' training should only occur after completing 'general' nursing. [5] Formal midwifery training in Australia began with diploma-level education as an extension of nursing, in hospitals under the control of medicine and nursing, with vastly different requirements between states [6].

Significant changes to the profession of midwifery and midwifery education evolved from the mid-1990 s. These included: the move from hospital to university-based education; the recognition of the midwifery profession as distinct from nursing; the establishment of Bachelor of Midwifery programs not requiring a nursing qualification; national registration; the implementation of professional competencies; and the introduction of national midwifery education accreditation standards [7–9]. Many of these changes were made in response to the Government-funded Australian Midwifery Action Project (AMAP) recommendations, [10] where key midwifery leaders identified an urgent need to develop the midwifery profession further. Significant progress has been made in implementing the AMAP regulatory and education recommendations, but further action is needed.

Currently, 23 universities across Australia offer entry-to-practice

pathways for midwifery, which include undergraduate and post-graduate degrees. In addition, eight universities offer nursing and midwifery double degrees at the undergraduate level. [11] All entry-to-practice programs must meet national accreditation standards by fully implementing the national midwifery education standards. [12] Despite this, it is recognised that there are challenges across the sector, with a recent Delphi study identifying research and practice priorities to be addressed in the Trans-Tasman region. [13] Despite the high demand for programs and predicted shortages of midwives, [13] particularly in rural areas, [14] the viability of some entry-to-practice midwifery programs in Australia is under threat. Viability is primarily due to the escalating costs of program implementation, limitations on clinical experiences, lack of visibility, and the continued subsumption of midwifery with nursing by education providers and industry partners [8].

To identify strategies to address these challenges, this integrative review aimed to examine the historical and current drivers, supports and impediments for entry-to-practice programs and reflect on lessons learned to inform future directions to grow and strengthen midwifery education in Australia.

Methods

A comprehensive search for primary and grey literature was undertaken in May 2021, using the following databases: Eric, OVID Embase, OVID Emcare, OVID Medline, PubMed, Science Direct and Scopus. A manual search of reference lists and PubMed similar article lists was also undertaken. The following search terms were used: Midwi* ; Nurse-Midwives, educ* ; train* ; pre-service; degree; diploma; Australia* ; profession*. The terms were purposefully broad to capture a comprehensive range of data. Inclusion criteria included: published from 1980, full-text available, theses, professional and government documents, English language, and focused on the Australian midwifery education context in relation to the review aim.

The references were uploaded to Covidence, and an automated duplicate screening was undertaken. The remaining literature (1507 references) was reviewed for relevance and against the inclusion criteria by title and abstract (one-person screen by KG). A full-text two-person review of 123 references was undertaken, with reviewers reaching a consensus through discussion for any conflicting decisions, resulting in 50 references considered appropriate for inclusion in the review. A Prisma flow diagram summarises the search process (Fig. 1).

Data were extracted into a summary table (Table 1). Joanna Briggs Institute (JBI) critical appraisal tools [15] were used to assess the quality of the research, text, and opinion papers to confirm suitability for inclusion in the integrative review. Fifty articles were considered of appropriate quality for inclusion in the review.

Data analysis involved the ordering, coding, categorising, summarising, and synthesis of the literature. [16] NVivo software [17] was used for data coding. Data reduction classified and organised the data into the categories of drivers, supports and impediments to compare sources systematically. Data were summarised, compared, and synthesised to identify patterns and themes. Conclusions were drawn and verified among team members. [16].

Findings

Thematic analysis of the literature identified four themes and ten sub-themes incorporating historical and contemporary drivers, supports and impediments for entry-to-practice midwifery programs in Australia (Fig. 2).

Commitment to educational reform

The literature identified a clear commitment to maternity reform as a driving factor contributing to the evolution and growth of midwifery

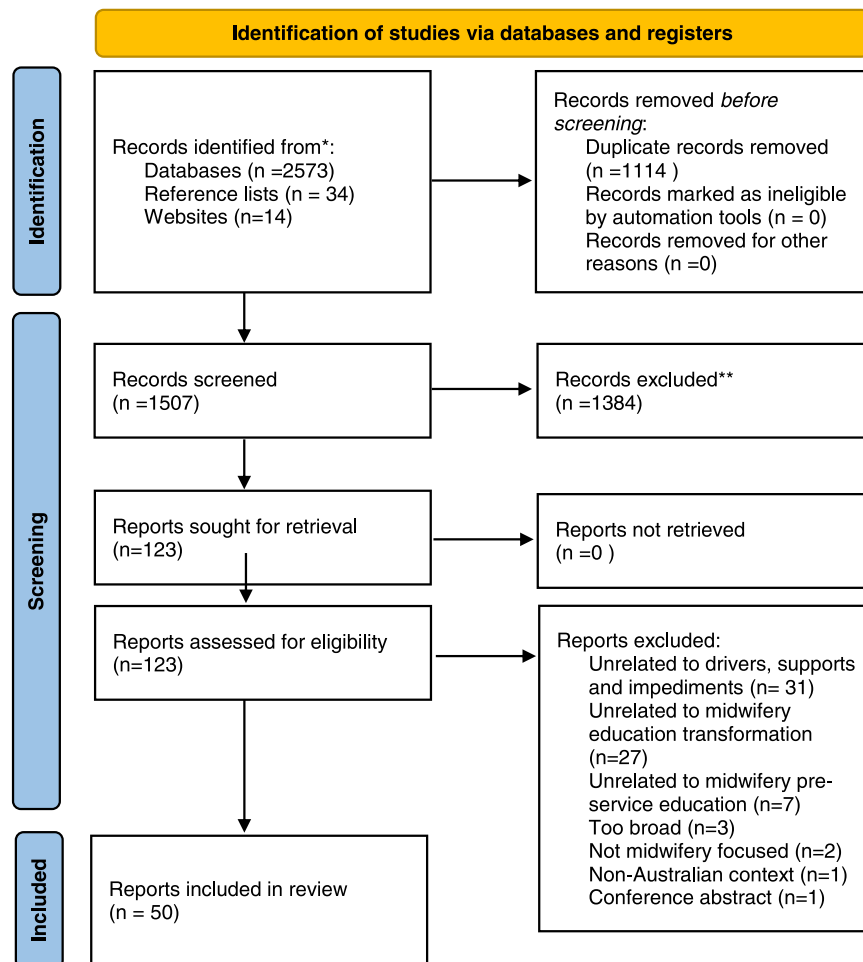


Fig. 1. PRISMA flow diagram. *Adaptation of:* Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews.

BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/>.

education as a distinct and robust discipline in Australia. Three sub-themes emerged and are described below.

Midwifery vision, leadership, and advocacy for change

From the early 1990 s, the Australian College of Midwives Incorporated (ACMI), now the Australian College of Midwives (ACM), recognised the need to revolutionise midwifery education in Australia to influence the introduction of contemporary models of midwifery care and begin the slow process of advocating for change. [18] By the mid-1990 s, there was a groundswell of dissatisfaction within the profession, industry partners, and consumers, catalysing a community of midwives and women with a mandate for change. [8,19] From this, the AMAP was commissioned in 1999 to undertake an extensive review of midwifery practice and education across Australia to provide evidence for broad reform and creation of the regulation of midwifery as a separate profession from nursing. [20] The AMAP was conceived at a particular time in Australian midwifery history that can be seen as a watershed moment [19].

The findings of the AMAP report have been discussed in depth in several papers. [8,10,21–24] Significantly, the report raised concerns regarding the lack of consistency and variation in the quality of midwifery practice standards and entry-to-practice education programs and highlighted the risks this posed to preparing and sustaining a competent workforce to meet the requirements of providing contemporary maternity care. [8,10,19,20,25] Before the publication of the AMAP report, all entry-to-practice programs were offered as a

postgraduate qualification and required students to hold a nursing qualification. Armed with the findings of the AMAP report and supported by international experts, the ACM, along with strong midwifery leaders, began to enact a new vision for Australian midwifery education. [9] This vision aimed to embed entry-to-practice programs within the university sector that would champion the midwifery profession as distinct from nursing, advocate the philosophical value of woman-centredness, and motivate and prepare graduates to confidently work in continuity of midwifery care models [26–28] The AMAP report identified that programs needed to meet international standards with the scope of midwifery practice defined according to international consensus, and in turn, the aim was for registration reciprocity between similar countries [29–31].

