Burnet Institute
Medical Research. Practical Action.

Final Report

Strengthening Midwifery Education in Timor Leste: A review undertaken for UNFPA Timor Leste

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Timor Leste Midwifery Curriculum Review

Contents

Executive Summary

Midwives can make a significant contribution to improving sexual, reproductive and maternal health and reducing maternal and newborn mortality but only if they are adequately educated, regulated and supported by a professional association (UNFPA, ICM & WHO 2014). The International Confederation of Midwives (ICM) clearly defines and sets out essential competencies for midwifery practice (International Confederation of Midwives 2019a) and provides a framework for developing and reviewing midwifery curricula to ensure courses that provide pre-service midwifery education are designed so that students demonstrate the development of midwifery specific competencies (International Confederation of Midwives 2013b). The ICM Essential Competencies for Midwifery Practice were redeveloped and released early in 2019, therefore it is an ideal time to redevelop curricula that aims to produce graduates who demonstrate attainment of international midwifery competencies.

There are three education institutions that provide pre-service midwifery education in Timor Leste and each has developed its own midwifery curriculum. Each curriculum has some components that meet the ICM Global Standards for Midwifery Education, but all require strengthening to be able to meet international standards. All academic education programs in Timor Leste, including midwifery, are expected to meet standards set by the National Authority for Accreditation (ANAA). Two of the midwifery education institutions underwent this accreditation process in 2019 and the third school is planning for 2020. The national accreditation process accredits against academic program standards and not midwifery standards. A nation process of ensuring midwifery education programs meet international midwifery standards is not available.

On invitation from the Government of Timor Leste through the UNFPA Country Office a consultant from the Burnet Institute undertook an in-country inception visit from the 11-22 November 2019 where they were supported to:

a) Provide technical assistance in the assessment of midwifery curriculum at three midwifery schools in Timor-Leste. Assessment to include an overview of laboratory facilities and associated teaching and learning resources
b) Undertake consultations and propose an action plan for standardising the midwifery curriculum based on the International Confederation of Midwives (ICM) minimum standard

Using data gathered at the inception visit, the ICM Global Standards for Midwifery Education, the Model Curriculum Outlines for Professional Midwifery Education resources and other key midwifery education resources such as the Strengthening Quality Midwifery Education for Universal Health Coverage 2030: Framework for Action a review of the three midwifery education curricula offered in Timor Leste was undertaken and included data collected from the following activities:

1. Meetings with UNFPA Program Representatives
2. Visits to the three education institutions delivering pre-service midwifery education in Timor Leste and meetings with key personal
    a. University National Timor Leste (UNTL)
    b. Instituto Superior Cristal (Cristal)
    c. Instituto Ciencias da Saude (ICS)
3. Survey based on the ICM Midwifery Education Accreditation Program (MEAP) assessment questions (Appendix I)
4. Tours of education institutions skills laboratories and libraries

5. Meeting with National EmONC Training Officer and visit to new EmONC training centre
6. Visit to National Hospital
7. Meeting with Midwifery Association Vice-President
8. Review of WHO Consultant Report March 2019 (Purpose: review midwifery services and education to identify gaps in midwifery education)

Findings demonstrate that much progress towards strengthening midwifery education in Timor Leste has occurred over the last decade including the introduction and growth of Degree and Diploma 3 pre-service midwifery programs which have been informed by international standards. However, these programs now require strengthening against recognised international standards. Currently, all programs require support to increase the midwifery focussed content and in particular foundational midwifery content and content that supports the development of skills and knowledge in understanding and managing complications and emergencies that can occur in pregnancy, at birth and in the postnatal period. This increase in midwifery-focussed content could occur through consideration for revising or replacing units of study such as sole language or bioscience units that focus on nursing and other health professions. Strengthening midwifery education would be supported by the production of national midwifery competency standards or by national endorsement of the ICM Essential Competencies for Midwifery Practice (International Confederation of Midwives 2019a).

Findings also indicate clinical learning, both in practice and through clinical simulation requires development and increased resource support. Increasing student numbers means an increase in students requiring support in an already busy, crowded and at times under-resourced environment. In addition to supporting midwifery student learning in clinical skills and decision-making in practice settings and in-line with international recommendations, providing pre-service midwifery students with opportunities for interdisciplinary learning and teamwork could improve the quality and safety of maternity care in Timor Leste.

The following (Table 1.) provides a brief overview of issues identified during the review and recommendations for consideration. Each issue identified is discussed in-depth in the body of this report.

Table 1. Review Recommendations

Issue Identified	**Recommendation**
Curricula Development Teams Ensure appropriate stakeholders are involved in review and development of curricula.	1. Curriculum review teams continue to involve a wide range of relevant stakeholders and are expanded to include recent graduates of midwifery programs; recipients of midwifery care (women or representatives from groups supporting women); and, members with expertise in curriculum development and teaching methodologies (if not already included). 2. Consideration be given to a core National Curriculum Review Team to promote a consistent standard of review and development of midwifery curricula across Timor Leste.
Content	3. Review the number of units not specific to midwifery and consider replacing with midwifery

There is a lack of midwifery-specific content across all programs.	specific units to more closely align to the ICM Model Curriculum Outlines.
Language Units Programs contain 3-6 language units which reduce midwifery specific content.	4. Review the need for language units in the midwifery curricula – consider removing, reducing or offering as learning support rather than a unit of study.
Bioscience Units All programs offer generic bioscience units which reduces midwifery-specific content.	5. Review the content of bioscience units of study to ensure either midwifery specific or at least significant midwifery content and examples are included. If possible, replace generic bioscience units with midwifery-specific ones.
Introduction to Midwifery All programs lack foundation midwifery units.	6. Review unit content in first semester and ensure a sound introduction to midwifery role and profession is evident – consider replacing units with ICM Model Curriculum Outline recommendations
Complex Midwifery All programs lack units that support learning appropriate skills and knowledge in recognising and responding to complications arising.	7. As per the ICM Model Curriculum Outlines introduce units that focus on the detection and management of complications in pregnancy, during labour and birth, and in the postnatal and neonatal period.
Midwifery Competency Standards There are no national competency standards or a formal endorsement of ICM standards.	8. Consideration be given to updating and endorsing draft national midwifery competency standards or explicit endorsement of the ICM Essential Competencies for Midwifery Practice.
Clinical Practice Experience Clinical practice quality and experiences differ across programs.	9. Review and standardise all programs theory and practice ratios to align with ICM standards 10. Consider development of a national process to monitor quality and availability of midwifery clinical placements 11. Consider development of a standard process for identifying and training clinical facilitators/educators
Clinical Skills Laboratories Clinical skills laboratories and equipment require upgrading.	12. Introduction of a program of support for upgrading and maintaining appropriate simulation training models and equipment. 13. Consideration for the development of a shared centre of excellence for maternity simulation education in Timor Leste for use across health education and clinical training. 14. Introduction of a midwifery Faculty development program that provides initial and continuous professional development in the use of simulation in midwifery education
Interdisciplinary Learning There is a lack of maternity interdisciplinary learning opportunities in preservice programs.	15. Opportunities for interdisciplinary maternity-based training be explored with educational institutions providing pre-service medical training.

Consideration to these recommendations will assist in ensuring that graduates in midwifery in Timor Leste are prepared to provide safe and effective care that meets the essential competencies set down by the International Confederation of Midwives. The review will now be discussed in more detail.

Introduction

Recent evidence recognises that when midwives are educated to international standards, including the provision of family planning, more than 80% of maternal and neonatal deaths could be prevented (Homer et al. 2014). The Strengthening Quality Midwifery Education for Universal Health Coverage 2030: Framework for Action presents more than 50 outcomes that are improved when women have access to quality care by appropriately educated midwives (Renfrew et al 2014). Improved outcomes include reduced mortality both maternal and newborn, reduced interventions therefore reducing harm, improved psychological wellbeing and improved public health outcomes (World Health Organization 2019).

Midwives can make a significant contribution to improving sexual, reproductive and maternal health and reducing maternal and newborn mortality but only if they are adequately educated, regulated and supported by a professional association (UNFPA, ICM & WHO 2014). The International Confederation of Midwives (ICM) clearly defines and sets out essential competencies for midwifery practice (International Confederation of Midwives 2019a) and provides a framework for developing and reviewing midwifery curricula to ensure courses that provide pre-service midwifery education are designed so that students demonstrate the development of midwifery specific competencies (International Confederation of Midwives 2013b). The ICM Essential Competencies for Midwifery Practice were redeveloped and released early in 2019, therefore it is an ideal time to redevelop curricula that aims to produce graduates who demonstrate attainment of international midwifery competencies.

