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Executive Summary

This gap analysis constitutes an integral part of the SafeMa project as it will allow a in depth understanding of the current debilities of midwifery education in the partner countries and thus facilitate the development tailor a high quality, needs-based context-specific “Advanced Midwifery Course”, that will have the potential to promote the establishment of model teaching, research and pedagogic resource Hubs in each of the partner HEIs.

In order to standardize and simplify our analysis, based on prior relevant project-internal documents such as “Academic and Research Excellence in Midwifery Education and Research” but also ICM competency guide, we defined 4 relevant domains in midwifery education:

- Teaching methods and approaches
- Clinical skills and practical core competencies
- Human rights-based approach and patient centered care
- Research and evidence - based practice within midwifery

From 05/19 until end of 10/19 a two-step gap analysis has been undertaken. In the first step, the preparatory phase, by using a blend of different information sources – reaching from literature review and inquiry of experts from partner HEIs to cross-match of national code of conducts with the existing curricula, we were able to do a thorough mapping of potential gaps existing in midwifery education in both partner countries. In particular, per each domain we were able to detect specific potential gaps, needing further investigation.

In close collaboration with the respective partner HEIs, in a second step – the implementation phase -, tailored survey tools and focus group discussion/semi structured interview frameworks have been developed and applied to convenience samples of different stakeholder groups i.e. midwifery students, clients, practicing midwifes, obstetricians and MoH officials. Both the qualitative as well as the quantitative data gathered during this phase were contrasted against each other and the findings of the preparatory phase, resulting in a comprehensive evidence synthesis.

Our findings are indicative of major gaps in all 4 domains of midwifery education, highlighting the necessity of applying a broad scope when designing the Advanced Midwifery Course in the partner HEIs. Some of the suspected gaps were verifiable both in the qualitative as well as in the quantitative data collected, while in some cases verification was only partially. Nevertheless, for some potential gaps, our analysis remains inconclusive as data generated were contradictory. Further investigation of these gaps within the context of the next work packages should be considered.

Introduction

Rationale

Foremost aim of the SafeMa project is to advance the capacities of the partner Higher Education Institutes (HEIs) in Vietnam and Cambodia as to generate and disseminate excellence in midwifery education and research. In particular, SafeMa aims at transferring best practices to address local needs and promote clinical skills and research potential through the development and introduction of an "Advanced Midwifery Course" in the partner HEIs. In order to be as impactful as possible, the "Advanced Midwifery Course" has to be addressing primarily contextspecific gaps in midwifery education of each partner HEI. Therefore, a thorough gap analysis is required so as to tailor a high quality, needs-based context-specific "Advanced Midwifery Course", that will have the potential to promote the establishment of model teaching, research and pedagogic resource Hubs in each of the partner HEIs.

Methodology

In order to be able to standardize our analysis approach for all HEIs and partner countries, based on project-internal document such as the "Academic and Research Excellence in Midwifery Education and Research" but also the ICM competency guide, we have defined 4 relevant domains of midwifery education:

1. Teaching methods and approaches
2. Clinical skills and practical core competencies
3. Human rights-based approach and professional ethics
4. Research and evidence - based practice within midwifery

By applying this framework, the gap analysis was conducted in two consecutive phases: the preparatory and the implementation phase. In the preparatory phase of the process each of the HEIs appointed a gap analysis focal person. Through secondary research, using a blend of different sources (review of literature, the respective codes of conduct of midwives and study curricula, revision and cross-match with the ICM competencies guide, revision of report on "Academic and Research Excellence in Midwifery Education and Research", inquiries of focal persons) we intended to identify the main areas in midwifery education where gaps potentially exist in our partner HEIs and countries. In the implementation phase, based on these findings and in close collaboration with the focal persons of each partner HEI, tailored and feasible gap analysis tools (questionnaires, focus group discussion frameworks, semi-standardized interviews with key informants) targeting convenience samples of at least one of following target groups (undergraduate midwifes, post-graduate midwifes in service for max. 5 years, obstetricians, pregnant women, health policy officials, HEI lecturers) were developed. All participants surveyed or interviewed have provided written informed consent. In line with the logical framework matrix of the project, we aimed at collecting data from focus group discussions (FGDs) with at least 100 participants in total and at least 300 questionnaires.

The results of the implementation phase were then evaluated, summarized and contrasted against the findings of the preparation phase, resulting in evidence synthesis from different information sources.

For purposes of data analysis, we have used the software programs Excel and STATA 12.0.

1. Findings

Preparatory phase

As mentioned above our secondary research in this step focused on following sources:

1.1 Literature review:

Through a thorough, though not exhaustive review of literature on the 4 aforementioned domains of midwifery education, in general and in the partner countries specifically, we were able to identify following potential gaps:

Domain 1:

Although no study originating from the partner countries Viet Nam and Cambodia could be found, our review identified 3 core findings that seem to possess a certain degree of generalizability and thus be potentially relevant for our gap analysis:

Theory-practice gap (between written curriculum and what is implemented in the institutional education)

Difficulties to implement curriculum changes and editions in the teaching reality of nursing and midwifery educational institutions have been often described in the literature (Evans, et al., 2015). This seems to be particularly evident in the introduction of competency-based curricula. In a study conducted in Lesotho, monitoring the implementation of a novel competency-based midwifery training, after three years of introduction of a novel curriculum, structural changes in order to facilitate integration of the novel curriculum components in the existing training system were still pending. This lack of implementation had detrimental effects on both the teaching and the learning experience of students *(Nyoni,et al., 2019).* Whether this applies for our partner HEIs needs to be explored and evt. addressed in the SafeMa "Advanced Midwifery Course".

Knowledge translation gap (gap between academic knowledge and clinical practice, lack of confidence to put theory into practice)

Various studies in the field of nursing and midwifery highlight the difficulty of translating acquired knowledge into clinical practice. Often graduates are prone to adopt traditional routine-based practices and fail to introduce the novel methods/approaches/techniques they have been taught in class in their new working environments *(Chearaghi, et al., 2010).* Students often seem to be aware of the very obstacles present in the respective clinical environment, however are not empowered during their training to deal with these obstacles and apply their acquired knowledge in a confident manner *(Liao, et al., 2014).* Teacher-centered passive learning models, are often used even during clinical electives, leaving no room for problem-based learning, skills development and integration of theoretical knowledge into clinical practice *(Kermansaravi, et al., 2015).* In addition, the lack of coordination between theoretical lectures and clinical training and inaccurate assessment methods contribute further to the knowledge translation gap. Dadgaran et al, emphasize that even though students had gained adequate knowledge in prior theoretical lectures, faced extreme difficulties in using it in clinical situations later on, as a critical amount of time had elapsed between the acquisition

of knowledge and the its practical application (*Dadgaran, et al., 2012*). Academization of midwifery education seems to limit further the exposure of undergraduate midwifes to clinical practice, leading often to significant lack of confidence of newly qualified midwives, particularly in emergency situations (Lukasse, et al., 2017).

Whether this applies for our partner HEIs needs to be explored and evt. addressed in the SafeMa "Advanced Midwifery Course".

Student satisfaction (gap between student's expectations and perceptions of students of an educational program)

Various studies show a clear gap between student´s expectations and the perceptions of received education services quality, particularly in health sciences. This gap seems to be disproportionally high among midwifery students, especially in the area of reliability of the teaching staff and tangible resources used in the educational procedure *(Norouzinia, et al.,2014; Asefi, et al.,2017)*.

Whether this applies for our partner HEIs needs to be explored in the subsequent gap analysis and evt. addressed in the SafeMa "Advanced Midwifery Course".

Domain 2:

Poor clinical skills and lack of core competencies among qualified midwifes in a series of key areas such as obstetric emergencies, cancer screening, prevention of vertical transmission, public health, have been described in numerous studies from low and middle –income countries (LMICs) (*Yigzaw,et al., 2016*; *Arif, et al., 2010; MunabiBabigumira S, et al., 2017*).

In Cambodia, findings from studies monitoring or interviewing practicing qualified midwifes are suggestive of specific knowledge gaps and poor labor, post-partum and newborn practices. In particular, understanding of and adherence to hygienic principles during labor was found to be extremely poor and often associated with inappropriate use of antibiotics, among others as an infection prevention method. In addition, lack of confidence in coping with obstetric complications such as pre-eclampsia and post-partum hemorrhage has been documented. Standard labor and newborn practices such as partograph usage, APGAR score documentation, immediate skin-to-skin contact, monitoring of the newborn in the first hour of labor were often neglected, while others like episiotomy overused (*Ith P, Dawson A, Homer C, 2012; Ith P, et al*., 2012).