The ACM recognised that if midwives were educated to their full potential and scope, they could contribute significantly to new midwifery-led models of care and improve access for underserved women. [25,29] Bringing together expert opinion, experienced educators, midwives, and women, the ACM strongly advocated the need for a three-year undergraduate degree program to prepare students for new models of care. [9] They also engaged many stakeholders in this new direction, including government, policymakers, professional organisations, and leaders of maternity services, [9] recognising that for midwifery education to undergo the magnitude of change required and to secure cooperation from industrial organisations, required Australia-wide, professional, and public support. [18] Following the ACM BMid Taskforce, the ACM-appointed Australian National

Table 1
Characteristics of included publications and results summary.

Reference citation number	1 st Author / Year	Focus	Publication Type and methodology	Data collection method	Sample	Results		
						Drivers	Supports	Impediments
#[29]	Australian Nursing and Midwifery Council 2009	Nursing and midwifery course accreditation	Professional Governance Standards document	–	–	x	x	
#[62]	Australian Nursing and Midwifery Accreditation Council 2014	Nursing and midwifery course accreditation -stakeholder consultation and standards	Professional Governance Standards document	Consultation - questionnaire and forum	Not reported		x	
#[12]	Australian Nursing and Midwifery Accreditation Council 2021	Nursing and midwifery course accreditation - stakeholder consultation and standards	Professional Governance Standards document	Consultation questionnaire	Not reported	x	x	
#[40]	Anonymous 2013	Educational standards and role and scope of the midwife, myths and realities	Editorial	–	–		x	x
#[41]	Barclay 1985	Consistency between Australian states in midwifery definition, policy, regulation and education.	SR Policy & regulation review	Secondary data	State/Territory education regulations, survey data	x		x
#[44]	Barclay 1997	Australian & regional professional issues for midwifery profession, including midwifery education and scope of practice to include continuity of care.	Editorial	–	–		x	x
#[36]	Brodie 2001	Regulation of midwifery education and practice	SR – Policy analysis	Secondary data	8 statutes from The Australasian Legal Information database	x		x
#[43]	Brodie 2002	Barriers to provision of midwifery care and strategies to overcome them.	PR Qualitative Descriptive: critical feminist research	Interactive forums Graffiti boards/ sheets Survey	396 midwives	x		x
#[19]	Brodie 2003	Recognition of midwifery as a profession, leadership and collaboration	SR and PR Doctoral Thesis	Literature review Policy analysis, Interactive forums Secondary data Graffiti boards/ sheets Case studies	8 statutes 396 midwives 3 case studies	x	x	
#[52]	Browne 2014	Midwifery education CCE from diverse stakeholder perspectives.	PR Qualitative	Interviews FGD	15 student midwives, 14 midwives and 6 managers	x	x	
#[27]	Carolan 2007	Experience of BMid implementation and Victoria consortium membership.	Discussion Paper	–	–	x	x	x
#[65]	Chamberlain 1998	Review of midwifery in NSW with focus on midwifery education issues	Discussion Paper	–	–	x		
#[32]	Cutts 2003	Experience of BMid program implementation and Victoria consortium membership.	Discussion Paper	–	–	x	x	x
#[28]	Ebert 2016	Midwifery education requirements – clinical practicum hours, skills and CCE relationships	Discussion Paper	–	–	x	x	x
#[53]	Foster 2021	Exploring the financial, social and psychological costs of CCE	Mixed Methods	Diary review FGD	Midwifery student		x	x
#[59]	Fox-Young 2012	Barriers, enablers and potential for simulation in midwifery education	PR Qualitative Descriptive	Interview FGD	46 midwifery academics			x
#[58]	Francis 2012	Health workforce and sustainability of rural birthing services	Discussion Paper	–	–			x
#[48]	Gamble 2020	CCE educational value, pedagogical intent, assessment issues, and provision of CCE design and education models	Discussion Paper	–	–	x	x	x
#[26]			Report	–	–		x	x

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Table 1 (continued)

Reference citation number	1 st Author / Year	Focus	Publication Type and methodology	Data collection method	Sample	Results		
						Drivers	Supports	Impediments
	Glover 1992	Midwifery education program review and planning for hospital to university transition.						
#[42]	Glover 1999	Midwifery education overview and comparison between beginning and advanced midwifery practice	PR Qualitative	FGD Workshop	FGD: 10 midwifery, clinicians, managers & educators Workshop: 44	x		
#[35]	Glover 2001	Rural midwifery education and workforce development	Discussion paper	NA	NA		x	x
#[56]	Gray 2012	CCE student experience in midwifery pre-registration education programs	PR Quantitative/Qualitative	Survey	93 BMid students 8 BMid graduates			X
#[57]	Gray 2013	CCE student experience in midwifery pre-registration education programs	PR Quantitative/Qualitative	Survey Interviews	Survey: 101 BMid students Interviews: 24 BMid students 4 BMid graduates			x
#[64]	Gray 2016	Embedding CCE into pre-registration midwifery curricula	Discussion Paper	–	–	x		
#[8]	Gray 2017	Progress on the Australian Midwifery Action Project recommendations	Discussion Paper	–	–	x	x	x
#[51]	Hainsworth 2021	CCE in midwifery pre-registration education programs	SR Scoping Review	Secondary data	46 qualitative studies	x	x	X
#[61]	Hancock 1992	Evaluation of higher education pre-registration midwifery programs to prepare for BMid in SA	PR Quantitative/Qualitative	Survey Questionnaire	Stage 1: 40 Heads of School (HOS) Stage 2: 6 HOS			x
#[38]	James 2001	Professional dominance through education and political process	Discussion Paper	–	–		X	x
#[31]	Leap 1999	Introduction of 'direct entry' midwifery pre-registration education	Discussion Paper	–	–	x		x
#[10]	Leap 2002	Midwifery Action Project (AMAP) Education Survey - clinical practice components	PR - Qualitative	Questionnaire Interview	27 University midwifery course coordinators	x		x
#[25]	Leap 2002	Midwifery pre-registration education review	SR – Literature Review	–	–	x	x	x
#[23]	Leap 2003	Midwifery Action Project (AMAP) Education Survey - Addressing barriers and strategies for quality pre-registration midwifery education	PR Qualitative	Questionnaire Interview	27 University midwifery course coordinators		X	x
#[21]	Leap 2003	Midwifery Action Project (AMAP) Education Survey - position of pre-registration midwifery education	PR Qualitative	Questionnaire Interview	27 University midwifery course coordinators		x	x
#[9]	Leap 2017	Development of Australian midwifery education pre-registration national accreditation standards	Discussion paper	–	–	x	x	x
#[37]	Licqurish 2013.	Experiences of Bachelor of Midwifery students' of meeting requirements for competency	PR Qualitative Grounded theory	Interviews Secondary data Field observation	19 BMid female graduates		x	x
#[55]	McKellar 2014	CCE in midwifery pre-registration education programs – challenges and support strategies	PR Mixed methods	FGD Survey	FGD: 3 BMid students, 1 clinical facilitator & 2 academics Survey: 69 BMid students			x
#[33]	McKenna 2007	Experience of BMid program implementation and Victoria consortium membership.	Discussion Paper	–	–			x
#[54]	McLachlan 2013	Perspectives of CCE from Victorian midwifery students and academics	Cross sectional design	Survey	401 midwifery students 35 academics			x
#[46]	Moncrieff 2021	Optimising the continuity experiences of midwifery students: an integrative review.	SR Integrative review	–	–		x	x
#[18]	Pincombe 2003	History of ACMI National Bachelor of Midwifery Taskforce	Discussion Paper	–	–	x	x	x

(continued on next page)

Table 1 (continued)