The ICM Essential Competencies for Midwifery Practice provide guidance on the minimum expected knowledge, skills and professional behaviours required by those who use the designation of midwife (International Confederation of Midwives 2019a). The ICM also provides a clearly defined and internationally accepted definition of a midwife, and that is:

> *"A midwife is a person who has successfully completed a midwifery education programme that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education and is recognized in the country where it is located; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery (International Confederation of Midwives 2017 para 1.)*

The ICM document that provides the definition also sets out the scope of practice expected of a midwife. Scope of practice includes a midwife being responsible and accountable in providing the necessary care and support for women during pregnancy, labour and birth and in the postpartum period. This includes providing education and counselling; detection of complications; seeking advanced care when necessary; and, providing information and care on women's sexual and reproductive health needs including family planning. When this scope of practice is enacted, it is estimated that up to 80% of maternal deaths could be averted (Homer et al. 2014). To enable midwives to work to the full scope of practice on entry to the profession a strong and high-quality midwifery education system is required and this includes well-prepared educators, well-resourced facilities and a fit-for-purpose midwifery curriculum (World Health Organization 2019).

UNESCO state that a 'Curriculum is a systematic and intended packaging of competencies (i.e. knowledge, skills and attitudes that are underpinned by values) that learners should acquire through organised learning experiences both in formal and non-formal settings' (United Nations Educational Scientific and Cultural Organization (UNESCO) 2017). UNESCO discuss the importance a quality curriculum has in encouraging life-long learning and in developing social skills and attitudes. In addition to learning the required professional knowledge, skills, attitudes and behaviours, professional curriculum also play a role in the development of personal attributes and societal change (United Nations Educational Scientific and Cultural Organization (UNESCO) 2017). UNESCO recognise that for holistic and sustainable developments in education a high-quality curriculum is required but they also recognise systemic barriers to the design, development and implementation of quality curricula. Barriers can include poor governance, insufficient engagement with stakeholders, poorly prepared educators, under resourced facilities, and lack of funding and policy support (United Nations Educational Scientific and Cultural Organization (UNESCO) 2017). Enablers of high-quality midwifery curricula include systems where midwifery has strong regulatory support, a well-resourced and supported system for education, and a recognised and respected professional association (Nove, Pairman, Bohle, Garg, Moyo, et al. 2018; World Health Organization 2019).

Systems supporting midwifery education need to evolve to meet changing needs of the profession. This requires a constant process of review, redesign and evaluation of curricula. Courses that lead to midwifery registration must not only meet national and international standards, but many also commit to producing graduates who meet course-specific graduate attributes. These attributes may differ between models of education and courses and are pivotal in providing clear direction for the development of higher-level abilities in graduates. These higher-level attributes support the continued development of midwifery attributes through developing positive attitudes and actions regarding life-long learning, resilience, advocacy and other important life skills.

The Strengthening Quality Midwifery Education for Universal Health Coverage 2030: Framework for Action sets out a seven-point action plan to support strengthening the quality of midwifery education. The seven steps are:

1. Strengthen leadership and policy
2. Gather data and evidence
3. Build public engagement and advocacy
4. Prepare educational institutions, practice settings and clinical mentors
5. Strengthen Faculty, standards and curricula
6. Educate students
7. Monitor, evaluate, review and adjust

The action plan is designed to be cyclical and should sit within a framework of act, monitor and review (World Health Organization 2019). An act, monitor and review framework supports continued review and improvement thus maintaining a current evidence-based focus and a commitment to quality improvement of teaching and learning in midwifery.

With an overall objective of preparing midwives with knowledge, skills and attitudes required to function effectively as midwives thus reducing maternal and neonatal mortality and morbidity, and improving the health and wellbeing of women, families and communities, this analysis of midwifery education and curricula in Timor Leste will inform curriculum renewal and redesign to ensure high-level, safe and effective midwifery care is available for women and families.

Consultancy Purpose

Consultancy Purpose:

a) To provide technical assistance in the assessment of midwifery curriculum at three midwifery schools in Timor-Leste. Assessment to include an overview of laboratory facilities and associated teaching and learning resources
b) Undertake consultations and propose an action plan for standardising the midwifery curriculum based on the International Confederation of Midwives (ICM) minimum standard

Country specific information

In 2015, Timor-Leste recorded a population of 1,245,085. The most recent Demographic Health Survey (DHS) carried out in 2015/2016 reported a Contraceptive Prevalence Rate of 24% which is slightly increased from 21% in DHS 2009/10. The unmet need for family planning was 25%, which decreased from 32% in 2009/10 with 6% unmet need for limiting pregnancies and 19% for birth spacing. The same DHS reported a total fertility rate of 4.2 children, a decline from 5.7 in 2009-10. The maternal mortality ratio (MMR) had reduced from 557 to 198 per 100,000 live births.

In terms of the midwifery workforce, the midwifery association registered approximately 720 midwives, of whom 618 midwives work in government facilities, with the remainder working in national and international NGOs. Very few midwives work in the private sector.

The education of midwives is through either a Diploma 3 course (3 year direct-entry) or a Bachelor course (4 year direct-entry). The National University of Timor-Loro-Sa'e (UNTL) offer the Bachelor degree program and the Diploma 3 program is offered by the Institute Superior Cristal (ISC) and the Institute Ciensia Saude (ICS). There are a small number of Diploma 1 midwives (previous 1-year program) still practising in Timor Leste. The 1-year program is no longer offered, and plans are in place for the remaining Diploma 1 midwives to undertake a 2-year bridging program. There is currently no bridging program from Diploma 3 to the Bachelor program but there is vision for this in the future.

The Midwifery Association of Timor Leste is a member of the International Confederation of Midwives (ICM). The midwifery leadership in Timor Leste is committed to meeting international standards as established by the ICM.

The license to establish a midwifery school lies under Ministry of Education and all requirements are set up by ANAA (National Authority for Accreditation). The ANAA is an independent body composed of individuals with various expertise on the curriculum standard and reform.

Midwives in Timor-Leste play an important role in reducing maternal morbidity and mortality and in assuring the quality of care for women and children. Therefore, it is pertinent to review the curricula offered in the three midwifery schools. This review will make recommendations to relevant institutions such as the Ministry of Education, ANAA (National Accreditation Body) and Ministry of Health to standardize the midwifery curriculum based on the minimum standards set by ICM.

In 2019, an analysis of the three midwifery schools was undertaken by a WHO consultant. This analysis identified that there were similarities and differences between the curriculum of the three schools, mostly on the proportion of theory, clinical practice and research.

Situational Analysis of Midwifery Education Timor Leste

As part of a continuing cycle of act-monitor-review the Strengthening Midwifery Education Action Plan recommends undertaking a situational analysis of midwifery and the plan provides a series of

questions that can be adapted to suit each country's unique situation (World Health Organization 2019). Data for the situational analysis were collected during the inception visit by the Burnet team and UNFPA in November 2019.

Table 2. Situational Analysis as per the Strengthening Midwifery Education Action Plan

1. Do standards on midwifery care exist, and are they based on the latest evidence?	
Do they need updating to ensure the latest evidence is included?	No country standards available on midwifery education standards. The Midwifery Association developed standards based on ICM standards and submitted to Government for approval in 2014. These have not progressed yet.
Are midwives, or other providers, educated to international standards?	Variable education programs exist, some based on the ICM Competency Standards (previous 2010/2013). Length of programs meet standards but content needs aligning. Too much non-midwifery focussed content in programs. Diploma 3 – Provided by two midwifery schools and a Bachelor of Midwifery (4 years) provided by one school. Some Diploma 1 midwives still working in the system – 1-year program from pre-Independence times, however no longer educated this way. Current delivery of a bridging program for Diploma 1 midwives but no bridging course available for Diploma 3 to Bachelor however this has been discussed and may be available in the future.
Is interprofessional learning and team-working a core element of education, with systems for consultation and referral	No interprofessional pre-service learning reported. EmONC program provides in-service interprofessional learning for a limited number (85 trained so far - 64 midwives, 17 GP and 4 OBS Dip).
2. Who provides education and what competencies do they have?	
Are experienced midwives and educators providing midwifery education, or is much of the teaching by other professionals?	The majority of pre-service midwifery programs are taught by qualified midwives.
Are midwifery faculty based in educational institutions responsible for providing most of the teaching, and midwifery educators in other settings providing both theory and practice?	The majority of pre-service midwifery programs are taught by qualified midwives. Some programs have facility-based educators, but they provide practice support only. Some programs have part-time lecturers who also work the other time in the health service.
Has an analysis been carried out on faculty in educational institutions and educators in other settings using the WHO Midwifery Educator Core Competencies?	No – Faculty interviewed report the need for structured/consistent development opportunities.
What provision exists for educating and upskilling midwifery faculty and educators?	The provision for education and upskilling midwifery teachers is ad-hoc and dependant on institution. Some support to complete Masters' program and some opportunity to gain international perspective but not consistent across all Faculty.