Viet Nam exhibits one of the lowest exclusive breastfeeding rates in the region of southeast-Asia (Granger K, 2018). Though this phenomenon is to some extend attributable to certain socioeconomic and cultural factors, poor breastfeeding counseling and awareness raising by midwifes might also be an important factor (Leow T, et al., 2017). Furthermore, there is evidence that lack of training in labor practices, might among others be responsible for the extremely high rates of episiotomy observed in the country (Trinh A, et al., 2015).

Domain 3:

Midwifery should serve the realization of the right to health and other health- related human rights of women and children, by providing the highest attainable standard of health, including dignified,

respectful care during pregnancy and childbirth. Yet, unfortunately, disrespect and abuse during childbirth and delivery of midwifery services is a widespread and multifaceted phenomenon (Bowser D, 2010).

In Cambodia, studies suggest that offensive and demeaning language is being occasionally used by midwifes while ridiculing clothing and behavior of laboring women, particularly of low socio-economic status, has also been observed on several occasions (*Ith P, et al., 2012).* There is evidence that social support and choice of companionship during labour, instead of being promoted, is being regarded as obstructive by practicing midwifes participating, a finding that is rather suggestive of a significant gap in the Human-rights based approach of midwifery education (*Ith P, et al., 2012).*

Choice of companionship during childbirth – a key indicator of respectful maternity care- seems also to be an uncommon practice in Viet Nam *(Miller S, 2016).* In a small survey conducted within the context of the Viet Nam midwifery report in 2016, participants felt that respectful communication with clients, especially from ethnic minorities, and informed consent, though being legally guaranteed, need to be further mainstreamed and fostered in daily midwifery practice *(Bales S, Kildea S, 2017).* Evidence suggests that, communication skills training for dealing with sensitive clinical situations, such as diagnosis of HIV positive status, is urgently needed *(Oosterhoff P, 2008*).

Domain 4:

In the era of evidence-based practice, research awareness is of pivotal importance for health sciences. Lack of evidence producing capacities and inability to understand, and critique research reports is however still prevalent among health workers, particularly nurses and midwifes (Bressan V, 2017).

A study from central Viet Nam has suggested that the majority of nurses failed to understand and use research findings in their everyday practice and depended heavily guidance by informal information *(Nguyen,et al.,2016)*. It could be hypothesized, that apart from the evident gaps in formal training and lack of research awareness, poor reading proficiency in English, discourages further engagement of nurses and midwifes with research and evidence best practice (Harvey, et al., 2012) (*Ith P, et al., 2012).*

1.2 Informal inquiries of the partners' focal persons for the gap analysis

Each of the focal persons defined by the HEIs partners has been asked to name 3-4 fields considered to be the "weak points" of midwifery education at his/her institution. The main findings are summarized below (*see also annexes I and II*):

Domain 1: *Knowledge translation gap, limited opportunities to practice/academization, limited encouragement of critical thinking and clinical reasoning, lack of tangible resources for pre-clinical training, lack of life-long learning skills.*

Domain 2: *Poor family planning and breastfeeding counseling, poor skills in health promotion/education, managerial skills like planning, implementing, assessing needs are limited, limited neonatal resuscitation skills*

Domain 3: *Communication skills with family members and clients are poor, lack of culturally sensitive approaches in communication with ethnic minorities*

Domain 4: *Low research awareness and research engagement/participation in scientific conferences, poor reading proficiency in English/low computer literacy, and no involvement of midwifes in evidence generation/guidelines*

1.3 Academic and Research Excellence in Midwifery Education and Research Report (WP1.1)

Within the context of WP1 task 1, P7 has elaborated a report on existing best practices, best standards and best methodologies on midwifery education and research. This report reviewed the WHO and ICM standards concerning midwifery education. In line with the methodology described above, the report broke the field of midwifery education into 4 subcategories:

1. Teaching methods, best practices and methodologies within midwifery education
2. Clinical and core competencies
3. Human rights-based approach and ethical considerations 4) Research considerations and evidence-based practice

Major findings of the report are summarized below:

- With respect to point 1 the report suggests focusing the gap analysis on the presence/ (significant) lack of assurance of *continuous quality improvement* as well as teaching methods of *life-long learning*. The presence and extent of pedagogic practices *encouraging the critical and analytical thinking as well as the clinical reasoning* should be assessed. In addition, the *knowledge of both national and international standards and guidelines* should be assessed as they are a cornerstone of modern midwifery education. Also, the report mentions evidence *suggestive of limited involvement of midwifes in guidelines development and regulatory processes.* Furthermore, the gap analysis should focus on the mixture of practice and theory elements within the existing teaching curriculum - the report highlights the importance of a low teacher-student ratio as well as the significance of having av at least 60% to 40% mixture of practice and theory.
- With respect to point 2 it would be relevant to assess whether undergraduate midwifes do acquire basic skills and feel confident delivering basic services in the fields of antenatal care (e.g. determining fetal well-being), labor (e.g. usage of partograph), postpartum (e.g. recognizing and giving emergency treatment in postpartum complications), postnatal care of the infant (e.g. using APGAR scoring system), abortion related services (e.g. recognizing abortion related complications). In addition to that, it is of pivotal importance to explore the familiarity of undergraduate and/or midwifes in service with social determinants of health, referral pathways and health system functioning within their working context.
- With respect to point 3, it is crucial to assess the familiarity with the concept of Human rights-based approach in the delivery of their tasks as midwifes. In particular, it would be of great significance to assess their knowledge on obstetric violence and how this can be prevented as well as their confidence in communicating in a professional and respectful manner with the clients and assisting informed decision making of the client.

- With respect to point 4, it is essential to explore aspects of research awareness among undergraduate and midwifes already in service, as well as the familiarity they exhibit with the concept of evidence- based practice. Concrete questions with respect to the skills and attitude of a life-long learner should be asked.

1.4 Crossmatch of the national code of conduct and existing curriculum in the partner HEIs.

In order to evaluate readiness of the future midwifes to perform as expected within the respective health system – thus according to the national code of conduct - we assessed potential discrepancies between the code of conduct and the curricula provided to us by the partner HEIs. With respect to Vietnam and based on the curriculum of P3, we were able to identify following potential gaps:

1) Though rehabilitation is being mentioned as a core competency of midwifes in the national code of conduct, the curriculum was lacking a subject on rehabilitation (potentially part of other subjects but maybe not covered in depth).

2) Nutritional needs and nutrition care – including breastfeeding (not mentioned at all in curriculum as specific bullet point).

3) Palliate care/care of end-stage patients (mentioned as integral part of midwife´s code of conduct – no relevant subject in the curriculum).

4) Psychological support to women and end stage patients (again no specific subject on this encountered in the curriculum).

5) PHC and National programs (mentioned as integral part of midwife´s code of conduct, but is apparently only an optional subject in the curriculum).

6) Record keeping is mentioned as a core competency in the code of conduct (curriculumpart of midwifery management?).

7) Recognizing and managing victims of gender violence is being described as a core competency in the national code of conduct (missing as bullet point in the curriculumpartly being covered in another subject?)

8) Advocate for rights of mothers/infants/patients constitutes a core duty of midwifes (there is a subject on laws in the curriculum – unclear if this covers the subject satisfactorily)

With respect to Cambodia and based on the curriculum provided by partner P6, following potential gaps have been identified:

9) According to the code of conduct midwifes should be able to perform a death review and near miss audits (does not appear as a subject in the curriculum).

10) Methods of infection prevention and control (maybe this is part of other subjects – however there is no subject description containing these keywords).

11) Usage of referral systems (no specific topic on health system´s structure, referral pathways, continuum of care – maybe partly covered in "Sociology on women, birth and Cambodia")

12) Contraception methods/family planning (code of conduct is putting a lot of emphasis in family planning activities/strategies – while the curriculum sporadically contains aspects of family planning and it might not cover the subject to the desired extend)

13) Screening methods for cervical and breast cancer (these are explicitly being mentioned in the code of conduct, however missing in the curriculum)

14) Diagnosis of ectopic pregnancy/use of ultrasound/Doppler (mentioned as competency in the code of conduct, missing as a topic in the curriculum).