Reference citation number	1 st Author / Year	Focus	Publication Type and methodology	Data collection method	Sample	Results		
						Drivers	Supports	Impediments
#[30]	Pincombe 2007	and development of the midwifery program standards Australian midwifery registration requirements	PR Delphi Study	Delphi Survey – three rounds	23 midwifery experts	x	x	
#[34]	Rolls 2005	Challenges and benefits of a multi-university consortium in developing midwifery education in Victoria	Discussion Paper	–	–		x	
#[45]	Seibold 2005	First BMid student cohort experiences	PR Quantitative/Qualitative	FGD Interviews Survey	BMid students FGD: 43 Interview: 6 Survey: 13	x		
#[13]	Sidebotham 2021	Identification of Australian and New Zealand midwifery education issues, challenges, and priorities	PR Delphi study	Delphi Survey – two rounds	Round 1: 85 conference delegates Round 2: 110 experts	x	x	x
#[49]	Stewart 2012	Midwifery pre-registration education requirements to meet needs of rural families	Discussion Paper	–	–			x
#[50]	Tierney 2017	CCE in midwifery pre-registration education	Discussion paper	–	–		x	x
#[20]	Tierney 2018.	History of midwifery program governance and accreditation, with focus on CCE.	Discussion Paper	–	–	x	x	x
#[22]	Tracy 2000	Australian Midwifery Action Project (AMAP) – midwifery workforce and education issues	Discussion paper	–	–	x	x	x
#[60]	Wray 2009	Perceptions of medical, midwifery and paramedic pre-registration students of education reform and clinical placement	PR Qualitative	FGD Interviews Written responses	11 midwifery, 21 paramedic & 15 medical students			x
#[47]	Yates 2020	Motivations and intentions of Bachelor of Nursing Science/ Bachelor of Midwifery double degree students in Victoria	PR Quantitative/Qualitative	Survey	83 1st yr students, 49 4th yr students & 51 graduates		x	x

Key to abbreviations: PR-Primary Research, SR Secondary research, FGD Focus Group Discussion



Fig. 2. Themes and sub-themes.

Education and Standards Taskforce (ANEST), collaboration followed two distinct directions, one to agree on national standards that would guide midwifery education and the other to develop undergraduate programs [9,20].

In 2002, five universities commenced a Bachelor of Midwifery three-year program, which did not require students to have nursing registration. This was met with varying degrees of resistance. [9,31] Navigating points of tension amidst increasing solidarity was important. One of the first crises facing the ANEST was the debate surrounding double degrees

of nursing and midwifery. Double degrees with nursing remains an ongoing point of discussion in midwifery education today. [9,32] Beyond this, unprecedented cooperation between universities resulted in forming partnerships and consortiums to develop the programs. [25] For example, South Australian universities delayed the commencement of their programs so that other universities could commence their degrees simultaneously. It was believed this would maximise support for students/new graduates, establish the Bachelor of Midwifery as a mainstream option, and ‘prevent marginalisation of the courses in a

potentially hostile environment'. [9] (p171) Another example was the Werna Naloo consortium in Victoria, where five universities came together, consolidating expertise and rationalising costs. [32–34] Notably, this was achieved 'with relative ease, as each midwife academic in the group shared a common desired outcome for the future of midwifery education. [32] (p183) Collaboration also facilitated greater capacity to gather support, enabling the new Bachelor of Midwifery to belong to the profession and not simply universities [35].

The changes to midwifery education existing today were propelled by a united vision and Australian midwifery leaders willing to engage in collective action required for reform. Most recently, in 2017, having identified a renewed need for national collaboration, the Trans-Tasman Midwifery Education Consortium was established. The consortium currently brings together 26 higher education institutions and four professional organisations across Australia and New Zealand. The consortium's mission is to drive the transformation of midwifery education in Australia and New Zealand through research and 'providing a united voice and direction for midwifery education'. [13] Extending this collaboration across two countries is the first of its kind globally.

Professional identity, standards, and visibility

Moving midwifery forward as a distinct profession was considered vital for changes to the profession and education of midwives. Early on, it became evident that a lack of consistency across the nation threatened the integrity of midwifery education programs and, ultimately, the profession. [36] In 2002, ANEST, underpinned by the ACM competency standards for midwives and with representation from each Australian state and territory, was established to articulate national standards for the accreditation of the Bachelor of Midwifery programs in Australia. [20] Alongside, an international reference group was appointed to ensure that these standards would have parity with international benchmarks. [9,22,25,30] Significantly, the task force engaged in widespread and in-depth consultation, seeking to create a set of standards that would prepare midwives for the 21st century. The development of nationally agreed standards was laborious and complex, but at the core was a need for consensus decision-making across the country. At times this led to lengthy discussion and debate, [9,18] but 'out of this arose a deeper and consensual understanding of what needed to be done, why, by whom, and when [18] (p27).

The resulting standards outlined governance, education, and practice requirements, including minimum practice experience requirements such as births, antenatal and postnatal episodes of care, and continuity of midwifery care experiences. Discussion and debate regarding these standards, how they are measured, and the challenge of achieving them continues and has threatened professional cohesion at times. [37].

The transition of education from hospital to the tertiary sector throughout the 1990s created the opportunity for professional advancement and a 'new professionalism in midwifery. [19] At the same time, the standards provided a way to reassert the midwife's role and further influence legislative and systems change. [9,20,38] In particular, the undergraduate bachelor programs promoted midwifery as a separate profession from nursing, underlining the need for its discreet regulation. [9,27] Delineating midwifery as a profession distinct from nursing has been a critical thread in making midwifery visible and responding to the devaluing and medicalisation of midwifery care. [9].

Ongoing professionalisation through high-quality education remains critical for quality maternal and newborn care. [13,38] The current Australian midwifery education standards are consistent with global standards, supporting midwifery education programs to educate graduates to work to the full scope of midwifery practice as defined by the ICM. [12,39] Additionally, there is growth in midwives undertaking higher education degrees and leading midwifery research. [40] Safeguarding midwifery education and research remain crucial in consolidating midwifery professionalisation.

Professional opposition and obstacles

With vision, determination, and hard work, midwifery was re-established as a valued and distinct profession. However, there was incredible opposition and obstacles along this road. The Australian health care system is medically dominated, and the political environment in nursing, which was 'far more influential professionally and industrially than midwifery', made the change process very difficult [41].

When midwifery education transitioned from hospital to university, it remained a subset of nursing. [31,42] Organisational structures and 'systems of education, regulation and service provision' reinforced 'both the subordination and the invisibility of midwifery'. [43] Nursing leaders showed very little understanding or tolerance to recognise the distinct role and scope of the midwife. [41] Midwives were poorly represented on boards or committees, and there was a refusal to recognise distinct nomenclature in describing midwives. [9,41,44] There was little appetite for a separate midwifery profession but rather outright opposition to introducing an undergraduate midwifery program. Notably, the Australian Nursing Federation (ANF) was directly opposed to the proposed changes, summarising their rationale, which included birthing as part of the holistic care nurses provided across the lifespan [9].

The intensity of debate increased nationally with a growing awareness that some universities were considering introducing undergraduate Bachelor of Midwifery programs. Pincombe [18] recalled that following the ACM's recognition of the benefits of a Bachelor of Midwifery program, stakeholders, including policymakers, consumers, education providers, and some midwives needed further convincing. Perhaps one of the biggest and protracted challenges was to reassure maternity care providers that midwifery graduates, who were not nurses, would be valuable assets to the maternity workforce. [32] Further, despite what was recognised as a curriculum designed to meet the needs of child-bearing women and prospective students, there have been many dissenting voices in the field. For example, one university's course approval committee requested a complete rewrite of the curriculum in 'medical language' to ensure that there was 'nothing missing'. [32].

Building a midwifery workforce

The literature identified that workforce and health service needs played into the requirement for changes in maternity care which impacted midwifery education. This was both a driver but also, at times, an impediment to change. Demand for midwives supported the argument for an undergraduate degree that reduced the time needed to educate midwives. At the same time, albeit slowly, policy and legislation reform were happening. Challenges with staffing rural communities and meeting the needs of First-Nation's women continue to be raised. Three subthemes were identified and are described below.