Are clinical midwifery mentors (experienced, practising midwives with skills in supervising and educating students in practice), available to support students in clinical settings?	Dependant on program and institution midwifery educators are available. All programs report good relationships and clinical support midwife role but unable to observe this in practice during the assessment and discussions suggest students do not often gain quality learning experiences due to lack of access to experiences; observing as opposed to hands-on practise; too many students in the clinical area; and, lack of equipment.
Are universities or colleges involved in midwifery education?	Yes – three Colleges/Universities provide all pre-service midwifery programs.
3. Regulation, accreditation and policy	
Is there professional regulation of midwifery education and midwifery practice? If so, how are the standards set, checked and monitored?	No – Midwives Association has included the development of a Midwifery Council as part of their strategies for development 2019-2024, as they are currently involved in registering graduates. National academic accreditation occurs but not specific to midwifery.
Are national standards supported by policy and legislation?	There are currently no national standards for midwifery.
Do accreditation processes consider the educational institution and practice settings together?	National academic accreditation exists but the focus is on the educational institution and is therefore not midwifery focussed or accrediting professional content of programs. National accreditation panels do not have midwives assessing midwifery programs.
4. An environment suitable for midwifery educators and students to teach, learn and work effectively	
Are teaching and learning environments safe and clean for work and study; is there sufficient lighting and heating?	No – classroom teacher: student ratios are too high in some programs with classroom and simulation ratio of 1 teacher to up to 80 students in some programs. Classrooms are therefore overcrowded, and minimal air-conditioning or IT facilities noted. Campuses are prefab buildings with poor functional outdoor spaces One campus utilises a partially constructed building for teaching and meeting. WASH facilities not specifically examined but appeared to be limited at all campuses.
Are there adequate resources for good-quality education and care as well as properly equipped facilities with access to learning and teaching materials and the Internet?	Resources and facilities are limited. Equipment for simulated practice is old and overall badly deteriorated. Clinical skills labs are small and unable to provide a quality experience for all students. Teachers are keen to use simulation for learning, but resources and teaching environment restrict ability. Internet is available but some students need to pay for this – either a daily rate or paid with tuition fees.
Is there safe transport for students and midwives when training in the community?	Own transport is required for midwives to attend the community.
5. Close links between educational institutions and practice settings	
Are practice settings easily accessible from the teaching institution to ensure students gain experience in more than one setting?	Education institutions have a memorandum of understanding with the Ministry of Health allowing access into clinical facilities. However, clinical facilities and over-crowded and resource limited, and the number of students is increasing so this may impact on student experience and support.

What arrangements exist to ensure staff and students can access and work in both settings?	No systems were noted. One program utilises part-time staff, so these staff tend to work across both education and practice settings – not a formal process in place.
Are there shared protocols and procedures to ensure international-standard education and practice are aligned?	A national protocol/standard of care for both referral facilities and health centres is available – unsure as to the extent it is used to inform teaching in pre-service programs (Ministerio da Saude, World Health Organization & UNFPA Timoe Leste 2017). Developed and published after program development. No copies noted in the University libraries reviewed.
Is there access to interprofessional learning opportunities in both educational institutions and practice settings?	Access to interprofessional learning is limited to EmONC training as in-service education. Limited to some shared units with Nursing and Health Sciences (not medicine) in pre-service education
6. Are sociocultural, economic and professional barriers being addressed?	
Are educated midwives socially and culturally accepted?	Yes – midwifery is a socially acceptable and popular profession. Midwives seem to be well respected in communities.
Is there professional and public recognition of midwives' role and status?	Professional and public recognition of midwives exists. However, more than half of women give birth to their babies at home without a skilled birth attendant – this is higher in rural areas.
Is there appropriate remuneration for midwifery faculty and educators, midwives, clinical midwifery mentors and students?	Research in 2016 reported the average monthly income of a clinical midwife to be USD478 – more than half the participants in the study believed this to be too low. In addition, little difference was found for more experienced practitioners so grades of salary were not evident (Hou et al. 2016)
Is there sufficient investment in educating women at secondary school, as well as investment in women as nurses and midwives?	Further investment would be beneficial in educating women at secondary school level. The education rate comparison between female and males appear equal throughout education levels. There are minimal career progression options available.
Is midwifery leadership thriving and visible?	A strong Midwifery Association is evident. The Association has a formal 5-year strategic plan and strong membership (all midwives must be members).
Is collaborative teamwork reducing institutionalized hierarchies of power and improving communications between midwives and other professionals?	Collaborative teamwork is possibly slowly progressing with the interprofessional EmONC program but hierarchy is still evident.
7. What is the role of professional associations?	
Is there a national midwifery association that supports strengthening education?	There is a strong midwifery association. Association has a formal 5-year strategic plan, including supporting regulation and education and strong membership (all midwives must be members).
Is the national midwifery association empowered to provide information, support and networking, and is it	The midwifery association has a role in regulation but not supported in law. Each graduating midwife is registered with the Association and the Ministry of Health. The Association has no regulatory powers but is required to respond to Government when complaints are received.

accountable for midwifery education and regulation?	The Association is invited to all high-level midwifery focussed meetings.
Is the national midwifery association a member of, and supported by, ICM?	The midwifery association is a member of ICM and has a good relationship with Indonesian Midwives Association (supported with latest strategic plan). There are no twinning programs in place – unsure of support from ICM.
Are the interprofessional relations between the midwifery, nursing, obstetric and paediatric associations collaborative? Do they need strengthening to support improved education and care?	Interprofessional relationships need strengthening. There is evidence of hierarchies existing between midwifery and medical professionals.
8. Are essential physical infrastructure and resources in place for safe learning?	
Are there adequate water, sanitation and hygiene (WASH) facilities in educational institutions and clinical settings for midwifery educators, students, women, newborns and families?	There are inadequate water, sanitation and hygiene (WASH) facilities in educational institutions and clinical settings – lecturers state students are required to provide own equipment including gloves as these are often not available at the institutions. Overcrowding of institutions is evident with women sharing cubicles in the birth environment and beds crowded in the PN environment. Some education institutions without running water at times and limited WASH facilities for number of students
Is the education institute secure, with lockable doors and windows, separate changing spaces for women and men, and security staff?	The facilities were not assessed for this. Mixed campus – limited WASH facilities for number of students One campus partially constructed building but in use for classrooms and meetings.

The situational analysis demonstrates that whilst midwifery is a popular and well-respected profession there are issues in provision of high-quality midwifery education and regulation requires strengthening.

Curriculum Review

To promote a quality curriculum, UNESCO advise asking the following general questions:

1. Are the aims for the curriculum clear?
2. Is the curriculum up to date?
3. Is it relevant for the future?
4. Does it create a prosperous future at the same time respecting the country's past?
5. Is it equitable and inclusive?
6. Is it learner-centred?
7. Is it flexible enough to incorporate changes and emerging issues?
8. Is it coherent and consistent across stages and content?

(United Nations Educational Scientific and Cultural Organization (UNESCO) 2017)

In addition to general questions to consider, ICM and WHO provide detailed guidance for designing, reviewing, renewing and accrediting midwifery curricula (International Confederation of Midwives 2019b; International Confederation of Midwives (ICM) 2012a; World Health Organization 2009, 2011).

The WHO Strengthening Midwifery Toolkit Module 5: Developing Midwifery Curriculum (World Health Organization 2011) sets out a number of objectives that a midwifery education curriculum should aim to meet and these include preparing graduates to be safe, competent reproductive health practitioners who are able to function autonomously and provide woman centred care. Other important aspects of preparation are ensuring graduates can work in multidisciplinary teams; detect and manage complications to reduce maternal and newborn morbidity and mortality; take responsibility for own learning and have the ability to reflect on practice; and, contribute to the development of midwifery as a profession.

The ICM provides global guidance with the International Confederation of Midwives' Model Curriculum Outlines for Professional Midwifery Education resource which includes suggested outline (units of study[1]) for midwifery programs (International Confederation of Midwives 2013c; International Confederation of Midwives (ICM) 2012a). This resource also provides a framework for curriculum development, resources that may be useful in curriculum development and implementation, and teaching and learning strategies to consider. The Model Curriculum Outlines resource sits alongside the ICM Global Standards for Midwifery Education. Both the WHO and ICM resources are essential documents when undertaking curriculum design, development, review and/or renewal and as such have informed this review of midwifery curricula in Timor Leste.