15) Micronutrient substitution and other preventive measures during pregnancy (perhaps covered partly in more than one session)

16) Adult resuscitation (mentioned in the code of conduct, however not mentioned in the curriculum as a keyword)

1.5 Crossmatch of ICM competencies guide with the curriculum

In order to further assess potential gaps in the curricula of the partner HEIs/countries a close examination and comparison of the following documents has been undertaken:

Vietnam:

- International Confederation of Midwives (ICM), essential competencies for midwifery practice, 2018
- Midwifery curriculum at university level of Ministry of Health, Nam Dinh university of Nursing at Socialist Republic of Vietnam (Training level, Bachelor)
- Codes and Standards of occupational title for Midwifery, joint circular 26/2015/TTLT-BYTBNV. Midwives of class 3-Code: V.08.06.15 (classified parts "d" named as "communications, education and counseling on reproductive health" and "d" named as "coordination and support in treatment" of category 1 "responsibility" as di and dii correspondingly) Cambodia:
- International Confederation of Midwives (ICM),essential competencies for midwifery practice, 2018
- Minimum Standard Bachelor of Sciences in Midwifery Curriculum (BSM 4-Year Program)
- Core Competency Framework for midwives in the Kingdom of Cambodia, MoH (2013)

The findings of this cross- match revealed following potential gaps of midwifery education in the case of Vietnam:

1) "Accountability and transparency" are stated as the first ICM competency. They are not clearly stated in both curriculum and code of conduct.

2) "Evidence - based practice in intrapartum care". Specifically "To promote to avoid routine interventions in normal labor and care" stated on 3a ICM competence and "to promote delay

cord clamping on 3d stage of normal labor and care" reported on 3b ICM competence. Evidence - based practice is been mention on curriculum and code of conduct however evidence –based practice during intrapartum care is missing as an independent bullet point. 3)" Emergency contraception", stated on 2i ICM competence. Education and counseling on reproductive health is part of curriculum and of code of conduct. However, the emergency contraception does not appear in either.

4) "Promote early and exclusive breastfeeding", stated on 3c ICM competency. There are references to breastfeeding in the curriculum - nevertheless it appears to be only partially covered.

5) "Immunization in infancy", mentioned on 4b ICM competency. There is no reference to that subject neither in the curriculum nor in the code of conduct.

6)" Counseling and follow-up care to women who experience stillbirth and neonatal death. In addition, mourning process following perinatal death". Reported on 4d ICM competency. In the curriculum and code of conduct references on postpartum period of high-risk mothers can be found however with no explicit reference to care of women after stillbirth and neonatal death.

The findings of this cross- match revealed following potential gaps of midwifery education in the case Cambodia:

1) "Accountability and transparency" are stated as the first ICM competency. They are not clearly stated in the curriculum.

Summary of findings of the preparatory phase:

Through review of all these different sources of information, we suspected probable significant gaps lying in following areas:

Domain 1:

As found in our literature review, *theory –practice gap*, *knowledge translation gap*, *students´ expectations –perceptions gap,* are highly prevalent in midwifery education and might constitute a challenge in our partner HEIs as well. Knowledge *translation* gap has been identified as an important gap by a partner in the informal inquiry. Thus, the implementation phase of the gap analysis should focus on these aspects. In line with both the WHO and ICM recommendations, whether and to what extend *critical analytical thinking and clinical reasoning* are being promoted by the teaching methods applied currently should be also explored. *Lack of tangible resources* for (pre-)clinical education – clearly mentioned as an educational challenge by gap analysis focal persons – needs to be carefully assessed within the context of the gap analysis.

Domain 2:

Lack of thorough *knowledge of the respective health system* and *adequate usage of referral pathways* as well as the importance of *social determinants of health* might constitute important gaps in both countries.

For Vietnam in particular, our secondary research is suggestive of a potential educational gap in the areas of *breastfeeding and nutritional care, rehabilitation*, *palliative and psychological care*, *immunization* and subcategories of *contraception/family planning methods, labor practices both in normal and complicated pregnancies and management of neonatal emergencies.*

For Cambodia in particular, there are indications that important educational gaps may lie in the areas of *hygiene and infection control*, *screening methods for breast and cervical cancer, adult resuscitation and the use of ultrasound/Doppler, labor practices both in normal and complicated pregnancies and standard newborn practices.*

Domain 3:

Evidence from almost all different sources of information used in this report suggest that *communication skills and principles of a respectful and culturally sensitive midwife – client relationship* might be in both settings topics where the gap analysis should focus on. In addition, *obstetric violence and its different facets*, seems to be a rather neglected topic in the current curricula – in the case of Viet Nam current education might be also not covering to a satisfactory level the subject of *gender violence*. Familiarization with the concepts of *transparency and accountability in performing midwifery* should be also assessed by the gap analysis.

Domain 4:

The level of *research awareness* should be assessed during the gap analysis as there is notion that it might be suboptimal. There are indications that *life-long learning skills* of undergraduate and practicing midwifes in both countries might need optimization. Adherence to *evidence-based practice* should be assessed thoroughly, as gaps in this area might be multifaceted reaching from *poor reading proficiency in English and computer literacy* to *low awareness of the concept of evidence-based practice and its relevance for everyday duties.* Current involvement of undergraduate and practicing midwifes in *development and knowledge of national and international midwifery guidelines* should be determined.

Implementation phase

General part:

Based on the prior findings of the preparatory phase on the existing gaps in each of the 4 different midwifery education domains and in close consultation with the partner institutions, adapted survey questionnaires, for each country context (i.e. Vietnam and Cambodia) have been developed (Annex III, IV, V, VI, VII). In addition, questions for semi-structured interviews and FGDs focusing on the main findings of the preparatory phase have been elaborated. All participants surveyed or interviewed have provided written informed consent.

The implementation phase started in August 2019 and data collection has been concluded, in all partners by mid-October 2019. In all surveys, convenience sampling from the predefined target groups has been used. Participants in surveys were excluded from FGDs and interviews in order not

to introduce bias. During analysis, questions – serving here as variables - were analyzed individually and/or in an aggregated manner by developing composite variables, wherever applicable.

In total, 18 key informants have been interviewed and or participated in a FGD while 367 different persons have been surveyed (self-administrated or data collector administrated questionnaires).

Table 1: Gap analysis participants composition

Table 1 Gap analysis participants composition

	Vietnam	Cambodia
Midwifery students ***Survey/Questionnaire*** ***FGD/Key informant interview***	63 X	105 X
Practicing/training midwifes ***Survey/Questionnaire*** ***FGD/Key informant interview***	50 3	X X
Women ***Survey/Questionnaire*** ***FGD/Key informant interview***	113 X	X X
Obstetricians ***Survey/Questionnaire*** ***FGD/Key informant interview***	36 X	X X
Midwifery Lecturers ***Survey/Questionnaire*** ***FGD/Key informant interview***	X 9	X 3
Health Policy/MoH officials ***Survey/Questionnaire*** ***FGD/Key informant interview***	X 2	X 1

Data from each country have been merged and analyzed in an aggregated mode.

Specific part:

Vietnam:

FDGs and key informant interviews:

Almost of key informants and FDG participants mentioned theory -practice as well as knowledge translation gap as key problems of midwifery education in the country. Tangible equipment and infrastructure for preclinical practice is limited, while teaching approaches like case simulations are completely missing. Lack of standardized quality control and feedback mechanisms between pupils and

lectures/teachers has been pinpointed as a further debility of the current midwifery education in Vietnam, in particular, by the interviewed MoH staff.

With respect to domain 2 of the midwifery education, i.e. clinical skills and the core competencies, some of the FGDs and key informant interviews have highlighted specific discrepancies between the national code of conduct for midwifes and the current curricula for midwifery have been identified. It was felt that although some skills like palliative care, screening for breast and cervical cancer constitute core duties of the midwifes in Vietnam, study curricula do not cover these subjects. In addition, practicing midwifes stated that the extremely high rates of episiotomies in Vietnam, may to some extend be the expression of insufficient training in childbirth. Furthermore, it was felt that midwifes in general are not knowledgeable of non- pharmacological techniques of pain relief during labor. Both aforementioned factors, linked to educational debilities of the practicing midwifes, might be contributing to the increasing rates of C-sections observed in the hospitals of the country lately. In light of the very low exclusive breastfeeding rates in the country, there was broad consensus among FDG participants and key informants that training in breastfeeding counseling should be further intensified.