Industry workforce needs

During the 1990s, a shortage of midwives threatened industry capacity and gave momentum to the new direction in midwifery education. [45] Predicting a significant shortfall, the undergraduate Bachelor of Midwifery was proposed as a solution. Removing the prerequisite nursing degree reduced midwives' education time from four to five years to only three. [9,25,27,44–46] The cost for students undertaking midwifery education was reduced through government funding, moving some programs from a fee-paying postgraduate degree to a subsidised undergraduate program. [8,22,32,35] Alongside this, there was recognition that nurses graduating as midwives did not necessarily practice as midwives because midwifery was seen as a prerequisite for nursing promotion in Australia. [41] Providing focused education with recognition of the full scope of practice was offered to mitigate this, although pathways for career development continued to be a concern for midwives. [23,25].

The undergraduate program also gave rise to the possibility of school

leavers enrolling in midwifery degrees with greater employment longevity. However, there has been a negative attitude towards school leavers because of their perceived lack of life experience [46].

Government policy and legislation reform

For much of the 20th century, midwifery in Australia was recognised as a sub-specialty of nursing, and legislation was slow to distinguish midwives from nurses. [36] Findings from the AMAP Report, alongside international comparisons, consumer lobbying, and the shortage of midwives, evidenced the need for a regulatory framework that distinguished midwifery as a separate profession from nursing. [20] Furthermore, the need for quality maternity care identified through international and national reports led to changes in government policy supporting new models of care. [22,25] A competent and sustainable midwifery workforce underpinned by a robust and appropriate education system was required to sustain this. [10,25] The undergraduate Bachelor of Midwifery was developed in response to these political changes, workforce needs, and seeking to educate graduates who would be prepared to work in new models of care [20,27,32,37].

Much has been done in Australian law and professional bodies to recognise midwifery as a profession in its own right. [47] However, there remains concern that midwives are underrepresented on key government committees, advisory groups, and expert panels, with a need for more equitable representation on decision-making committees. [8] A lack of midwifery-specific education and workforce data also remained challenging. [8,40] Additionally, there remained concern that despite government recommendations, the development of midwifery models of care was slow. Graduate midwives were choosing to leave the profession because they could not practice as they were educated [23, 48].

Midwives for rural maternity care and First Nation communities

While broad consideration of workforce needs contributed to changes to midwifery education, rural and remote maternity services were becoming increasingly difficult to sustain. This fuelled debate over the need for midwives working in rural and regional Australia to also be educated as nurses. It was argued that the usefulness of midwives who are not nurses in rural health services would be limited and not meet workforce needs. [49] This gave rise to support for double degrees, where students can complete the registration requirements for nursing and midwifery in a four-year degree, advocating that clinicians with both qualifications would be more suited to regional and rural areas. [47] Further arguments to support this combination of degrees included limited access to university in some regional areas of the country, a rise in co-morbidities in birthing women, and increased employability with dual registration. [47] However, there is limited research exploring or supporting this argument.

It was hoped that changes to midwifery education would address the poorer outcomes in maternity care for First Nations women. [22] The ideal of providing Indigenous communities with their own midwives and minimising the social disruption of birthing away from country has not been realised [13]. This remains a priority for midwifery education in Australia [13].

Quality maternity care through midwifery education

Education was recognised as a key element in improving Australian maternity care in the literature. A need for improvement in maternal and neonatal outcomes allowed the growth of midwifery models of care underpinned by a woman-centred approach. Continuity of care as a distinct experience for midwifery students and women became the cornerstone of midwifery education and set the Australian curriculum apart from those in other countries. While revolutionary, the Continuity of Care Experience (CCE) educational model was met with misunderstanding and discord. Championing midwifery education as a bastion for quality maternity care was met with challenges and opportunities within

the clinical environment. Three subthemes emerged from the literature and are described below.

Midwifery philosophies and models of care reflected in education

The undergraduate midwifery degree was, in part, a commitment to improving the quality of maternity care in Australia and to ensure a commitment to improving the quality of maternity care in Australia and ensuring that midwives would graduate with knowledge and skills to practice across the full scope of midwifery. [31] A significant driver in the change and implementation of the undergraduate program, however, was the engagement with women advocating for change to maternity services. [9] Dissatisfaction with existing models of fragmented maternity care and a preference for continuity of care models directly influenced the development of new programs. [27] Forums were organised that specifically drew on the knowledge and experiences of maternity services users, allowing them to voice concerns and support for the new programs. [18] There was a groundswell of women's voices, individually and through special interest groups, expressing interest in being involved in the curriculum development process and for the opportunity to study to become a midwife themselves. [32] Consequently, at the heart of the Bachelor of Midwifery curricula underpinned by feminist philosophy was a shared goal to ensure that the woman was placed at the centre of maternity care and to prepare midwives to work in continuity models of care. [32] Recognising that change in the practice environments would take time and limit students' ability to experience the new midwifery models of care, the 'follow through experience' (later known as CCE) was embedded as an essential requirement. [43,45] This experience requires students to follow women through pregnancy, labour, birth and postpartum. [18] The number of CCE has varied significantly over the ensuing years. [48,50] While the current national standards require a minimum of ten CCEs, [12] some university curricula demand students to complete more [20,45].

Distinctiveness and challenges of the continuity of care experience

The CCE remains a defining feature in Australian midwifery education to provide an immersive philosophical experience for students. [28, 51,52] Research indicates that the CCE is a valuable and enriching component for women and students alike. [20,28,51,53] Tierney concluded that students rate the CCE as the most valuable learning component. [50] Yet, the CCE is also an area of considerable contention. This is for various reasons, including a lack of empirical evidence for the prescribed number, the demands this experience places on students practically and financially, and the lack of practice and education provider support. [46,50] Consequently, there remains a wide variety of how the CCE is enacted and experienced by students and the impact of these experiences on developing midwifery philosophies and graduate outcomes. [48] These variations include the model of care in which continuity experience takes place, the mentor and healthcare team, how the university implements and supports continuity experiences, and the strength and reality for students of the underlying philosophy and values of the program. All these factors may influence how relationships, the central theme, are developed, experienced, and valued [46].

Research on CCE appears to have influenced the reduction of CCE requirements over time, citing that the experience placed additional pressure on students and health services, with some literature claiming that the theoretical component of their study was compromised. [53,54] The research also suggested that at times students felt pressured to 'chase the numbers' to meet the minimum CCE number required, [37] detracting from their overall learning experience, [46] and focus on 'the care of the woman and her individual circumstances'. [40] It has also been documented that some students did not feel adequately prepared for CCE and cited a lack of confidence, communication skills, and appropriate support strategies [28,53,55].

Within the literature, students claimed they felt 'their relationship with the woman was not understood or professionally respected by some midwives.' [53] Consequently, this impacted their ability to fulfil the

CCE requirements. [53] The incongruence between the woman-centred philosophy taught at university and the often fragmented maternity systems seen on clinical placement is challenging for both students and education providers. [52,56,57] Moncrieff suggests a need for a greater understanding and recognition of students' CCE as 'a valuable contribution to the service needs'. [46] Browne et al. argued that while CCE is demanding, the benefits outweigh the cost, not just for the individual student but for the future of midwifery itself [52].

More recently, focus has been given to articulate a pedagogy underpinning the CCE experience and to clarify the learning outcomes of this experience. Tierney et al. suggest there is a lack of clarity amongst midwifery academics regarding the learning objectives of the CCE, reflected in the wide variation in how CCE is implemented, recorded, and assessed across programs. [50] Ebert and colleagues concur, suggesting 'It may not be the hours or experiences that place pressure on students to complete tasks, but the lack of an effective model of work-integrated learning that aligns with the philosophical underpinnings of midwifery. 28 (p294) What is certain is that in many programs, the CCE remains in competition with other requirements rather than being understood as a key education strategy that should be situated at the centre of program design. [28,48] There appears to be a need for focused discussions and research on rigorous program design with CCE and the primacy of woman-centred care as the cornerstone. [48].