This assessment of midwifery curricula offered at three education institutions in Timor Leste was undertaken during the inception visit by the Burnet Institute's midwifery education consultant and is based on the following:

1. Meetings with UNFPA Program Representatives
2. Visits to the three education institutions delivering pre-service midwifery education in Timor Leste and meetings with key personal
    a. University National Timor Leste (UNTL)
    b. Instituto Superior Cristal (Cristal)

[1] Different terminology is used to describe packages of study within a curriculum – units, modules, subjects, topics and/or outlines. This report uses units to represent the packages of study that when combined make up a midwifery curriculum

    c. Instituto Ciencias da Saude (ICS)
3. Survey based on the ICM Midwifery Education Accreditation Program (MEAP) assessment questions (Appendix I)
4. Tours of education institutions skills laboratories and libraries
5. Meeting with National EmONC Training Officer and visit to new EmONC training centre
6. Visit to National Hospital
7. Meeting with Midwifery Association Vice-President
8. Review of WHO Consultant Report March 2019 (Purpose: review midwifery services and education to identify gaps in midwifery education)

As indicated, meetings with each school were undertaken and each midwifery representative answered the survey questions (Appendix II).

Program Structure

Table 3 maps each midwifery school's unit titles against the ICM Professional Midwifery Curriculum Outline suggested modules (units). Whilst not an in-depth mapping process it provides an idea of what may need strengthening in each of the curricula reviewed and inform the development of a national curriculum framework. Units of study requiring strengthening are highlighted in blue and where the unit falls in the program is indicated by the semester in brackets beside the unit title.

ICM recommends that general professional competencies such as documentation, education, ethics and the like should be woven across all units of study and as such all units should be specific to midwifery and not generic or nursing focussed units. The other ICM competencies of pre-pregnancy and antenatal care; care during labour and birth; and, ongoing care of women and newborns should be the focus of the curriculum as these are the expected competencies a midwife with demonstrate on completion of studies and throughout her career (International Confederation of Midwives 2019a). Image 1. provides a graphical representation of the ICM Competencies for Midwifery Practice demonstrating the overarching general competencies

Image 1. Diagrammatic Representation of the ICM Competencies

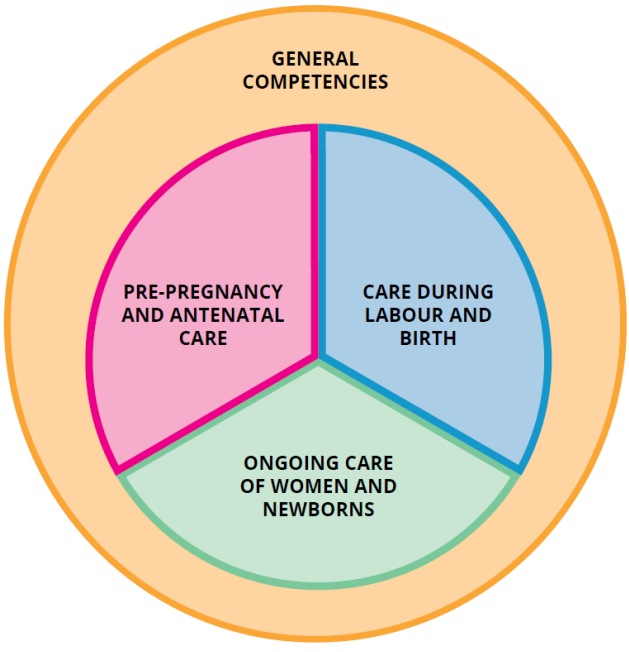


Table 3. Mapping unit titles against ICM suggested outlines (units)

ICM Outlines	UNTL Units	ISC – Cristal Units	ICS Units
Semester One			
Midwifery Science	All science general not midwifery specific	A&P Obstetric (1)*	All science general not midwifery specific
Basic Health Skills	Basic Fundamentals Obstetric Nursing (2)	Physical Health (1)	Basic nursing and midwifery care (2)
Lifestyle nutrition	Nutrition and Dietetics (3)	Reproductive Nutrition (2)	Reproductive nutrition (2)
Intro to midwifery	x	x	x
Becoming a midwife	x	x	x
Semester Two			
Midwifery Care Healthy Pregnancy	Obs Management Pregnancy (4)	Pregnant Care (2)	ANC (4)
Midwifery Care Labour and Birth	Obs Management Safe Labour (4)	Delivery (3)	Intrapartum (4)
Midwifery Care Healthy PP/NB and Family	Obs management postpartum (4)	Postnatal (3)	Postpartum (4) Neonatal (4)
Well Woman Health Care	Gynaecology and Sexology (5)	Family Planning (5)	Reproductive Health (3) Midwifery psychology (3) Family Planning (4)
Semester Three			
Public Health for Midwives	x	Health Promotion (4) Reproductive	Community Health Promotion (2)
Midwifery Ethics and Law	Conduct code and ethics (7)	Professional ethics and rights (3)	Ethics and Conduct (3)
MW Teaching and Counselling	x	x	x
Becoming a Midwife II	x	x	x
Pharmacology for Midwives	Not midwifery specific (3)	Not midwifery specific (2)	Not midwifery specific (2)
Semester Four			
MC Complications Pregnancy	x	Gyn/Obs Pathology (4)	x
MC Complications Labour and Birth	x	x	x
MC Complication PP/NB and Families	x	x	x
Basic Life Saving Skills for MW	EmONC Pathology (5)	x	Emergency Obstetric Care (5)
Semester Five			
Advanced Midwifery	x	x	x
Professional Issues MW	Obstetric concepts and documentation (4)	x	Documentation (5) Research (6)
MC Women's Abortion Needs	x	x	x
Being a Midwife/Business of Midwifery	x	x	x
Semester Six			
Autonomous Midwifery Care	3 midwifery clinical units (1 community based) 2332 hours – 291 8hr days	3 clinical practice units 4400 hours – 550 8hr days	5 midwifery clinical units 648 hours – 81 8hr days
Comments			
	4th year semester seven and eight– research focussed and some management units		

Overview of Curricula Review

Using data gathered at the inception visit, the ICM Global Standards for Midwifery Education, the Model Curriculum Outlines for Professional Midwifery Education resources and other key midwifery education resources such as the Strengthening Quality Midwifery Education for Universal Health Coverage 2030: Framework for Action, a review of the three midwifery education curricula offered in Timor Leste was undertaken. Areas for strengthening midwifery education nationally are discussed under the identified headings set out below.

Key issues identified from the review include the need to consider the following key areas:

- Curricula development team membership
- Increasing midwifery-specific content
- Review need for multiple language units
- Introduction of midwifery-specific bioscience units
- Increasing foundation midwifery units in first year of programs
- Increasing content/units focussing on complications and emergency management
- Development of National Midwifery Competency Standards or endorsement of ICM Standards and Competencies
- Improving quality of clinical experience
- Investing in clinical laboratory learning spaces and equipment
- Increasing opportunity for interdisciplinary learning

These key issues are discussed in detail in the following section.

Curricula development teams

Information from interviews suggests that all current curricula sought input from key stakeholders during development and review phases. Most curricula review teams include representation from midwifery faculty, clinical staff, Midwifery Association, Ministry of Health and Education and non-Government agencies such as WHO and UNFPA. Teams could be expanded to include current students in midwifery, recent graduates and representation from consumers of maternity care. Current students and recent graduates could provide feedback on what works well for students and what might need strengthening. Women, or groups representing women, can provide essential feedback as recipients of midwifery care provision and would be able to provide feedback on areas such as respectful maternity care (RMC). Respectful maternity care should be evident through all curricula, service provision and an essential competency of the midwife (White Ribbon Alliance 2019).

Given curriculum development and review teams are similar for each curriculum, it would be possible to develop a national core review team to guide the review of all three curricula. Taking a national approach to review and development of the midwifery curricula may support consistency in the absence of a midwifery-specific education accreditation process.

Recommendation

- Curriculum review teams continue to involve a wide range of relevant stakeholders and are expanded to include recent graduates of midwifery programs; recipients of midwifery care (women or representatives from groups supporting women); and, members with expertise in curriculum development and teaching methodologies (if not already included).
- Consideration be given to a core National Curriculum Review Team to promote a consistent standard of review and development of midwifery curricula across Timor Leste.