All key informants and FGD participants pinpointed midwife – patient communication as a major gap area of midwifery education in the country. In particular, the FGDs with practicing midwifes revealed substantial insecurity in touching sensitive issues in communication, such as HIV status of the patient, while MoH key informants elaborated on the specific challenges of communicating professionally with patients from ethnic minorities, stressing that cultural sensitivity but also understanding of social determinants of health should be prioritized in midwifery education. In general, it was felt that more time and resources should be dedicated to developing proper communication skills within the context of midwifery education. The FDG with practicing midwifes confirmed that free choice of companionship during childbirth is still a highly uncommon practice, indicative of a rather low awareness of the principles of respectful and patient-centered care.

Finally, regarding the 4th domain of the midwifery education, lack of evidence-based practice and research awareness of practicing midwifes was pinpointed as a major gap. Midwifes were found to be often dependent on “informal” guidelines and prone to adoption of “routine”-based clinical practices in their working environments. It was felt that current curricula not only lack the required focus on these areas, but also do not sufficiently equip future midwifes with basic skills, like computer literacy and English reading proficiency, thus indispensable prerequisites for the establishment of evidence-base practice and research awareness.

Surveys:

Table 2 Main demographics of surveyed persons, stratified by target group (Vietnam)

	Midwifery students Total (63)	Practicing Midwifes Total (50)	Obstetricians Total (36)	Clients Total (113)
Age, mean (range)	20 (19-23)	33	36	28 (19-46)

Sex (%)				
Female	62 (98%)	62 (98%)	21 (58%)	
Ethnic group				
- *Kin*	59 (94%)	47 (94%)	31 (86%)	95 (84%)
-Other	4 (6%)	3 (6%)	5 (14%)	18 (16%)
Level of education:				
-secondary		14 (28%)		14 (28%)
school/high school				
intermediate/college		26 (52%)		21 (18%)
-university/higher education		7 (14%)		37 (33%)
-other		3 (6%)		1 (1%)
Working/living area (%)				
-rural				64/113 (57%)
-Commune/ward healthcare station		2 (4%)	0	
-District hospital		3 (6%)	4 (11%)	
-Provincial hospital		18 (36%)	10 (28%)	
-National hospital		27 (54%)	22 (61%)	
Years in service mean (range)		8 (1-25)	11 (3-27)	

With respect to the teaching methods and approaches, in a not negligible part of midwifes surveyed (around 30%) there was notion of rather weak critical and analytical thinking and/or informed decision making and judgement in their everyday practice (composite variable of questions 2a-2b-2c-2d, see annex). In line with that finding, a substantial proportion of the students surveyed (around 40%) felt that their problem-solving skills were not at all or only moderately developed through their studies, while roughly the same proportion stated that opportunities they had for practicing and thus translating knowledge into practice covered only to some extend their needs. The later, was also confirmed by an additional stakeholder group, as significant knowledge translation gap was pinpointed by the vast majority of the surveyed obstetricians with teaching capacities. Almost half of the obstetricians in teaching capacity felt that the existing study curriculum does not reflect the content classes/workshops they are teaching, a finding that might be indicative of a theory practice gap. Regarding tangible teaching resources, only 32% obstetricians stated to be satisfied with the existing infrastructure – expressing the need to introduce videos with virtual clinical cases and more puppets for interactive midwifery education. Surprisingly, the ample majority of students stated being highly satisfied with the tangible teaching resources – a finding that might be among others

reflecting discrepancies in teaching infrastructure of the HEIs participating, as obstetricians and students surveyed, work/live in different cities.

Concerning clinical skills and core competencies, not surprisingly, less than half of the surveyed students stated being absolutely prepared to manage normal and/or assist in a complicated labor. Yet, there were no further findings suggesting major debilities of midwifes in this core competency field, as most obstetricians believed that midwifes are well performing in managing normal and in assisting complicated labor. This finding could be confirmed also in the survey of practicing midwifes and to some extend in line with the low percentage of the women surveyed stating a negative or rather negative delivery experience (<25%). Nevertheless, at same time, there were findings suggestive of major deficiencies in other core competencies of midwifes. The substantial majority of obstetricians (around 70%) questioned the ability of midwifes to identify and refer high risk pregnancies – a quite alarming result that might be indicative of lacking theoretical knowledge, poor clinical performance but also poor understanding of the health system and the midwife´s role in it. Indeed, 52% of the practicing midwifes admitted having a fair or even poor understanding of the health system, while over 60% stated having only a fair or even poor understanding of their professional role. Also, the majority of obstetricians rated the ability of midwifes to handle maternal emergencies as fair or even poor. Furthermore, deficiencies in breastfeeding counseling and family planning have been identified by 56% and 80% of the obstetricians respectively, though indications of significant gaps in these areas were not detectable in the results of the surveys in students and practicing midwifes. With respect to skills regarding assessment of mental health status and psychological support, survey findings were suggestive of a major gap. 2/3 of the obstetricians surveyed stated that midwifes skills are insufficient in this respect while 26% of the practicing midwifes and 48% of the students felt either not confident or not well prepared for assessing the mental health status of a patient and provide psychological support. To a lesser extent, the majority obstetricians pinpointed also deficiencies in the assessment of nutritional and social status of patients and the respective counseling whenever needed.

In domain 3, survey findings were suggestive of deficiencies in cultural sensitivity and communication skills with clients with a different ethnic background. As a matter of fact, only 38% of the practicing midwifes felt absolutely confident in communicating with clients belonging to ethnic minorities and 66% of the obstetricians rated communication skills of midwifes with people of ethnic minorities as fair or even poor. In accordance to that, though overall experience of birth and birth attendance by midwifes was rated positive by the clients surveyed, beneficiaries from ethnic minorities rated their experience as less positive than their peers. Communicating with critically ill patients seems to be a further gap, as only a minority of both practicing midwifes, and students stated being absolutely confident in communicating with this patient group – a finding confirmed also by the surveyed obstetricians. Regarding communication with other health professionals, while most of the practicing midwifes and students self-rated their skills favorably, a substantial part of obstetricians contradicted this view. Alarmingly, only 40% of the surveyed practicing midwifes had an excellent or good understanding of their professional role, rights and obligations. With respect to the principles of respectful and patient-centered care, there are findings indicative of significant gaps. Free choice of

companionship during labor was granted only to 18% of the surveyed clients, while at the same time less than the half felt that they were given the opportunity to express a problem or concern during the process of labor. Finally, awareness of gender-based violence seems to be alarmingly low among midwifes. Less than the half students included in the survey affirmed being trained in gender-based violence, while in practicing midwifes almost 75% stated not knowing how to suspect, identify and manage a victim of gender-based violence.

In domain 4, familiarity of midwifes with research was found to be rather low in practicing midwifes (composite variable summing up results from 11a, 11b and 11c, see annex) as well as in students (composite variable summing up results from 13a, 13b and 13c, see annex). Evidence based practice seem to be also rather deficient, as consulting guidelines and protocols for decision making in everyday practice was confirmed by only 44% of the midwifes. Interestingly a not negligible part of the surveyed midwifes (around 35%) verified that routine based and traditional practices in their working environment are significantly influencing their decision making while practicing midwifery. Life - long learning concept is theoretically being adopted by the vast majority of midwifes and most of them have had some post gradual training. Nevertheless, it should be noted that some of the midwifes being already for up to 10 years in service have had no exposure to postgraduate education/training/courses since their graduation, while, less than half of the students reported having sufficient knowledge on how they can keep themselves updated. In line with these modest results, 80% of the students rated their reading proficiency in English as poor or fair, while a slightly lower percentage stated that confirmed poor or fair basic computer skills. These findings were suggestive of an even bigger gap in practicing midwifes, as more than 90% and 82% admitted poor or fair English reading proficiency and basic computer skills respectively.