Clinical placement challenges and opportunities

The Australian Midwifery Accreditation Standards provide a robust accreditation framework with prescribed minimum practice experiences rather than minimum hours. [12] The stakeholder consultancy review identified that achieving practice requirements in a well-supported clinical environment was challenging. However, stakeholders identified that positive clinical experiences influenced the student's success, and collaborative relationships between universities and placement providers were necessary to facilitate this [12].

Historically there was resistance to moving midwifery education to universities, which appeared to set up a dichotomous relationship with practice environments and education providers [10,25,26]. Leap and Barclay suggested this was due to a perceived loss of influence on education and practice requirements, and some people feeling 'disempowered and dissatisfied as a consequence'. [25] Initially, this was deemed due to a lack of engagement between maternity services and education providers in developing strategies to ensure that midwifery students would have the appropriate learning opportunities, [21] with students seeking practice hours beyond those prescribed within the program. [33] Some of this was attributed to students undertaking most of their placement in large public maternity hospitals, which have been described as medically dominated and fragmented, with limited access to midwifery models of care. [28,33,37,43,48] When student's experiences are limited to fragmented care models, the risk is a focus on skill acquisition rather than on the woman-centred relationship [28].

Another reason impacting placement availability was the range in allocated clinical practicum hours across universities, [58] with reports of competition for placement between universities and between midwifery and medical students, and a lack of capacity to meet the demand. [58,59] Further, the debate over the supernumerary status of students versus employment models has been consistently raised. [31, 35] Students in employment models may not need to juggle additional work, study, and placement, but as Gamble et al. [48] argue, students in an employment educational model are 'often not supernumerary, making it difficult for them to meet the challenges of CCE in practice (p113).

This review found that the capacity for midwives in the practice environment to educate and mentor students varied considerably. Again, this has been attributed to the fragmented nature of placement environments, which can jeopardise the quality of preceptorship and the capacity to spend time with students. [37] Additionally, some midwives and educators were unfamiliar with the undergraduate curriculum or were reluctant to engage in an education role, regarding students as a

'burden'. [46,60] There were reported variations in teaching capabilities and familiarity with competency assessment tools, leaving some midwives finding assessment of students 'time consuming, repetitive, confusing and unachievable'. [37] (p664) The lack of quality supervision, objective assessment, and support has been a constant theme which limits the student's capacity to learn effectively. [37,46,48,51] Continued focus on the clinical environment is essential to find ways to support midwives and students to learn together.

Progressing excellence in midwifery education

As midwifery education progressed, a growing commitment to educational excellence underpinned by research occurred, which is evident in the literature. Developing national standards and accrediting entry-to-practice programs was critical due to widening inconsistencies across states and territories. Further, midwifery research in both practice and education has contributed to a body of knowledge supporting midwifery as a distinct and rigorous discipline. Three subthemes were identified and are described below.

Working towards midwifery education consistency

In 1992, Hancock postulated that whilst students should have a choice in 'determining their journey to find midwifery registration,'⁶¹ (p.28) these choices should not impact midwifery as a profession or detract from the quality of care for women who use maternity services. [61] The AMAP Education Survey conducted in 2001 identified a lack of consistency in 'the duration or design of midwifery education programs, both nationally, and within each separate state/territory'. [10,25] The report suggested that despite the move from hospital to university, the quality, nature, or process of the education of midwives has not been seriously studied in Australia for nearly two decades. [10,19] This, in turn, allowed wide variation in regulation and quality control of midwifery education and consequently practice in Australia. [25] This led to the first national standards that all programs must meet. [18,20] The overarching purpose of these standards was to guide quality curriculum development and ensure that graduates from all midwifery courses in Australia – regardless of length, course entry requirements, or award – achieve the same minimum requirements for registration. [29, 30,37] This effectively achieved a high standard of midwifery education in Australia with parity across programs.

Since the first iteration, significant attention has been given to ensuring that robust national standards continue to direct midwifery education. [12,13,29,62] Accreditation of midwifery programs is now governed by the Australian Nursing and Midwifery Accreditation Council (ANMAC) and underpinned by legislation. [12] In Australia, there remains a diversity of programs leading to registration as a midwife, including undergraduate Bachelor of Midwifery, double degrees with a Bachelor of Midwifery most commonly combined with the Bachelor of Nursing, and postgraduate pathways, including graduate diploma and Master level programs. [8] The Midwife Accreditation Standards aim to ensure that regardless of the path to registration, all graduates are safe, competent and prepared for the full scope of midwifery. [8,12,62] However, it is contended that within these standards, there 'continues to be much variation in both clinical and theoretical hours between programs offered' [8] (p180) as well as how students engage with their clinical learning [8].

Recently, concerns have been raised regarding future iterations of the standards to ensure that the role of the midwife as described by the ICM and ACM is upheld. [8,39,48,63,64] It has been highlighted that designing programs that support midwifery autonomy and prepare graduates to contribute to evidence-based maternity care reform is critical. [48,64] Gray and Smith asserted that the challenge going forward was to 'develop and protect midwifery-centric regulation, registration and education standards so that we can ensure a midwifery workforce that is fit for the purpose of providing woman-centred midwifery care [8] (p182).

Research to support evidence and innovation in education

In the late 1990 s, several academics noted the lack of evidence underpinning midwifery education, particularly the lack of robust teaching and learning frameworks as barriers to improving midwifery education. [25,42,65] Since then, there has been a growing body of research to inform pedagogy and innovation, from AMAP, which championed change, to extensive research on the CCE. This contribution of knowledge has strengthened midwifery education. However, while acknowledging this achievement, many of the studies in this review identified a need for further research to ensure midwifery is recognised as a profession underpinned by evidence and academic excellence [8,13,50].

Numerous studies on CCE have evidenced the significant educative value of this model [20]. Complimenting this is emerging research advocating for students to be placed with midwives working in continuity of care models. [13,48] Yet, it has been identified that further pedagogical research would be valuable to underpin the learning intent of CCE [50] and inform a conceptual framework for program curricula. [28,37,46,48,50,51,54] There also remains limited evidence around practice hours, mandated skills, and the reliability of the competency assessments. [28,37,48,54] There is a need for ongoing research to direct future midwifery education standards, program content and design. [46] Particular attention is required to provide benchmarks for the quality of the learning between different practice environments, models of care, and supervision. [13] Research on simulation and assessment of students' competence using simulated experiences was also identified as lacking. [28,59] Questions have been raised about how simulation can replicate the holistic nature and development of woman-centred care [53].

A recent project undertaken across Australia and New Zealand confirmed five priority areas for midwifery research, including (1) enabling the success of First Peoples/Māori midwifery students; (2) increasing the visibility and influence of midwifery within regulation, accreditation, and university governance; (3) determining how best to deliver the clinical practicum component of programs; (4) reviewing midwifery programs to enhance design, content, and delivery; and (5) ongoing education and support for the midwifery workforce. [13] Additionally, it has been suggested that given the first cohort of (non-RN) undergraduate midwifery students commenced 20 years ago, it would be timely to consider a national evaluation of all programs leading to registration in Australia [8,47].

Discussion

The findings of this integrative review have described how midwifery education has transformed in Australia since the mid-1990 s. In particular, the historical and current drivers, enablers and impediments to entry-to-practice Midwifery programs in Australia were explored. Four themes were identified that have significantly contributed to the way education has evolved over this time. Key learnings are discussed here to guide future strategic directions required to strengthen midwifery education in Australia.

Vision, leadership, and collaboration were prominent drivers resulting in educational reform. Historically, the vision was to professionalise midwifery and gain international reciprocity, which led to the implementation of national competency standards and midwifery education accreditation standards. This occurred despite opposition, subsumption of midwifery within nursing, and resistance to change. This remains a challenge today; ensuring the distinctiveness of midwifery as a separate profession is critical.