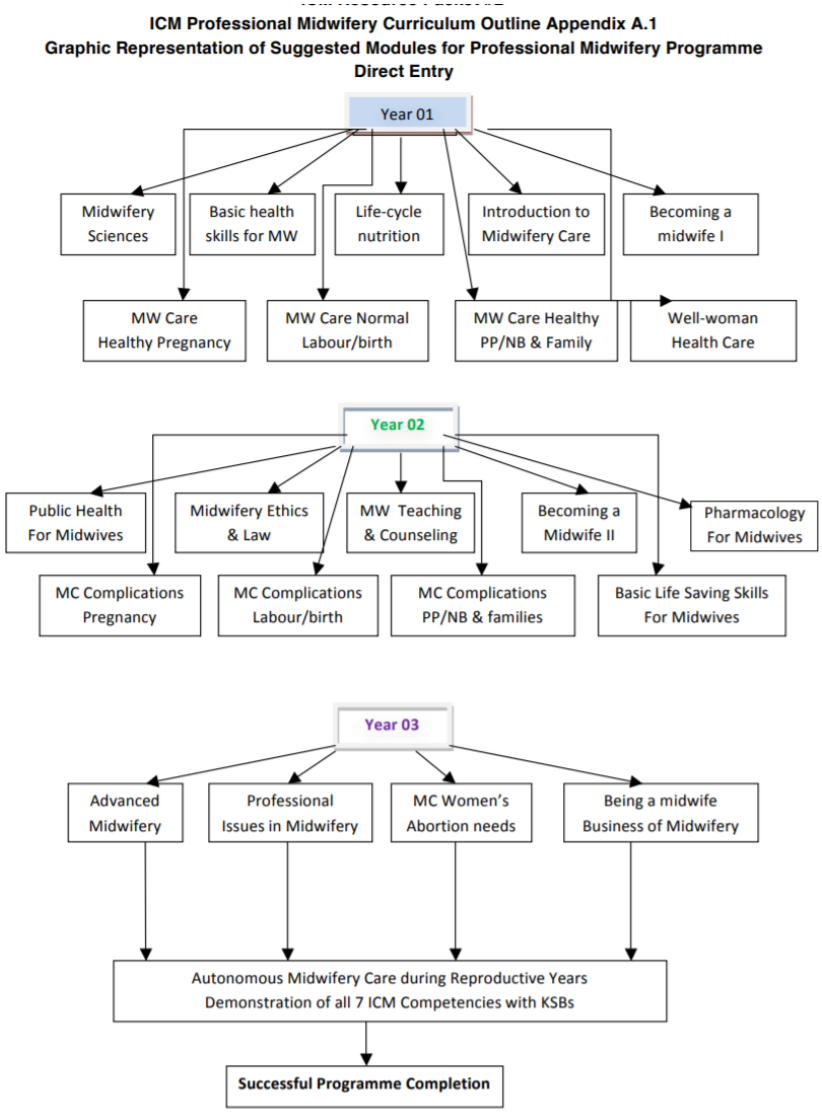
Non-Midwifery specific content

The review indicates all three curricula are similar and may have evolved from the initial UNTL curricula with some minor changes. Whilst informed by the ICM Model Curricula Outlines (see Image 2) and the ICM Competency documents, a major concern identified is the amount of non-midwifery content. The ICM Model Curriculum Outlines recommend every unit of study offered be specific to midwifery. In resource limited situations, this can be challenging as shared units, particularly with nursing and basic science programs are common. If some units of study are shared, they should at the very least, contain midwifery specific information and examples. Commonly shared units include the bioscience units such as pharmacology, anatomy and physiology and life sciences.

Recommendation

- Review the number of units not specific to midwifery and consider replacing with midwifery specific units to more closely align to the ICM Model Curriculum Outlines.

Image 2. Graphical representation of suggested ICM curriculum modules (units)



Language units

Each curriculum has between 3-6 language units (Tetum, English and Portuguese). Given the entry requirements for acceptance into midwifery programs is the successful completion of 12 years of schooling, including so many language-based units may not be necessary as students should have well-developed language skills on entry to programs. Health or midwifery specific language/terminology could be incorporated across many units or language units offered as learning support rather than required units of study.

Recommendation

- Review the need for language units in the midwifery curricula – consider removing, reducing or offering as learning support rather than a unit of study.

Midwifery-specific bioscience units

Only one curriculum has a midwifery-focussed bioscience unit (Cristal). All other science-based units are generic to health sciences and may be shared with nursing, pharmacy and other health professionals, therefore most of the content is most likely not midwifery-specific. Bioscience units commonly found in midwifery curriculum include but are not limited to, anatomy and physiology, biology, pharmacology, pathophysiology, genetics and microbiology (Leeks 2019). Midwifery is recognised internationally as both an art and a science and therefore students should have a sound knowledge in biosciences as they relate to midwifery so that they can then apply this knowledge to their practice as a midwife (Leeks 2019). A lack of bioscience knowledge has been identified as a significant problem in nursing and this has found to impact on patient outcomes and although the evidence is specific to nursing, given structure of pre-service education preparation is similar the same problem could be present in midwifery programs of study (Birks et al. 2018). A sound underpinning in bioscience allows midwives to understand normal physiology. Understanding normal physiology is a prerequisite to building sufficient understanding to recognise deviations from normal (pathophysiology). Midwifery graduates are expected to understand and support normal physiology to be able to promote, support and keep pregnancy and birth normal (Davison et al. 2018). Midwives must be prepared to understand normal so that they may detect deviations and complications when they occur. In addition, with the rise of non-communicable diseases (NCDs) in the general and therefore maternity population, the ability to support and promote normal physiology and identify pathophysiology is an essential skill for any midwife.

Recommendation

- Review the content of bioscience units of study to ensure either midwifery specific or at least significant midwifery content and examples are included. If possible, replace generic bioscience units with midwifery-specific ones.

Lack of introductory midwifery units in the first year of the program

Midwifery education is the foundation for equipping midwives with the necessary competencies for practice and as such the units of study in preparation programs should, where possible, be midwifery-specific units. Global standards support either a three-year direct-entry program of study or an 18-month post-registration (most commonly post-nursing) program (International Confederation of Midwives 2013a). Historically in many countries, midwifery has been subsumed into nursing and/or not recognised as a profession in its own right (World Health Organization 2009). This has often detracted from the development of midwifery as a profession as programs have prepared nurses who are able to practice some aspects of midwifery work but who are unable to

demonstrate all the required midwifery competencies for practice or the ability to work to the expected level of a midwife.

The Lancet Series in Midwifery concluded that there is growing consensus that when midwives are recognised in their own professional right, educated to agreed standards and well-regulated they are able to make a significant contribution to high-quality maternal and child health care and that scaling-up of midwifery could prevent maternal and newborn mortality (Homer et al. 2014; Renfrew et al. 2014). Recognition of the importance of the midwife in provision of safe and effective care across pregnancy and childbirth in the reduction of mortality and morbidity is growing. Many countries have now strengthened existing programs or introduced new midwifery education programs that work to ensuring pre-service midwifery education programs meet global standards and produce a fit-for-purpose midwifery workforce.

The ICM Model Curriculum Outlines recommend providing an early and clear introduction to and understanding of the profession of midwifery (International Confederation of Midwives (ICM) 2012a). All three curricula outlines need strengthening in this important area. The importance of early and sustained understanding of midwifery as a profession cannot be overstated. Lack of a sound and early understanding of midwifery has an ongoing impact on professional learning and the ability to demonstrate expected competence in practice.

None of the programs appear to have an introduction to midwifery or a professional midwifery unit in the first semester or indeed anywhere in the program. In addition, terminology requires a review as obstetric nursing and nursing skills are not necessarily the skills required for competent midwifery practice. Entry requirements into midwifery education programs should be at a high enough standard so that students are ready to study profession-specific content as soon as programs begin.

Recommendation

- Review unit content in first semester and ensure a sound introduction to midwifery role and profession is evident – consider replacing units with ICM Model Curriculum Outline recommendations

Lack of complication focussed units of study

In line with the ICM Essential Competencies for Midwifery Practice, midwives must be prepared to recognise, respond and initiate referral when complications arise. The Framework for Quality Maternal and Newborn Care sets out practice category requirements which outline the practices expected by maternal and newborn care providers and this includes midwives. In fact, appropriately educated and well-regulated and supported midwives are well placed to lead four of the five practice category requirements, including first-line management of complications and to support the care provision of the fifth category, provision of medical, obstetric or neonatal care (Renfrew et al. 2014). The ability to detect and respond accordingly to maternal and newborn emergencies are key competencies of a midwife. Midwives are most often the first-line care providers and should be prepared to provide emergency management in line with Basic Emergency Obstetric Newborn Care (BEmONC). All midwives, including those who work in low-resource settings, should be prepared to provide the seven signal functions of the BEmONC framework for the delivery of evidence-based emergency care. The ability to undertake BEmONC signal functions reduces mortality and morbidity (Otolorin et al. 2015; Paxton et al. 2005). This preparation must occur during pre-service training as midwives are expected to be competent in the management of emergencies on entry to practice (WHO et al. 2018). It is too late to prepare midwives to provide BEmONC functions as part of in-

service education as they need the knowledge and skills as soon as they start to practice (International Confederation of Midwives 2019a).