Cambodia:

Key informant interviews and FDGs:

Both the key informant of the MoH as well as the lecturers participating in the FGD pinpointed the lack of quality and quantity of tangible resources for teaching practical/clinical skills in midwifery education. In addition, lecturers suggested introduction of novel teaching methods such as simulation videos. Interestingly the MoH key informant highlighted the need for training the trainers and lectures in modern clinical midwifery – while both lectures and MoH official felt that internships should be strengthened and upgraded. In particular, they both expressed the need for clinical instructors to be exempted from their routine duties during the internships of the midwifery students and to undergo training in teaching. Knowledge translation was found to be insufficient, yet lecturers affirmed that also theory of certain subjects is not covered properly. With respect to practical skills, both stakeholder groups did not confirm a major gap existing in hygiene and infection control and prevention in midwifery practice in the country. On the contrary the MoH official felt that midwifes apply hygienic rules much stricter than other health professionals, e.g. medical doctors. With respect to domain 3, the MoH official identified insufficient emphasis on professional ethics in midwifery

education in Cambodia. Finally, usage of outdated/poor quality of references in lectures and low accessibility of the references by the students, among others to language barriers (insufficient knowledge of English), were described as further major debilities in the current midwifery education hindering life-long learning and familiarization with evidence-based practice.

Surveys:

Table 3 Main demographics of surveyed persons, total 105 (Cambodia)

Age, mean (range)	**22 (19-27)**
Sex	
- *female*	101 (96%)
Year of studies	
- Final (bachelor of Midwifery/Associate degree of Midwifery)	36 (34%)
- Prefinal	69 (66%)

With respect to the teaching methods and approaches, findings from the survey were not indicative of a major theory – practice gap. In fact, only about 14% of the surveyed students felt that the curriculum is not sufficiently reflected in the courses, classes and electives they have had up to now. In addition, the vast majority of students felt that they had, at least to some extent, enough chances of putting in practice their theoretical knowledge. Regarding the development of critical thinking and problem-solving skills, the majority stated having developed them at least to some extent during their studies, with only few students denying it. Surprisingly, a vast majority of almost 81% stated not being satisfied with the tangible educational resources. Often requests made by these students were concerning introduction of simulation videos, better and or more equipment and realistic/hospital-like infrastructure in the lab rooms where practical sessions are taking place.

Regarding domain 2 of the midwifery education, a significant percentage of students (36%) affirmed having only fair or even poor understanding of the health system. With respect to further core competencies and skills findings were not suggestive of any major gaps. Areas where students felt less confident with seemed to be neonatal emergencies and assisting abnormal labor. Around 1/3 of the surveyed students affirmed being absolutely prepared to handle these cases – a relatively low proportion when compared to other skills covered in the questionnaire. Assessing social determinants of health and mental health as well as screening for breast and cervical cancer were also areas with discretely lower levels of confidence. Remarkably, 65% of the students felt absolutely prepared to use ultrasound/doppler in midwifery care, a finding supportive of extensive ultrasound training during the studies.

In domain 3, most students felt absolutely prepared in their communication as future midwifes with clients, children and relatives. However, students seemed to grade slightly worse their

communication skills with ethnic minorities and critical ill patients – as in both cases the percentage of students affirmed absolutely prepared was around 40%. Finally, a not negligible percentage (33%) of students stated having a fair or even poor understanding of the professional role, rights and obligations of midwifes.

Regarding research awareness (compositive variable 12a, 12b and 12c), it was found to be low in only 23%. Evidence based practice was found to be relevant for midwifery at least to some extent, by the vast majority of the surveyed students, while more than 90% affirmed being well or to some extend equipped for life-long learning. Finally, more than 50% stated having fair or poor English reading proficiency – with a similarly high percentage affirming fair or even poor basic computer skills.

2. Discussion

After a thorough preparation phase, in which, by using a blend of different information sources and approaches, potential gaps in midwifery education in both countries have been mapped, we were able to perform a targeted exploration of these gaps in the implementation phase. By using mixed methods (i.e. both quantitative and qualitative data) and by including all relevant stakeholder groups in our analysis in the case of Vietnam and to a lesser extent in the case of Cambodia, we were able to perform an in-depth evidence synthesis, allowing us to verify or reject some of the assumptions made in the preparatory phase. However, in some cases contradictory findings among the different stakeholder groups do not allow final conclusions to be drawn and require cautious interpretation (summary table of assumptions, results and interpretation -see annex VIII). This could be partly due to some methodological flaws of the implementation phase, i.e. convenience sampling, high probability of response bias -particularly in students and clients – and/or inconsistency in questionnaire administration method per stakeholder group among the different HEIs, which however were very hard to avoid given the significant time constraints. It should be also noted, that although we have surpassed the set indicator for the survey questionnaires, due to time limitations and last-minute cancelations by many FDG participants we were not able to reach the set target for FDGs/key informant interviews. Though undoubtfully more FDGs could have provided more in-depth insights and details on the identified gaps, as we were able to engage almost all different stakeholder groups either by questionnaire surveys and/or interviews and FDGs, it is rather unlikely that we have missed out significant gap categories.

The main conclusions per country in detail were:

Vietnam:

Domain 1:

Theory – practice gap, i.e. discrepancy between the written curriculum and what is implemented in the institutional education, was identified as a potential gap in the preparatory phase. To some extent, this finding could be confirmed as almost half of surveyed obstetricians with teaching capacities, affirmed theory – practice gap existing in their HEIs while almost all FDG participants and key informants mentioned it as one key debility of midwifery education. If this finding applies to the same extent for all HEIs engaged in the SafeMa project and moreover for the country as a whole is not that clear and might require context-specific analysis. In any case, it is a potential gap that should be taken into account when planning introduction or renewal of existing study curricula. *Knowlegde translation*, seemed to be a further area needing fostering. A not negligible percentage of practicing midwifes and students as well that have been surveyed, felt that they did not have enough chances to put knowledge into practice while studying – a finding that could be verified also by the vast majority of the obstetricians surveyed and almost all of key informants and FDG participants. *Tangible teaching resources* were found to be insufficient, particularly by the lectures participating in the FGDs and the obstetricians surveyed, who also stressed the need for more high-quality puppets for interactive midwifery education and introduction of videos with virtual clinical cases. Increased focus on the development of *critical analytical thinking and clinical reasoning* might be needed in midwifery

education as results from the surveys might be suggestive of deficiencies in that field in a not-negligible percentage of practicing midwifes and students. Finally, lacking feedback mechanisms and active involvement of students and midwifes in the development and upgrading of midwifery education in the country have been criticized by the interviewed MoH officials and should be considered in future efforts.

Domain 2:

With respect to the main clinical skills and core competencies of midwifes, some of the assumptions of the preparatory phase about potential gap could be verified by the findings of the implementation phase while in others evidence remains rather scarce, not allowing final conclusions to be drawn. Both surveys with practicing midwifes and obstetricians revealed significant *lack of knowledge of the respective health system*, debilities *in identifying and referring high risk pregnancies* as well as in *assessing and addressing social determinants* of health. There was a notion that some core competencies, included in the national code of conduct but not explicitly in the study curricula, such as *palliative care and screening for gynecological cancers* are weakly developed in and neglected by practicing midwifes. *Assessing mental health status and providing psychological support* was found to be rather deficient in most of the surveys, key informant interviews and FDGs, stressing the need for incorporation of this area in the midwifery education in Vietnam. In addition, FDGs and key informant interviews revealed a need for strengthening training of midwifery students in *breastfeeding counseling*. This finding was not verifiable in surveys with students and practicing midwifes and/or clients, though the majority of surveyed obstetricians affirmed the suspected gap. In this light and given the very low rates of exclusive breastfeeding among Vietnamese women, it becomes obvious that further emphasis should be given to breastfeeding counseling in midwifery education. *Deficiencies in family planning counseling and services* of midwifes were affirmed by 80% of surveyed obstetricians – however indications of such deficiencies were not detectable in over surveys and or FGDs. In depth analysis and further investigation of this potential gap might be needed in order to draw final conclusions. Regarding *handling of normal labor and assisting in abnormal labor*, while qualitative data are suggestive of a major gap in labor skills (i.e. very high episiotomy rate is being attributed to lack of skills/confidence to handle normal labor) quantitative data from surveys contradict this assumption. In most of the surveyed clients, overall satisfaction with midwife services during labor was high or very high, while at the same time, data from the surveys with practicing midwifes, obstetricians and students were not indicative of a significant gap in this field. This contradictory finding merits further investigation. Biased responses might be expected by practicing midwifes and students, but not necessarily by obstetricians and clients making results rather puzzling. Yet one possible explanation could be that high episiotomies are not the expression of lacking skills/incompetence but rather of tendency to adopt routine based and traditional practices established in working environments (see domain 4). Nonetheless, given this result discrepancy further investigation of this potential gap, would be advisable.