Transformative leadership and a vision for contemporary woman-centred midwifery practice continue to be identified as essential to the ongoing development of the midwifery profession and the subsequent success of midwifery practice. [66–68] Adcock et al. [66] identified five key themes determining what midwifery leaders in Australia need to promote maternity reform. These included access to quality education;

motivation and responsibility to implement evidence-based maternity care and a commitment to raising visibility and achieving the full potential of midwifery. Likewise, the WHO [1] champions midwifery leadership as a key influence in effective midwifery education, identifying the need for midwifery leaders in high-level policy, planning, and budgeting processes in all countries. Across Australia and New Zealand, there has been a renewed commitment to providing a united voice and transformative direction for midwifery education through establishing the Trans-Tasman Midwifery Education Consortium. [13] Like the early leaders who established the initial BMid programs in Australia, the initial members of the consortium saw the need to bring like-minded people together to identify and strengthen best practice in midwifery education. This is achieved through collaborative research, regular consortium meetings, peer networking and hosting focused midwifery education conferences.

The growing awareness of the benefits for women and midwives of working in continuity of care models continues to drive the requirement to ensure programs enable midwives to work to full scope of practice on graduation. [69] Education standards require programs to demonstrate a clear commitment to a woman-centred philosophy, [12] which should enable the student to develop a clear identity distinct from nursing. The distinctiveness of midwifery as a profession has propelled the identity of midwifery as separate from nursing, which has been critical in the transformation of midwifery education. However, while much has changed, midwifery remains less visible than nursing, and there is a need for greater and more equitable representation on boards and decision-making committees. [1,8] Contention regarding pre-registration pathways continues. Arguments to support the combination of midwifery and nursing degrees include working in rural and remote locations, limited access to university in some regional areas of the country, a rise in co-morbidities in birthing women and a potential for increased employability with dual registration. [70] However, research suggests that midwives without nursing qualifications are well placed to work across a range of contexts and models of care and are a key strategy to the development of a sustainable workforce [71,72].

Parallel to the need for midwifery to be situated as a distinct profession is the need to provide First Nations Australian women and communities with their own midwives and minimise the social disruption of birthing away from country, which remains a priority for midwifery education. [13,73] The Nursing and Midwifery Curriculum Framework developed by CATSINaM enables a consistent approach to deliver First Nation content. [74] There is an ongoing need for midwifery education providers to evaluate how their curricula contribute to a culturally capable health workforce [75].

Ongoing midwifery professionalisation through high-quality education remains crucial for quality maternal and newborn care. [1] The WHO has suggested that globally there are gaps between research, evidence, and current practice in midwifery education. [1] Specifically, they cite a lack of evaluation research in education. While this review indicates a growing body of research within Australia, discussion and debate regarding how standards are measured and achieved continue. There is a need for program evaluation and evidenced-based pedagogies to underpin rigorous program design with CCE as the cornerstone.

Preparing students for professional practice remains a challenge in Australia and internationally. The rising costs and limited availability of clinical placements have seen an increased reliance on simulation, with some countries replacing clinical hours within programs with learning in a simulated environment. [76] While there is no doubt that simulation can be a valuable addition, similar to the European standards, national midwifery education standards in Australia currently mandate a certain number of clinical experiences that must be achieved. Continued focus on practice environments is therefore essential. Potential barriers that continue to impact midwifery education include the relationships between practice and education providers, where shared responsibility between maternity services and universities challenge the way practice experience is gained and the cost of that education. Government funding

for midwifery programs is less than some other health professions and does not directly reflect the clinical placement requirements for midwifery programs, which are usually greater than nursing. [58] Finding ways to make clinical education cost-effective and identifying ways to support midwives and students to learn together for mutual benefit is needed [77].

A further challenge centres on the lack of potential for career development and additional study options to enable future maternity reform. While this paper has essentially examined the growth and development of entry-to-practice midwifery education, there is a need to identify what ongoing education needs midwives have, to develop contemporary programs to enable midwives to commit to lifelong learning and develop professionally.

Limitations

There are a number of limitations in this integrative review. The initial one-person screen of the titles and abstracts may have inadvertently resulted in a degree of reviewer bias and articles not being included in the two-person full-text review. The review contains a considerable number of discussion papers and grey literature, which may be viewed as a limitation. However, these were deemed important to capture the extent of the historical drivers, supports and impediments in the transformation of midwifery education in Australia. Finally, the number of historical articles included in the review far outweighs the contemporary literature, influencing the findings. This is, however, reflective of the extensive work undertaken and reported on the transformation of midwifery education prior to 2010 and indicates further contemporary research would be beneficial.

Conclusion

This review synthesised an extensive body of literature to describe the evolution of midwifery education in Australia, from situating midwifery as a separate profession to how vision and transformative leadership drove change. Notably, there remains a need to address priorities in midwifery education through further research and robust evaluation of midwifery programs and pedagogy.