To enable midwives to develop the skill and knowledge required to respond to emergencies or complications in childbearing requires a sound underpinning of normal anatomy and physiology and other biosciences. Without an understanding of what is normal it is difficult to then recognise and respond when situations become abnormal or complicated (Leeks 2019). Globally, approximately 15% of expected pregnancies/births will require recognition and management of a complication and with increasing rates of non-communicable diseases impacting on maternal and newborn outcomes it is vital to prepare midwives adequately to understand and support the normal and to recognise and respond appropriately when complications occur (Say et al. 2014).

Whilst each curriculum reviewed has one emergency care-based or complications-based unit there appears to be a lack of units dedicated to complex or complicated care. All curricula have units covering antenatal, labour and birth, postnatal and newborn care but one unit is not enough time to provide learning on the normal aspects of care and to also include learning about complications. The ICM Model Curriculum Outlines advise entire units on complications of each area of practice (see Image 2).

Recommendation

- As per the ICM Model Curriculum Outlines introduce units that focus on the detection and management of complications in pregnancy, during labour and birth, and in the postnatal and neonatal period.

National midwifery competency standards

Where national midwifery competency standards are available, identified benefits include protection of public safety through the ability to clearly define expected practice of midwives and as a benchmark for which to accredit midwifery education programs (Homer et al. 2007). In the absence of national competency standards, the ICM global competency standards can be used to inform midwifery education and expected midwifery practice. Regardless of standards used (National or Global or both), all aspects of curriculum should be mapped to the standards utilised to ensure content and assessment processes are aligned with expected levels of competence. Given the inability to undertake an in-depth assessment of content we have not been able to be assured that content aligns to expected standards but given many of the units do not align to the ICM model outlines it is expected that content may either be missing or need strengthening.

Timor Leste has a process for academic accreditation through assessment by the National Agency for Evaluation and Academic Accreditation (ANNA). This process focusses on accreditation of academic institutions and programs, but it is not profession specific. Both UNTL and ISC underwent the national accreditation process in 2019 and the Cristal Institute has plans to undertake the process in 2020. Whilst this will strengthen education providers processes and general practices it should not take the place of a midwifery education accreditation process.

For accreditation of midwifery education programs to occur there must be recognised and accepted midwifery standards in place that guide the curriculum and the process for midwifery education. The development of midwifery education standards should be a collaborative process where all stakeholders are able to have input and endorse the final standards. Once standards are in place for education programs, accreditation can take place. The Timor Midwives Association (APTL) with support from UNFPA undertook a consultative process and developed draft competency standards and a code of ethics for midwives in 2014 and this was submitted for Government approval but has

not yet progressed. Without accepted competency standards for midwives it is difficult to define a clear scope of practice and as such non-midwives may be undertaking midwifery duties that they have not been prepared to undertake and therefore placing the lives of women and babies at risk.

Regulatory mechanisms aim to ensure the safety of the public through defining the scope of midwifery practice, ensuring compliance with initial and ongoing licensure and professional competence and managing complaints or disciplinary procedures (International Confederation of Midwives 2011). Without clear midwifery competency standards, it is also difficult to ensure robust regulation of the profession.

Recommendation

- Consideration be given to updating and endorsing draft national midwifery competency standards or explicit endorsement of the ICM Essential Competencies for Midwifery Practice.

Clinical hours and experiences

All students in midwifery must have the opportunity for supported and sustained clinical experience. In order to develop safe practice skills, students should be first exposed to clinical psychomotor skills in midwifery practice laboratories through task training and simulation prior to practising skills, under supervision, on clinical practice placement (World Health Organization 2011). Supported clinical experience allows students to gradually develop the necessary skills, knowledge and attitudes to acquire competence in midwifery practice. All programs report having good relationships with the clinical practice sites. These relationships are supported through a memorandum of understanding with the Ministry of Health. All programs report using experienced clinical instructors/trainers but information on the process of selecting these trainers was not discussed.

All programs raised concerns that clinical environment often had too many students and not enough access to meaningful experiences. Program representatives also raised concerns that equipment was often unavailable or in disrepair and that students were advised to take their own equipment (including gloves) due to unavailability of essential safe practice items. When asked if students were exposed to evidence-based practices such as active labour or choice of birth positions there was agreement that this was often not the case. Another cause for concern regarding clinical experiences was that students were often only allowed to observe practice and were not fully supported in gaining hands-on experiences.

In addition to concerns raised by the program representatives, some stakeholders also reported that there was a general feeling that new graduate midwives were not always well-prepared to practice at the expected level on graduation and that this was particularly concerning where new graduates would be in positions where they may be the only midwife available. There was concern around decision-making skills and recognising and responding appropriately when complications or emergencies occur.

With the increase in midwifery education programs being offered and a steep increase in student numbers these issues may escalate in the coming years and require urgent intervention.

Recommendations

- Review and standardise all programs theory and practice ratios to align with ICM standards
- Consider development of a national process to monitor quality and availability of midwifery clinical placements

- Consider development of a standard process for identifying and training clinical facilitators/educators

Clinical skills laboratories/Lack of equipment

Simulation is recognised as a valuable strategy for teaching and evaluation of clinical skills and as such has been increasingly utilised as a learning strategy in midwifery education (World Health Organization 2018). WHO recommend that training institutions introduce and upscale simulation in health professional education and this includes midwifery. The WHO recognise that not all countries will have the resources or finances to support complex technologies used in some high-fidelity (most realistic) simulation equipment but support the use of resource specific equipment and mannequins (World Health Organization 2013).

The widespread and rapid implementation of simulation to support competency-based learning has resulted in challenges both financially and educationally. Many low and middle income countries struggle to have enough mannequins and associated clinical equipment (consumables) to ensure all learners have the opportunity for supported and repeated practice (World Health Organization 2018, 2019). Supported and repeated practice opportunities are key to learners developing the competence required to successfully transfer skills from a clinical lab situation to clinical practice (International Confederation of Midwives (ICM) 2012b). After touring all clinical skills laboratory facilities, it was noted that all faced similar challenges and issues. Laboratory spaces were too small to accommodate the number of midwifery students and teacher to student ratios were high. Equipment was lacking both in mannequins and consumables such as IV fluids, lines, syringes etc. The mannequins were mostly dated and in very poor condition. It was evident that the schools had attempted to provide the best situation possible, but a lack of resources and funding was evident.

Many of the mannequins had been donated and therefore not replaced on a regular basis. Despite best efforts, the climatic conditions in Timor Leste provide a challenging environment for the type of models in use (plastic and rubber deteriorate quickly in warm and humid environments). Each school had either one or a few MamaNatalie™. These models have been specifically researched and designed to be easy to maintain and long-lasting in testing environments. When compared with a high-fidelity birthing simulator (high-end), the low-cost and low-tech MamaNatalie™ simulator was found to be equally effective in birthing training (DeStephano et al. 2015). Evidence also supports the use of these models in supporting multi-professional scenario-based maternity emergency training in low resource environments (Egenberg et al. 2017).

In addition to a lack of resources and appropriate facilities for simulated practice to occur, many midwifery educators have not had formal training in how to integrate simulation into teaching and learning. It is recognised that teachers mostly feel comfortable teaching the way they experienced during their learning opportunities and for many this is the didactic approach of lecturing. Preliminary reporting from the WHO Midwifery Educator Survey identifies that many midwifery educators are more confident with theoretical classroom teaching than with clinical teaching (World Health Organization 2019). A program of Faculty development in simulation as a learning and teaching methodology would support development and expansion of simulation in midwifery education in Timor Leste.

Recommendations

- Introduction of a program of support for upgrading and maintaining appropriate simulation training models and equipment.

- Consideration for the development of a shared centre of excellence for maternity simulation education in Timor Leste for use across health education and clinical training.
- Introduction of a midwifery Faculty development program that provides initial and continuous professional development in the use of simulation in midwifery education.

Interdisciplinary learning

The Strengthening Quality Midwifery Education for Universal Health Coverage Framework for Action (World Health Organization 2019) and the ICM Global Standards for Midwifery Education (International Confederation of Midwives 2013a, 2013c) both recommend training in multidisciplinary teams. Both documents recommend that midwifery curricula be developed to have opportunities for shared learning between midwives, nurses and doctors. Training and learning together helps to support collaborative and respectful practices and should be a part of all health care providers learning. Collaboration between maternity health care providers is increasingly acknowledged as an important aspect in the provision of high-quality and safe maternity care (Downe, Finlayson & Fleming 2010).