Domain 3:

Deficient communication skills of midwifes was a common finding of the gap analysis. In particular, gaps were identifiable in *communication of sensitive information* (e.g. HIV status), *communication with clients from ethnic minorities* – a finding that was discretely detectable also in the survey of clients – *and critically ill patients*. Communication skills of midwifes with other professional groups has been found deficient by the majority of the obstetricians, a finding that might be associated with the relatively low *understanding of the professional role, rights* and obligations documented in the survey of the practicing midwifes. While there were no findings suggestive of presence of apparent *obstetric violence*, the gap analysis provided data suggestive of practices not compatible with *principles of respectful and patient-centered care*. For instance, free choice of companionship was provided to only 18% of the surveyed clients, while at the same time less than the half of the women felt that they were given the opportunity to express a problem or concern during the process of labor. Finally, the implementation phase of the gap analysis confirmed the assumption of a significant gap in the *identification and management of gender-based violence* cases.

Domain 4:

Both qualitative as well as the quantitative data gathered are indicative of a rather low *research awareness and research familiarization* of practicing midwifes and midwifery students. The generated evidence is also suggestive of a low tendency to *evidence-based practice*. Consultation of guidelines and protocols in everyday clinical work was performed only by the minority of the surveyed midwifes while a not negligible percentage stated that routine based and traditional practices in their working environment are significantly influencing their decision making. Lifelong learning seemed to be practiced by significant percentage of midwifes, though data suggest that midwifery students and practicing midwifes might be ill equipped for pursuing also *autonomous learning*. The generated evidence suggests major gaps in *English reading proficiency* and *basic computer skills.* As these represent indispensable foundation for the development of all aforementioned skills, midwifery education ought to focus on improving English reading proficiency and computer skills of midwifery students in future.

Cambodia:

Domain 1:

Qualitative data collected in the implementation phase are indicative of a major *knowledge translation gap*. Though not detectable in the surveyed midwifery students, this finding is in line with the assumptions arising from the preparatory phase. Concretely, it was felt both by the MoH official as well as the lecturers that the *internship system* should be strengthened and intensified, among others under creation of smaller internship groups per clinical instructor, capacity building in teaching for the instructors and exclusive dedication of them to that duty during the elective period. Strengthening of the theoretical lecturing hours for certain subjects, has been suggested by the interviewed midwifery lectures. Both quality and quantity of *tangible teaching resources* was

affirmed to be deficient by all 3 stakeholder groups included in the implementation phase of the gap analysis. Apart from upgrading of the existing infrastructure, a common suggestion was the introduction of new teaching material such as *simulation videos* and *play roles.*

Domain 2:

A not negligible percentage of students stated having a fair or even poor *understanding of the health system* in Cambodia while, assisting in *abnormal labor*, handling *neonatal emergencies* and *assessing social determinants of health* seemed to be weaker developed among midwifery students comparatively to other core competencies. Contrary to the assumptions formulated at the end of the preparatory phase, neither the qualitative nor the quantitative data gathered in the implementation phase of the gap analysis are suggestive of major gaps in *hygiene, infection prevention and control* in midwifery education. Surprisingly - and despite the fact that 2/3 of the surveyed students were still in their prefinal study years, almost 65% affirmed being absolutely prepared while another 25% affirmed being to some extent to *use ultrasound/doppler* in midwifery practice, a finding that stands also in striking contrast to the assumptions of the preparatory phase. Critical appraisal of these contradictory findings by the partner HEIs should be considered.

Domain 3:

While quantitative and qualitative data gatherer were not suggestive of any major gaps, there was notion of minor debilities in following fields: midwifery students seem to be less prepared in *communicating as professionals with critically ill patients* and *ethnic minorities* while understanding of their *role, rights and obligations* as future midwifes seemed not be sufficiently developed in a substantial proportion of the surveyed students. The later, could to some extend be in line with the affirmation of insufficient teaching of *professional ethics*, made by the interviewed MoH official.

Domain 4:

While data gathered in the implementation phase were not suggestive of major gaps domain 4 of midwifery education, FDG discussion results and some key survey results are indicative of practical obstacles in achieving and ensuring high *levels research awareness*, *life-long learning* and compliance with *evidence-based practice*. In particular, lecturers admitted that references to the midwifery lectures were commonly outdated and often inaccessible for the students. Low *English reading proficiency* – which was a key finding of the survey - was identified as a major obstacle for raising research awareness among students by the lecturers. In addition, almost half of the students admitted *poor or fair basic computer skills*, a fact that constitutes a further major obstacle.

3. Conclusion

In conclusion, by contrasting the results of the preparatory against the implementation phase we were able to increase accuracy and depth of our gap analysis, identifying a variety of different gaps in all 4 educational domains. Given that, it becomes evident that the scope of the Advanced Corse in Midwifery to be developed later in both countries within the context of the project should be a broad one, covering at least the major gaps in each domain. Though some assumptions of the preparatory phase could be verified, and others clearly rejected, in a not negligible number of cases evidence is still contradictory not allowing clear conclusions to be drawn. This could be partly due to some methodological flaws of the implementation phase and inherent response bias in certain stakeholder groups such as students and clients. Critical appraisal of these contradictory results by the partner HEIs should be considered – and the need for a new round of investigation on specific potential gaps elaborated. On the other hand, it should be noted that we succeeded in obtaining data from a vast variety of different stakeholder groups, among others MoH officials, and information sources, allowing us thus a holistic and indepth analysis of the potential gaps in midwifery education and practice in Vietnam and Cambodia.

Thus, is to be expected that the generated evidence of the gap analysis exercise will facilitate the next steps of the project and contribute substantially to the development of tailored “Advanced Midwifery Courses” addressing the most pressing needs and neglected areas in midwifery education and practice in both partner countries.

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Annex I:

WRITTEN BRIEF ANALYSIS BY GAP ANALYSIS FOCAL PERSON (P1); PREPARATORY PHASE

BACKGROUND

According to General Department of Population of Vietnam, there are millions of children born each year, for example, 1,563,911 newborns in 2017 and 1.6 millions in 2018. In which, the rate of maternal mortality and infant mortality in some mountainous areas is 3-4 times higher than in plain and urban areas and 2 times higher than the national average (the 3-year

Preliminary Conference) (2016-2018) and 2-year plan (2019-2020) of the 2016-2020 HealthPopulation Target Program in April 2019 in Hanoi by the Ministry of Health).

That is a reason why we need more people working in obstetrics and medical stations, this field is required especially more midwifes. With great job potential, opening the intensive establishment of midwifery is urgent.

CONTENTS

1. Duties and roles of midwives

Midwifery is a field related to childbirth, assisting the physicians to take care of pregnant women before and after giving birth. It is considered as a high quality profession.

Missions and work of midwives:

At health facilities, obstetric clinics, their mission is being a caregiver, counseling for pregnant women, discovering abnormalities, then setting out specific care plans.

They are maybe also the health consultants for both women and their families in many related tasks such as birth control, gender imbalance, disease prevention ...

The mandate and quality standards of this profession have been setting up and controlling by Ministry of Health.

The role of midwives depends also on the location where they work, for example at the commune health station or district, provincial and central hospitals. Their work is usually to provide prenatal care and counseling for pregnant women, detect common physiological disorders and set up specific care plans for each case. They are also the people who follow closely process of giving birth, at the same time detecting the earliest complications and abnormal signs to promptly handle, that helps to limit the rate of medical accident or death. It is important that they could work with the doctors in difficult cases, complicated procedures, to maintain, restore and improve health care service, guide to pregnant women, abnormalities diagnostic, care for newborns during hospitalization.

They are also allowed to do some common obstetric procedures such as: regulating menstruation, contraceptive devices, examining gynecological inflammation ... that role is especially important in places where doctors are not available.

2. The gap in the current training program

Midwifery quality depends on many elements and training is the most important. The Ministry of Health has issued standard capacity for this sector. However, the specific criteria for health human resource training are incomplete; the scale of training is not associated with the actual demand; uneven quality of training; professional capacity is not associated with job position, not clearly defined qualifications ...