References

- [1] World Health Organization, Strengthening quality midwifery education for universal health coverage 2030: framework for action, World Health Organization, Geneva, 2019. (<https://apps.who.int/iris/rest/bitstreams/1230352/retrieve>).
- [2] A. Nove, I.K. Friberg, L. de Bernis, et al., Potential impact of midwives in preventing and reducing maternal and neonatal mortality and stillbirths: a lives saved tool modelling study, *Lancet Glob. Health* (2021), [https://doi.org/10.1016/S2214-109X\(20\)30397-1](https://doi.org/10.1016/S2214-109X(20)30397-1).
- [3] International Confederation of Midwives, ICM global standards for midwifery education, ICM, The Hague, 2021. (https://www.internationalmidwives.org/assets/files/general-files/2021/09/global-standards-for-midwifery-education_2021_en.pdf).
- [4] S. Ireland, S. Belton, A. McGrath, S. Siggers, C.W. Narjic, Paperbark and pinard: a historical account of maternity care in one remote Australian Aboriginal town, *Women Birth* (2015), <https://doi.org/10.1016/j.wombi.2015.06.002>.
- [5] L. Barclay, A feminist history of Australian midwifery from colonisation until the 1980s, *Women Birth* (2008), <https://doi.org/10.1016/j.wombi.2007.12.001>.
- [6] L. Barclay, Australian midwifery training & practice, *Midwifery* (1985), [https://doi.org/10.1016/S0266-6138\(85\)80003-6](https://doi.org/10.1016/S0266-6138(85)80003-6).
- [7] M. Gray, J. Rowe, M. Barnes, Midwifery professionalisation and practice: Influences of the changed registration standards in Australia, *Women Birth* (2016), <https://doi.org/10.1016/j.wombi.2015.08.005>.
- [8] J.E. Gray, R.M. Smith, Any action? Reflections on the Australian midwifery action project, *Women Birth* (2017), <https://doi.org/10.1016/j.wombi.2017.02.008>.
- [9] N. Leap, P. Brodie, S.K. Tracy, Collective action for the development of national standards for midwifery education in Australia, *Women Birth* (2017), <https://doi.org/10.1016/j.wombi.2017.02.013>.
- [10] N. Leap, Identifying the midwifery practice component of Australian midwifery education programs. Results of the Australian midwifery action project (AMAP) education survey, *Aust. J. Midwifery* (2002), [https://doi.org/10.1016/S1031-170X\(02\)80004-6](https://doi.org/10.1016/S1031-170X(02)80004-6).
- [11] Ahpra and National Boards. Approved Programs of Study 2022. (<https://www.ahpra.gov.au/Accreditation/Approved-Programs-of-Study.aspx?ref=Midwife&Type=General>).
- [12] Australian Nursing & Midwifery Accreditation Council. Midwife Accreditation Standards 2021. ANMAC; 2021. (https://www.anmac.org.au/sites/default/files/documents/06920_anmac_midwife_std_2021_online_05_fa.pdf).
- [13] M. Sidebotham, L. McKellar, C. Walters, A. Gilkison, D. Davis, J. Gamble, Identifying the priorities for midwifery education across Australia and New Zealand: a delphi study, *Women Birth* (2021), <https://doi.org/10.1016/j.wombi.2020.05.011>.
- [14] E. Callander, M. Sidebotham, D. Lindsay, J. Gamble, The future of the Australian midwifery workforce - impacts of ageing and workforce exit on the number of registered midwives, *Women Birth* (2021), <https://doi.org/10.1016/j.wombi.2020.02.023>.
- [15] JBI. Critical Appraisal Tools. (<https://jbi.global/critical-appraisal-tools>).
- [16] R. Whittemore, K. Knafl, The integrative review: updated methodology, *J. Adv. Nurs.* (2005), <https://doi.org/10.1111/j.1365-2648.2005.03621.x>.
- [17] QSR International. NVivo. 2022. (<https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>).
- [18] J. Pincombe, C. Thorogood, J. Kitschke, The development of national ACMI standards for the accreditation of three-year Bachelor of Midwifery programs, *Aust. J. Midwifery* (2003), [https://doi.org/10.1016/S1448-8272\(03\)80008-1](https://doi.org/10.1016/S1448-8272(03)80008-1).
- [19] P. Brodie, The Invisibility of Midwifery: Will Developing Professional Capital Make A Difference?, in: *Doctor of midwifery - thesis University of Technology, Sydney, 2003*.
- [20] O. Tierney, L. Sweet, D. Houston, L. Ebert, A historical account of the governance of midwifery education in Australia and the evolution of the continuity of care experience, *Women Birth* (2018), <https://doi.org/10.1016/j.wombi.2017.09.009>.
- [21] N. Leap, L. Barclay, A. Sheehan, Results of the Australian midwifery action project education survey. Paper 3: workforce issues, *Aust. Midwifery* (2003), [https://doi.org/10.1016/S1448-8272\(03\)80011-1](https://doi.org/10.1016/S1448-8272(03)80011-1).
- [22] S. Tracy, L. Barclay, P. Brodie, Contemporary issues in the workforce and education of Australian midwives, *Aust. Health Rev.* (2000). (<https://www.publish.csiro.au/ah/pdf/AH000078a>).
- [23] N. Leap, L. Barclay, A. Sheehan, Results of the Australian midwifery action project education survey. Paper 2: barriers to effective midwifery education as identified by midwifery course coordinators, *Aust. Midwifery* (2003), [https://doi.org/10.1016/S1448-8272\(03\)80010-X](https://doi.org/10.1016/S1448-8272(03)80010-X).
- [24] S.K. Tracy, P. Brodie, N. Leap, AMAP—the end of a beginning, *Aust. J. Midwifery* (2001), [https://doi.org/10.1016/S1445-4386\(01\)80001-X](https://doi.org/10.1016/S1445-4386(01)80001-X).
- [25] Leap N., Barclay L. Midwifery Education: Literature Review and Additional Material (Revised Edition). *National Review of Nursing Education Science and Training Australia* 2002. (<http://hdl.voced.edu.au/10707/94092>).
- [26] P. Glover, Midwifery education—report of national workshop, *Aust. Coll. Midwives Inc. J.* (1992), [https://doi.org/10.1016/S1031-170X\(05\)80105-9](https://doi.org/10.1016/S1031-170X(05)80105-9).
- [27] M. Carolan, G. Kruger, V. Brown, Out of the ashes: the new bachelor of midwifery curriculum at Victoria University, *Women Birth* (2007), <https://doi.org/10.1016/j.wombi.2007.05.006>.
- [28] L. Ebert, O. Tierney, D. Jones, Learning to be a midwife in the clinical environment; tasks, clinical practicum hours or midwifery relationships, *Nurse Educ. Pract.* (2016), <https://doi.org/10.1016/j.nepr.2015.08.003>.
- [29] Australian Nursing & Midwifery Council. Standards and Criteria for the Accreditation of Nursing and Midwifery Courses Leading to Registration, Enrolment, Endorsement and Authorisation in Australia - with Evidence Guide. ANMC; 2009. (<https://www.anmac.org.au/sites/default/files/documents/ANMC%20Accreditation%20Standards%20-%20Midwives%20-%20November%202010.pdf>).
- [30] J. Pincombe, L. McKellar, C. Grech, E. Grinter, G. Beresford, Registration requirements for midwives in Australia: a delphi study, *Br. J. Midwifery* (2007), <https://doi.org/10.12968/bjom.2007.15.6.23686>.
- [31] N. Leap, The introduction of 'direct entry' midwifery courses in Australian universities: issues, myths and a need for collaboration, *Aust. Coll. Midwives Inc. J.* (1999), [https://doi.org/10.1016/S1031-170X\(99\)80014-2](https://doi.org/10.1016/S1031-170X(99)80014-2).
- [32] D. Cutts, P.M. David, M. McIntyre, C. Seibold, F. Hopkins, M. Miller, Werna Naloo -'We Us Together': the birth of a midwifery education consortium, *J. Adv. Nurs.* (2003), <https://doi.org/10.1046/j.1365-2648.2003.02513.x>.
- [33] L. McKenna, C. Rolls, Bachelor of midwifery: reflections on the first 5 years from two Victorian universities, *Women Birth* (2007), <https://doi.org/10.1016/j.wombi.2007.04.002>.
- [34] C. Rolls, C. Seibold, The challenge of implementing an undergraduate midwifery course within a three university consortium, *Conte Nurse* (2005), <https://doi.org/10.5172/conu.18.3.273>.
- [35] P. Glover, H. James, J. Byrne, Midwifery in the land down under: rural education issues, *Br. J. Midwifery* (2001), <https://doi.org/10.12968/BJOM.2001.9.7.7951>.
- [36] P. Brodie, L. Barclay, Contemporary issues in Australian midwifery regulation, *Aust. Health Rev.: a Publ. Aust. Hosp. Assoc.* (2001), <https://doi.org/10.1071/AH010103>.
- [37] S. Licurish, C. Seibold, 'Chasing the numbers': Australian bachelor of midwifery students' experiences of achieving midwifery practice requirements for registration, *Midwifery* (2013), <https://doi.org/10.1016/j.midw.2012.06.006>.
- [38] H.L. James, E. Willis, The professionalisation of midwifery through education or politics, *Aust. J. Midwifery: Prof. J. Aust. Coll. Midwives Inc.* (2001), [https://doi.org/10.1016/S1445-4386\(01\)80010-0](https://doi.org/10.1016/S1445-4386(01)80010-0).
- [39] International Confederation of Midwives. International definition of the midwife. 2017. (https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-definition_of_the_midwife-2017.pdf).