From discussions throughout the review, there is no provision for, or opportunity for midwifery students to learn in a collaborative or integrative way with medical students (future doctors). Some shared units such as bioscience and nursing units would have a mixed student population (nursing, pharmacy, laboratory technician students), but these are not midwifery-specific subjects and are theory based. There is no opportunity for maternity teamwork learning. National EmONC training provides an opportunity for team-based collaborative training but this is only available as in-service training.

Recommendation

- Opportunities for interdisciplinary maternity-based training be explored with educational institutions providing pre-service medical training.

Limitations of the Review

Limitations of the review include difficulty in provision of in-depth content review due some curricula only being available in Tetum or Portuguese, but all unit titles were translated to English and content were discussed with the midwifery representatives during meetings. Frameworks for curricula review recommend speaking with current students and recent graduates plus clinical based staff and this was not possible due to time constraints. However, the midwifery education gap analysis undertaken by the WHO Consultant provided a brief overview of clinical training issues as discussed previously and has been utilised in this review.

Conclusion

This desk-top review of midwifery education curricula in Timor Leste has identified several issues and areas that require addressing or strengthening. Whilst there is recognition that midwifery education programs should be based on the ICM global standards and competencies the review identifies that all programs require better alignment with the well accepted ICM Model Curriculum Outlines for Midwifery Education.

Fortunately, the profession of midwifery is well recognised and accepted in Timor Leste and much work has already been undertaken to strengthen the profession and the education of midwives. This review provides recommendations for consideration and action to further strengthen midwifery education and quality midwifery practice. The recommendations will be reviewed, discussed and

refined at the planned stakeholder's consultation meeting and an action plan for standardising the midwifery curriculum will be finalised.

A high-quality system of midwifery education produces fit-for-purpose midwives who demonstrate the ability to meet essential competencies and provide evidence-based, safe and effective care for women and families. Well educated, regulated and supported midwives contribute significantly to improving sexual, reproductive and maternal health and reducing maternal and newborn mortality.

Appendices

Appendix I Midwifery Curriculum Review Survey

This curriculum review survey is based on the ICM Midwifery Education Accreditation Programme (MEAP) (International Confederation of Midwives 2019b; Nove, Pairman, Bohle, Garg, T Moyo, et al. 2018); the Midwifery Assessment Tool for Education (MATE) developed by the WHO Collaborating Centre for Midwifery Development (WHO Collaborating Centre for Midwifery Development 2018); the JHPIEGO Midwifery Education Rapid Assessment Tool (Johns Hopkins Program for International Education in Gynecology and Obstetrics (Jhpiego) 2015); the ICM Essential Competencies for Midwifery Practice (International Confederation of Midwives 2019a); and, the Strengthening Quality Midwifery Education for Universal Health Coverage 2030 (World Health Organization 2019).

Does the programme lead to registration/licensure of a midwife in the country?
What is the qualification given to students after successfully completing the programme?
Is the midwifery education programme accredited? Accrediting body?
Indicate the year of the last accreditation.
Which set of standards or competencies inform the curriculum?
Are the ICM Essential Competencies for Midwifery Practice evident in the curriculum – both in outlines and assessments?
What is the philosophy of midwifery that underpins the programme?
What is the philosophy of learning and teaching that underpins the programme?
What is the organisational set-up of the institution – where does midwifery fit?
Does the programme produce fit-for-purpose midwives?
Are there plans to make changes to the programme?
Does the programme have adequate human resources to support theoretical and practical learning?
Is the programme taught by midwives?
Describe the relationship between the midwifery educators in the programme and the practising midwives at the practice site
What provision exists for educating and upskilling midwifery faculty?
Are clinical midwifery mentors (experienced, practising midwives with skills in supervising and educating students in practice), available to support students in clinical settings and educators?
When was the curriculum first offered – year?
When was the curriculum last renewed/reviewed?
Who is involved in the development/review/renewal of the curriculum?
How does the programme stay up to date and ensure that teaching materials are evidence based and current?
How is the programme structured across the years?
Is the curriculum competency based?
Which midwifery competencies inform the curriculum?
Does the structure fit with the ICM Model Curriculum structure?
How does the programme organise the theoretical and practical teaching and learning?
Who is responsible for developing and leading the curriculum?
Are EmONC skills taught in the curriculum?
Is detection and management of Violence Against Women/Domestic Violence taught in the curriculum?
Is Family Planning taught in the curriculum?
Is mental health care included in the curriculum?
Are any topics missing from the curriculum?
What forms of assessment are used in the curriculum?

Are learning objectives, content and assessments aligned?
Are contemporary approached to learning and teaching used in the programme (provide explanation)
What is the ratio of teacher/student in theory-based classes?
What is the ratio of practice and theory?
Is there a record of student clinical experiences/requirements (logbook)?
Does the curriculum specify numbers of experiences e.g. a minimum of 50 new AN visits, 100 repeat AN visits, 50 labours and births, 50 newborn examinations, and 100 primary care/family planning visits
Are the students well supported in the practice environment?
Are students provided with adequate practice time and experiences?
Do facilities support the development of evidence-based midwifery care?
How are students assessed in practice?
Is simulation utilised to teach and practice clinical skills?
Is there a dedicated space for simulation activities?
Are enough supplies available for all students to practice each skill?
What is the ratio of teacher and student in simulation sessions?

1. What are the strengths of the curriculum/programme?
2. What could be improved?
3. Overall, Does the curriculum align with ICM Education Standards and Competencies

Appendix II Curriculum Comparison Table

Each site visit involved an initial meeting with Faculty and sometimes higher- level management, a tour of facilities and an interview with midwifery leader where the survey questions below were asked. The data is observational or self-reported so caution is required in interpreting results, particularly opinion questions such as your graduates fit-for-purpose as it would be unlikely for programs to state they are not. Some curricula were only available in Portuguese/Tetum, so unit interpretation is from a list of unit titles and not from in-depth review of unit objectives, content and assessments.

Adapted ICM Midwifery Accreditation self-assessment questions	UNTL	CHRISTAL	ICS
General Information			
Does the programme lead to registration/licensure of a midwife in the country?	Yes	Yes	Yes
What is the qualification given to students after successfully completing the programme?	Bachelor	Diploma 3 – 3 years (2017) First offered 2017 so first graduates complete this year (2019)	Diploma 3 – 3-year program
Is the midwifery education programme accredited? Accrediting body?	Result pending National Accreditation Agency ANNA (National Agency for Evaluation and Academic Accreditation)	Undertaking preparation for Accreditation – possibly next year (2020)	Result pending National Accreditation Agency ANNA (National Agency for Evaluation and Academic Accreditation)
Indicate the year of the last accreditation.	2019 – results pending	N/A – new program	2019 – results pending
Which set of standards or competencies inform the curriculum?	ICM - 2010 version	Unable to state – after questioning. Supposed to be based UNTL so should be ICM Competencies	ICM 2010/WHO standards
Are the ICM Essential Competencies for Midwifery Practice evident in the curriculum – both in outlines and assessments?	Unable to assess – curriculum in Portuguese	Unable to determine – sending curriculum	Difficult to determine – Curriculum in Bahasa
What is the philosophy of midwifery that underpins the programme?	Responsibility, Honesty, Professional midwives: Is the key for safe mother and child	Unsure/unable to answer	Based on recognised midwifery philosophy Woman is unique individual. Womens experience is important

			and gives value to the woman and community. Midwifery care should promote protect and support repro rights of women. Respect values of culture. Midwives provide care and support for women in pregnancy, labour, birth and postpartum. Develop confidence of women in physiological process of reproduction.
What is the philosophy of learning and teaching that underpins the programme?	Not clearly stated – using Blooms Taxonomy	No philosophy identified	Problem based learning Active learning based on the principles of adult learning
What learning support facilities are available to students? Library IT Online Resources	Library Practice laboratory Internet available Online resources available	Poor library support/resources 24-hour access to Wi-Fi cost 1USD for students Some videos to watch but limited online resources used in teaching No IT labs seen – limited use of IT in teaching. No IT facilities in rooms need to obtain from central source	Skills laboratory – not enough functional models Library – not enough books Wi-Fi – paid on entry to the program – sometimes not working Difficult to access Internet – Infrastructure issue
Institutional Organisation			
What is the organisational set-up of the institution – where does midwifery fit?	Faculty of Health with midwifery as one of 6 disciplines	The institution has 2 Faculties – Education and Health. Education has 10 programs and Health has 2 programs (Nursing and Midwifery).	Five programs: Nursing Midwifery Pharmacy Nutrition Laboratory technician
Does the programme produce fit-for-purpose midwives?	Confident that graduates are practice ready	Just finishing this year – confident ready for practice May upgrade to offering Bachelor program in future	Yes – major aim to develop professional responsibility.