Currently, the period of training midwives is from 2 to 4 years, then practicing for 9 months will be granted a one-time practice certificate (valid for life) under Clause 3, Article 16 of Circular 41/2011/TT-BY without passing exams. There is very little feedback between the training institutions and human resources units about the personal need, equipment's, more information needs on this sector...

Basic knowledge: in addition of basic subjects, foreign languages and information technology have been completed in the training program. However, personal in midwifery sector still have limited in communication and informatics. Most midwives were asked not to meet the requirements of foreign languages and informatics.

Knowledge of basic medical subjects: almost is only theory, there is no link between theoretical learning and clinical application.

Knowledge of specialization in Midwifery: the opportunity to practice in the skill room, the hospital as well as in the community has not been promoted, the communication courses have not been paid much attention.

3. The gap in the midwife industry today

In fact, the current demand in our country shows that the midwifery sector in recent years is suffering from a serious shortage in both human resources and quality. Specifically:

Human resources: Lack of midwifery - excess obstetric complications, according to a study in 73 countries in Africa, Asia and Latin America, the report "World Maternity Status 2014" indicates a worthy situation alarming: 96% of total number maternal deaths and 93% of all neonatal deaths globally occur in these countries. Most of the countries in the report do not have enough of midwives. In Vietnam, midwifery rate on total population is low (3.5 midwives/ 10,000 people), about 5% of commune health stations (equivalent to 517 communes) in areas without midwives; about 17% of women - mainly living in remote, inaccessible areas - do not have an access to reproductive health services (according to report of the Ministry of Health).

However, there are still large differences in service quality between the plain and mountainous areas - the cause of higher maternal mortality rates in remote and ethnic minority areas.

About knowledge:

- Some midwives have been partially forgotten about knowledge of human body structure and function, especially about reproductive systems in normal and pathological state; because they can only learn when they are still in university. When they go to work, the repeat, the update is limited, even the midwife working until retirement does not participate in any training course on updating knowledge but only follow the experience. The reason is that there are many reasons that either do not want, are afraid to update or are willing but do not have enough personal at the replacement so they cannot go to training courses....

- Knowledge of social sciences to care for mothers and children which is suitable for culture and physiology is still limited.

About skills

- The learning environment of clinical skills has not yet met the needs of learning and working. There are not enough spaces, skills training, models to implement sample skills ...

- Effective communication skills, cooperation with colleagues, with mothers, children and their families in the process of reproductive health care of midwives is still poor. Therefore, most lawsuits, reflections of family members and patients are mainly due to the attitude of medical staff. According to the study of Le Thu Thuy in 2018, the results showed that the patients reflected quite a lot of negative issues with the attitudes and ethics of nurses/nurses; The general situation of patients and family members is 43.89%, there is no attentive and thoughtful attitude, explaining what patients and family members have about 42,8%. Therefore, the code of conduct and ethical standards of midwives need basic training.

- Assessing needs, planning, implementing and evaluating the results of women's and children's health care is still unreasonable, not using the skills of problem solving, system access and thinking extreme when practicing professions. Mostly, it is still through specific cases that have occurred after that, the lessons learned. The examination and counseling skills on family planning of commune health workers (including midwives) are still poor and not up to standard (project VIE/027).

- Participation in youth creative workshops or participation in scientific research in the field of nursing care for patients is still limited. Specifically, in the Vietnam-France Obstetrics and Gynecology conference, there are many reports on obstetrics and gynecology, but the number of reports of midwives is very rare, even not available.

- The implementation of the task of health education and communication for patients, especially patients in remote and disadvantaged areas and low education has not been effective.

- The team of midwives is ethnic minority people, understands the typical ethnic customs and practices to provide education services, health consultations and other related services in small quantity, which cannot be guaranteed current needs. It is necessary to mobilize the development of support policies: to maximize the effectiveness of ethnic minority female midwives models.

- In addition, the access to information technology, foreign language competency standards, foreign language communication of midwives is still too limited.

CONCLUSION

Midwives are the highest proportion of labor force participating in reproductive health care and have a major role in providing successful medical services. The crisis of the health personal in the world is increasing and the health sector is facing a serious shortage of wellqualified midwives.

Midwives must have a solid evidence-based education that allows them to meet the changing needs of health care in their work and in group work, working with other professionals.

In addition, the work of nursing and midwifery needs to be systematically evaluated to show effectiveness and efficiency of work and should be involved in decision-making about health policies. The limitations of the midwife industry are still very inadequate.

Therefore, the need to have a strategy to develop midwives and establish an intensive training center for midwives is extremely important and very urgent.

Annex II:

WRITTEN BRIEF ANALYSIS BY GAP ANALYSIS FOCAL PERSON (P3); PREPARATORY PHASE

Gap analysis

PART 1. BACKGROUND

Currently in Vietnam, Midwifery has been considered an independent profession, trained under its own program from the elementary level but not yet the University and Post-graduate training level (in this level, only Nursing Specialists in obstetrics are available). The midwife currently has many levels and qualifications and has been specified in the rank system of civil servants according to Joint Circular 26/2015 / TTLT-BYT-BNV of the Ministry of Health and the Ministry of Home Affairs on standards of occupational titles of Nursing, Midwifery and Medical Technician.

According to the Decision No 153 / QD-TTg dated June 30, 2006 of the Prime Minister approving the Master Plan for development of Vietnam's health system in the period of 2010 and vision to 2020: on human resources for development of human resources at high level for medical facilities, the ratioof doctors / 10,000 people is 8/ 10,000 and the ratio of Doctor / Midwife is 1/3. In Vietnam, according to statistics, up to 2010, there are about 658 cases of obstetrical and neonatal complications, of which 461 cases in rural areas. According to the 2010 Reproductive Health Care Network report of the Department of Maternal and Child Health, Vietnam now has a total of 24,721 midwives, of which 51.9% work at the commune level, 23 , 3% worked at the district level, 15.8% at the provincial level and 5.1% at the national level. However, there are 517 commune health stations (5%) that do not have midwives, especially in remote, mountainous areas and difficult access areas.

Up to now (2019), Nam Dinh University of Nursing is the first and only university in Vietnam to train full-time Midwifery; The school has researched and developed the training program of bachelor of midwifery according to the program of bachelor of Midwifery designed by the experts of the University of Sydney based on the Standard of international midwifery standards, in accordance with the training situation and functions of Vietnamese midwives, ensuring the continuity with Vietnam's college level and international integration.

The program is oriented to capacity building and organized according to the credit system, reducing the number of lecturing hours, giving the appropriate time self-study, and practice professional skills; The total knowledge of the course: 144 credits (excluding physical education and military education)

	Compulsory	**No of credits**		
		Total	**Theory**	**practice**
8.1	General education(excluding physical education and military education)	25	*22*	*3*
8.2	Professional education:			

	- Basic	36	*26*	*10*
	- specialization	59	*23*	*36*
8.3	Additional	12	*17*	*11*
8.4	Graduation internship	4		*4*
8.5	Graduation thesis/graduation modules	8	*13*	*7*
	Total	**144**		

The bachelor of midwifery training program is allocated into 8 semesters (4 years), each year has two main semesters, each major semester has at least 15 study weeks and 3 weeks for exams. The teaching plan must ensure the systematic and logical aspects of the curriculum, comply with the prerequisites of each module and the current regulations.

PART 2. GAPS ANALYSIS

In recent years, Vietnam has been issued many policies, regulations, circulars, guidelines for health facilities, health care training institutions. The health sector in general, including the training field has achieved many outstanding achievements, recognized by the State and the people, however, there are still some issues that need further concern such as communication skills, professional practice skills and breastfeeding counseling.

1. Communication skills

Currently, the communication skill of medical staff with patients has been of great concern. There have been many regulations, circulars on communication of medical staff:

- Resolution No. 46-NQ / TW dated February 23, 2005 of the political bureau on the protection, care and improvement of people's health in the new situation;
- Prime Minister's Decision No. 153/2006 / QD-TTg dated June 30, 2006, approving the "Master Plan for development of Vietnam's health system in the period up to 2010 and vision to 2020 ";
- National strategy for protection, care and improvement of people's health in the period 20112020 and vision to 2030;
- Health human resources development planning for the period 2011-2020;
- Joint Circular No. 26/2015 / TTLT-BYT-BNV of the Ministry of Health and the Ministry of the Interior Regulatory professional codes of Nurses, Midwives and Medical technicians.
- Decision No. 4013/2001 / QD-BYT of September 27, 2001 of the Minister of Health promulgating the "Regulation on communication regime in medical examination and treatment establishments"; Circular No. 07/2017 / TT-BYT dated February 25, 2014 of the Minister of Health on the code of conduct of civil servants, employees and workers working at medical establishments;

- Basic capacity standards of Vietnamese midwives issued together with Decision No. 342 / QDBYT of January 24, 2014 of the Ministry of Health.