- [40] Anonymous, Current education standards are essential for midwives to be capable of functioning to their full scope of practice, *Women Birth* (2013), <https://doi.org/10.1016/j.wombi.2013.10.003>.
- [41] L. Barclay, How is the midwife's training and practice defined in policies and regulations in Australia today, *Health Policy* (1985), [https://doi.org/10.1016/0168-8510\(85\)90026-0](https://doi.org/10.1016/0168-8510(85)90026-0).
- [42] P.A. Glover, The midwifery curriculum—preparing beginning or advanced practitioners? *Aust. Coll. Midwives Inc. J.* (1999) [https://doi.org/10.1016/S1031-170X\(99\)80036-1](https://doi.org/10.1016/S1031-170X(99)80036-1).
- [43] P. Brodie, Addressing the barriers to midwifery—Australian midwives speaking out, *Aust. J. Midwifery* (2002), [https://doi.org/10.1016/S1031-170X\(02\)80003-4](https://doi.org/10.1016/S1031-170X(02)80003-4).
- [44] L. Barclay, Midwifery in Australia and surrounding regions, *Midwifery* (1997), [https://doi.org/10.1016/S0266-6138\(97\)90000-0](https://doi.org/10.1016/S0266-6138(97)90000-0).
- [45] C. Seibold, The experiences of a first cohort of Bachelor of Midwifery students, Victoria, Australia, *Aust. Midwifery* (2005), [https://doi.org/10.1016/s1448-8272\(05\)80024-0](https://doi.org/10.1016/s1448-8272(05)80024-0).
- [46] G. Moncrieff, S. Macvicar, G. Norris, C.J. Hollins Martin, Optimising the continuity experiences of student midwives: an integrative review, *Women Birth* (2021), <https://doi.org/10.1016/j.wombi.2020.01.007>.
- [47] K. Yates, M. Birks, H. Coxhead, L. Zhao, Double degree destinations: nursing or midwifery, *Collegian* (2020), <https://doi.org/10.1016/j.colegn.2019.07.004>.
- [48] J. Gamble, M. Sidebotham, A. Gilkison, D. Davis, L. Sweet, Acknowledging the primacy of continuity of care experiences in midwifery education, *Women Birth* (2020), <https://doi.org/10.1016/j.wombi.2019.09.002>.
- [49] L. Stewart, R. Lock, K. Bentley, V. Carson, Meeting the needs of rural and regional families: educating midwives, *Collegian* (2012), <https://doi.org/10.1016/j.colegn.2012.10.001>.
- [50] O. Tierney, L. Sweet, D. Houston, L. Ebert, The continuity of care experience in Australian midwifery education—what have we achieved, *Women Birth* (2017), <https://doi.org/10.1016/j.wombi.2016.10.006>.
- [51] N. Hainsworth, E. Dowse, L. Ebert, M. Foureur, 'Continuity of Care Experiences' within pre-registration midwifery education programs: a scoping review, *Women Birth* (2021), <https://doi.org/10.1016/j.wombi.2020.12.003>.
- [52] J. Browne, P.J. Haora, J. Taylor, D.L. Davis, "Continuity of care" experiences in midwifery education: perspectives from diverse stakeholders, *Nurse Educ. Pr.* (2014), <https://doi.org/10.1016/j.nepr.2014.01.014>.
- [53] W. Poster, L. Sweet, M.K. Graham, Midwifery students experience of continuity of care: a mixed methods study, *Midwifery* (2021), <https://doi.org/10.1016/j.midw.2021.102966>.
- [54] H.L. McLachlan, M. Newton, H. Nightingale, J. Morrow, G. Kruger, Exploring the 'follow-through experience': a statewide survey of midwifery students and academics conducted in Victoria, Australia, *Midwifery* (2013), <https://doi.org/10.1016/j.midw.2012.12.017>.
- [55] L. McKellar, S. Charlick, J. Warland, D. Birbeck, Access, boundaries and confidence: the ABC of facilitating continuity of care experience in midwifery education, *Women Birth* (2014), <https://doi.org/10.1016/j.wombi.2014.08.005>.
- [56] J.E. Gray, N. Leap, A. Sheehy, C.S. Homer, The 'follow-through' experience in three-year Bachelor of Midwifery programs in Australia: a survey of students, *Nurse Educ. Pr.* (2012), <https://doi.org/10.1016/j.nepr.2012.04.013>.
- [57] J. Gray, N. Leap, A. Sheehy, C.S.E. Homer, Students' perceptions of the follow-through experience in 3 year bachelor of midwifery programmes in Australia, *Midwifery* (2013), <https://doi.org/10.1016/j.midw.2012.07.015>.
- [58] K. Francis, M. McLeod, M. McIntyre, J. Mills, M. Miles, A. Bradley, Australian rural maternity services: creating a future or putting the last nail in the coffin, *Aust. J. Rural Health* (2012), <https://doi.org/10.1111/j.1440-1584.2012.01300.x>.
- [59] S. Fox-Young, S. Brady, W. Brealey, et al., The perspectives of Australian midwifery academics on barriers and enablers for simulation in midwifery education in Australia: a focus group study, *Midwifery* (2012), <https://doi.org/10.1016/j.midw.2011.07.005>.
- [60] N. Wray, L. McCall, 'They don't know much about us': educational reform impacts on students' learning in the clinical environment, *Adv. Health Sci. Educ.* (2009), <https://doi.org/10.1007/s10459-008-9146-y>.
- [61] H. Hancock, Midwifery education: whither will we wander? *Aust. Coll. Midwives Inc. J.* (1992) [https://doi.org/10.1016/S1031-170X\(05\)80114-X](https://doi.org/10.1016/S1031-170X(05)80114-X).
- [62] Australian Nursing & Midwifery Accreditation Council. Midwife Accreditation Standards 2014. ANMAC; 2014. (https://www.anmac.org.au/sites/default/files/documents/ANMAC_Midwife_Accreditation_Standards_2014.pdf).
- [63] Australian College of Midwives I. What's a midwife? 2021. (https://midwives.org.au/Web/Web/About-ACM/Whats_a_midwife.aspx?hkey=2486b745-4da0-44c0-8f04-eaeaf27a9915).
- [64] J. Gray, J. Taylor, M. Newton, Embedding continuity of care experiences: an innovation in midwifery education, *Midwifery* (2016), <https://doi.org/10.1016/j.midw.2015.11.014>.
- [65] M. Chamberlain, Midwifery and the next millennium: issues for the future, *Aust. Coll. Midwives Inc. J.* (1998), [https://doi.org/10.1016/S1031-170X\(98\)80014-7](https://doi.org/10.1016/S1031-170X(98)80014-7).
- [66] J.E. Adcock, M. Sidebotham, J. Gamble, What do midwifery leaders need in order to be effective in contributing to the reform of maternity services, *Women Birth* (2021), <https://doi.org/10.1016/j.wombi.2021.04.008>.
- [67] L. Hewitt, H. Priddis, H.G. Dahlen, What attributes do Australian midwifery leaders identify as essential to effectively manage a midwifery group practice, *Women Birth* (2019), <https://doi.org/10.1016/j.wombi.2018.06.017>.
- [68] M. Sidebotham, J. Fenwick, S. Rath, J. Gamble, Midwives' perceptions of their role within the context of maternity service reform: an appreciative inquiry, *Women Birth* (2015), <https://doi.org/10.1016/j.wombi.2014.12.006>.
- [69] J. Fenwick, M. Sidebotham, J. Gamble, D.K. Creedy, The emotional and professional wellbeing of Australian midwives: a comparison between those providing continuity of midwifery care and those not providing continuity, *Women Birth* (2018), <https://doi.org/10.1016/j.wombi.2017.06.013>.
- [70] K. Yates, Dual degree destinations: nursing or midwifery, *Women Birth* (2017), <https://doi.org/10.1016/j.wombi.2017.08.058>.
- [71] P. Adelson, J.-A. Fleet, L. McKellar, Evaluation of a regional midwifery caseload model of care integrated across five birthing sites in South Australia: women's experiences and birth outcomes, *Women Birth* (2022), <https://doi.org/10.1016/j.wombi.2022.03.004>.
- [72] J. Evans, J. Taylor, J. Browne, et al., The future in their hands: Graduating student midwives' plans, job satisfaction and the desire to work in midwifery continuity of care, *Women Birth* (2020), <https://doi.org/10.1016/j.wombi.2018.11.011>.
- [73] S. Kildea, Y. Gao, S. Hickey, et al., Effect of a birthing on country service redesign on maternal and neonatal health outcomes for first nations Australians: a prospective, non-randomised, interventional trial, *Lancet Glob. Health* (2021), [https://doi.org/10.1016/S2214-109X\(21\)00061-9](https://doi.org/10.1016/S2214-109X(21)00061-9).
- [74] Congress of Aboriginal and Torres Strait Islander Nurses and Midwives. The Nursing and Midwifery Aboriginal and Torres Strait Islander Health Curriculum Framework: an adaptation of and complementary document to the 2014 Aboriginal and Torres Strait Islander Health Curriculum Framework. Canberra: CATSINaM; 2017. (<https://secureservercdn.net/198.71.233.110/dgc.5bd.myftpupload.com/wp-content/uploads/2021/01/Nursing-and-Midwifery-Health-Curriculum-Framework-final.pdf>).
- [75] L. Geia, K. Baird, K. Bail, et al., A unified call to action from Australian nursing and midwifery leaders: ensuring that Black lives matter, *Conte Nurse* (2020), <https://doi.org/10.1080/10376178.2020.1809107>.
- [76] E. Roberts, V. Kaak, J. Rolley, Simulation to replace clinical hours in nursing: a meta-narrative review, *Clin. Simul. Nurs.* (2019), <https://doi.org/10.1016/j.ecns.2019.07.003>.
- [77] L.P. Sweet, P. Glover, An exploration of the midwifery continuity of care program at one Australian University as a symbiotic clinical education model, *Nurse Educ. Today* (2013), <https://doi.org/10.1016/j.nedt.2011.11.020>.