Are there plans to make changes to the programme?	No – just undertaken National Accreditation	Too early as only one batch so far	Modify some units – post accreditation to further align with ICM and WHO standards
Midwifery Faculty			
Does the programme have adequate human resources to support theoretical and practical learning?	No 12 Lecturers/755 students 1:80 lecture ratio 1: 8-10 lab groups so not all students get a chance	Rector states not enough staff to cope with increasing numbers Midwifery leader states 1:30 max ratio in class. Some part-time staff from other organisations such as Ministry and Clinical	20 staff – 10 full-time /10 part-time Medical Drs – Obs and Paed support with some units
Is the programme taught by midwives?	Majority taught by midwives	Midwifery lecturers – 12 Drs Nurses If specific to midwifery, then taught by midwives	Majority taught by midwives
Describe the relationship between the midwifery educators in the programme and the practising midwives at the practice site	No cross working but most lecturers from the clinical area initially Memorandum between MoH and University – works well	MOU with MoH for placement in public hospitals Some staff work in both – part-time	Clinical Instructors – partnership with MoH and with municipal health division. Reports good relationship.
What provision exists for educating and upskilling midwifery faculty?	Support to complete Bachelor and master's degree initially Limited professional development available – sometimes provided by UN agencies with visiting experts Opportunity for international development – Thailand, India, Indonesia	Some training opportunities with inviting experts	Some relationship with Indonesia University – Master's program and upgrade to Bachelor Collaboration with St John of God and Australian Catholic University – come each year to provide some professional development, skills upgrade.
Are clinical midwifery mentors (experienced, practising midwives with skills in supervising	Support clinical instructors in the hospital – no opportunity to speak with students	MOU with Ministry of Health Students supported by Clinical Instructors	Yes – clinical instructors with minimum Diploma 3

and educating students in practice), available to support students in clinical settings and educators?			
Curriculum			
When was the curriculum first offered – year?	2012	2017 – based on UNL TL curriculum	2017
When was the curriculum last renewed/reviewed?	2017 – revision; 4-year review – 2020-21	N/A	Newly introduced in 2017
Who is involved in the development/review/renewal of the curriculum?	Faculty is involved and organised by vice deacon Key Stakeholders – MoH, Med, Red Cross, WHO, UNFPA etc are involved in review	Inclusive participation – stakeholders and midwifery association UNTL Curriculum	Midwifery leader – Sara Xavier; other midwives and key stakeholders including Ministries and NGO. Used ICM standards – adapted from UNTL program
How does the programme stay up to date and ensure that teaching materials are evidence based and current?	Regular review	N/A – new program	Regular revision and review Based on International standards – WHO recommendations
How is the programme structured across the years?	Four Years 8 semesters – see Table 3 for more detail 44 units 25 - General or Nursing (2) 19 - midwifery specific Sciences all general not midwifery specific Includes 6 language-based units – English, Tetum and Portuguese Credit Points total = 240	Three years 6 semesters – see Table 3 for more detail 39 units 21 – General/foundation 18 – Midwifery specific Sciences all general not midwifery specific Includes 4 language units – English and Portuguese Credit Points total = 160 Currently less than National Accreditation requirements	Three years 6 semesters - see Table 3 for more detail 36 units 18 - General/foundation 18 - Midwifery specific Sciences all general not midwifery specific Includes 3 language units – English and Portuguese Credit Points total - 180

Is the curriculum competency based?	Yes	Yes	Yes
Which midwifery competencies inform the curriculum?	ICM – 2010 version	Intention for ICM Competencies – previous 2010/2013	ICM – 2010/2013
Does the structure fit with the ICM Model Curriculum structure?	No – too many non-midwifery specific units	No – too much non-midwifery	Not yet but plans to upgrade
How does the programme organise the theoretical and practical teaching and learning?	40 hours per week – 60 theory/ 40 practical	~60% Theory and 40% practice	
Who is responsible for developing and leading the curriculum?	Midwifery development	Curriculum based on UNTL curriculum. Dean of Health and Midwifery team	Sara developing and leading curriculum
Are EmONC skills taught in the curriculum?	Full unit on EmONC and complications	No not taught	EMONC unit
Is detection and management of Violence Against Women/Domestic Violence taught in the curriculum?	Not yet – under review	States entire unit – SRH/GBV – but not evident in unit list provided	Not specific – some units
Is Family Planning taught in the curriculum?	Full unit	Yes – entire unit MoH rep teaches this	Entire unit
Is mental health care included in the curriculum?	In some units – not a full unit – plan for development	Yes – entire unit	Psychological – MH disorders
Are any topics missing from the curriculum?	Sexology, gynaecology. Sexual Health, psychology. VAW	Stated health promotion but appears entire unit on this Emergency skills	Increasing midwifery content based on ICM model outlines More about professional issues Safe abortion care
What forms of assessment are used in the curriculum?	Exam, Assignment Attendance Practical – Logbook requirements are extensive	Practical exam Theory exam Assignments – group and individual Simulation	Formative and summative Examinations Case presentations Assignments Community education Practical – logbook

Are learning objectives, content and assessments aligned?	Unable to determine	Unable to determine	Appears to be from discussion with midwifery lead but difficult to determine as curriculum is in Bahasa
Are contemporary approached to learning and teaching used in the programme (provide explanation)	Lecture based – some demonstration and some simulation. Expectation of self-directed Group research project in final year Toured three classrooms where 2/3 were using group work and student presentations	Lectures Group work Discussions Simulation Video	Seminars Roleplays Simulation Group discussion Varney seven steps
What is the ratio of teacher/student in theory-based classes?	Up to 1:80	1:30	1:30
Current number of students	775	2017: 14 students 2018: 28 students 2019: Dili: 88 students Baucau: 26 students Total Students 156 students.	445 (20 currently on leave)
Practice Experience			
What is the ratio of theory and practice?	60% theory/40% practice 3499hrs theory 2332hrs practice (291 eight-hour days)	54% Theory/46% practice 5200hrs theory 4400hrs practice (550 eight-hour days)	91% Theory/9% Practice 6876hrs theory 648hrs practice (81 eight-hour days)
Is there a record of student clinical experiences/requirements (logbook)?	Extensive logbook	Logbook for lab/clinical and library	Extensive logbook
Does the curriculum specify numbers of experiences e.g. a minimum of 50 new AN visits, 100 repeat AN visits, 50 labours and births, 50 newborn examinations,	New AN - not determined Repeat AN – 25 Labour Care - 30 Birth (deliveries) - 30 Newborn examinations - 30	New AN – not determined Repeat AN – 30-50 Labour Care - 30 Birth (deliveries) – 30 – seems some may be observation only	New AN - 15 Repeat AN – 15 Labour Care - Birth (deliveries) – 10-15 Newborn examinations - 15

and 100 primary care/family planning visits	PN - 30 Primary care/Family Planning – Other -	Newborn examinations - 30 PN - 15 Primary care/Family Planning – 20-30 Other -	PN - 15 Primary care/Family Planning – 15 pills/inj. IUD/Implant 5 each. Billings Other – Continuity to PNC Newly reduced – used to be ICM standards
Are the students well supported in the practice environment?	Yes - good relationship with clinical area due to MoH memorandum	Yes Clinical trainers from the hospital support the students	Yes
Are students provided with adequate practice time and experiences?	Enough time – availability of patients can be limited due to too many students	Yes	Yes – reviewed tasks quantity – now focussing on quality but clinical time and tasks limited
Do facilities support the development of evidence-based midwifery care?	Not always – challenges with education and supplies (medications). Sometimes students buy their own supplies like gloves etc	Not always – challenges with education and supplies (medications). Sometimes students buy their own supplies like gloves etc	Not always – challenges with education and supplies (medications). Sometimes students buy their own supplies like gloves etc
How are students assessed in practice?	Logbook - signed	Clinical instructors that assess the students Teachers also go into the clinical area to observe	Clinical Instructors assess and evaluate student – need to follow procedure
Is simulation utilised to teach and practice clinical skills?	Yes, but not enough staff or functional equipment/consumables	Yes, but poor facilities	Yes – Skills lab
Is there a dedicated space for simulation activities?	Yes – skills Laboratory Small and not conducive to simulation activities generally. One corner with birth room sim set-up (all bed based)	Yes – small and not enough equipment for all students State the facility is open for students to practise	Yes
Are enough supplies available for all students to practice each skill?	No – students bring their own like BP	No	Not enough – too many students

What is the ratio of teacher and student in simulation sessions?	1:80 but 1: 8-10 groups so not all students get the opportunity to have input	1:6-12 – student rotate	1:10 – students rotate

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