All 7 capacity standards of Vietnamese midwives are strongly related to the communication skills and practical skills of midwives.

Currently the training program of university-level midwifery include communication module, which is taught by the Department of Medical Psychology with a duration of 2 credits (15 theory periods, 30 practical periods), each period is equivalent to 50 minutes. However, the teaching of this module just include watching video and roleplaying the situation at the classroom.

Along with the Communication in professional practice module, the communication skills are also integrated into 20 specialized modules at the simulation center and hospitals (briefing the care plan, implementing nursing techniques at the hospital).

However, according to the research results of health workers' communication with patients, the medical staff's communication with patients is still limited.

More attention should be paid to training communication skills for students as soon as they study at the school and open short courses for medical staff working at health facilities. For schoolbased communication training, it is necessary to consider the addition of equipment for communication skills training lab.

2. Professional practice skills

The Ministry of Health has issued regulations related to professional practice skills

- Basic capacity standards of Vietnamese midwives issued together with Decision No. 342 / QDBYT of January 24, 2014 of the Ministry of Health.

- Decision No. 3982 / QD-BYT dated October 3, 2014 of the Ministry of Health approving the guidance document "Basic skills of midwives"

- Decision No. 4673 / QD-BYT dated November 10, 2014 of the Ministry of Health approving professional guidance documents "Essential care for mothers and babies during and immediately after birth"

- Decision No. 659 / QD-BYT dated February 25, 2015 of the Ministry of Health promulgating professional conditions to ensure midwifery training at university and college levels in Vietnam.

The Nam Dinh Nursing University's full time bachelor of midwifery training program consists of 144 credits, of which 25credits for general education, 36credits forbasic professional knowlege, 12 elective credits, 75 specialized credits .

The program is student-centered, helping students form professional capacity. Knowledge blocks, modules in the training program are logically arranged to ensure the prerequisite requirement. Before going to practicum facilities, students have theory and practical hour in the classroom and simulation to ensure students master the knowledge, master the techniques.

However, the equipment of the pre-clinical practice room to teach practical skills of the Department of Midwifery is still limited. Thus it is important to facilitate pre-clinical practice room for students to increase the ability and confidence when going to practice establishments (hospitals, health centers, etc.)

3. Breastfeeding counseling

Breast milk is the best food for babies and young children. Breastfeeding is an absolutely safe natural method for children and is the most important measure to ensure a healthy development both physically and mentally. Breast milk provides children with essential nutrition, antibodies to help healthy children prevent respiratory and digestive diseases, limit the risk of obesity and some chronic diseases such as allergies and bronchial asthma [5].

Worldwide, Unicef reported that the proportion of exclusive breastfeeding of infants in the first 6 months of 1996-2004 in the Asia Pacific region was 43%, in East and South Africa 41%, West and Central Africa 20%, China 50%, Indonesia 40%, Laos 23%, Philippines 34% [9], [10], [11]. In Vietnam, the proportion of mothers who exclusively breastfeed their babies in the first 6 months is quite low. According to a survey by the National Institute of Nutrition and General Statistics Office in 2010, the proportion of mothers who exclusively breastfed their babies in the first 6 months was 19.6% (rural 20.8% and in urban areas 16.2%). %) [7]. The study of Phan Thi Tam Khue (2009) shows that the proportion of mothers who exclusively breastfeed their babies in the first 6 months is 34% [5]. In Vu Ban, Nam Dinh, the proportion of mothers who breastfed in the first 6 months was only 14.7% [4]

to the research results of Nguyen Lan - Institute of National Nutrition of Vietnam (2013), conducting research on 322 children from 5-6 months in Pho Yen district, Thai Nguyen province has shown that only 44.4% of children were breastfed within the first quarter after birth; 15.2% of babies are breastfed within the first 24 hours; about 90% of children begin to eat supplements under 4 months of age; Food for children to supplement is rice flour, instant flour (70.3%); The main reason for early complementary feeding is that mothers are busy at work (54.9%). The recommendation of that research is to strengthen the communication and education of mothers on breastfeeding and reasonable complementary feeding as recommended by WHO.

In Nam Dinh province, Hoang Van Lan (2016) evaluated the effectiveness of breastfeeding counseling for mothers of children under 6 months old at Nam Dinh Children's Hospital, research results showed that before consulting the benefits of breast milk: 40% of mothers know that breast milk is the easily digestible nutrient after education intervention the number increase to 89.2%. Before consulting 46.7% of mothers knew that breast milk contained antimicrobial agents and after consulting, 93.3% of mothers correctly answered this question. For children who are exclusively breastfed have less allergy, eczema in comparison with children eating cow's milk because breast milk has anti-allergy effect. Before counseling, only 43.3% of mothers correctly answered the results and increased to 89.2% of mothers correctly answered after being consulted.

The reason the mother does not breastfeed her baby completely in the first 6 months may be because the mother has to go to work early, the mother does not have enough milk because she does not dare to eat much fear of getting fat and due to the promotion of powdered milk. Believing that a

additional substances in milk powder help babies smarter making mothers choose milk powder. Another important reason is that mothers who do not know how to maintain and increase breast milk supply lead to a lack of milk, which is an important issue for mothers.

Thus, in fact, there are still many mothers who are not aware of the importance of breastfeeding, thus it is essential to expand communication and counseling for mothers and communities to increase understanding and practice of breast feeding.

PART 3. CONCLUSION

In summary, in recent years, the health sector has made breakthrough changes in improving people's health, preventing epidemics and medical examination and treatment. One of the foci is strengthening supervision of health human resources training, focusing on the continuous training, enrollment, ensuring training quality; Enhance the effectiveness of communication, health education, preventive

medicine, primary health care, timely prevention of epidemics. This has set out the tasks and requirements for health human resource training institutions including training in Midwifery to pay attention to and invest in training-related fields such as facilities and human resources, training programs, ... And to train health human resources with the required professional capacity, in addition to the great effort of the training institution itself, also need the help of the other institutions.

Nam Dinh University of Nursing aims to develop education and training, scientific research on Nursing, Midwifery and health sciences to prepare high quality nurses, midwives to improve the quality of people's health care, become one of the reputable domestic and international health care centers for Nursing, Midwifery. We are trying our best in training and have achieved certain achievements. In order to help the school, get more achievements in training, remove gaps in training and practice, it is necessary to have international support and cooperation.

Annex III

QUESTIONNAIRE FOR PRACTICING MIDWIFES (VIETNAM); IMPLEMENTATION PHASE

BỘ CÂU HỎI ĐÁNH GIÁ KHOẢNG TRỐNG CHƯƠNG TRÌNH ĐÀO TẠO

Đối tượng: Nữ hộ sinh dưới 10 năm công tác

Template questionnaire for practicing midwifes (try to concentrate on younger midwifes with max. 10 years of prior experience, include in your survey representative samples from all the different workplaces where midwifes are active in your context (e.g. primary health facility, secondary, tertiary hospital etc). The survey should preferably be self-administered (i.e. midwifes fill out the hard copy on their own)

Bảng câu hỏi mẫu cho nữ hộ sinh (cần tập trung vào các nữ hộ sinh trẻ có kinh nghiệm làm việc dưới 10 năm. Mẫu nghiên cứu cần đại diện, các nữ hộ sinh từ các cơ sở làm việc khác nhau (trạm y tế, bệnh viện huyện, bệnh viên trung ương…). Bộ câu hỏi phỏng vấn tốt nhất là tự điền (các nữ hộ sinh tự điền vào bộ câu hỏi)

INFOMATIONS / THÔNG TIN CHUNG

1. **Age/tuổi: ……..**
2. **Sex / giới tính**: 1. M (Nam) 2. F (Nữ)
3. **Năm công tác:** …….....
4. **Highest level of education achieved/ Bằng cấp cao nhất:**
    1. Intermediate/ trung cấp
    2. College/ cao đẳng
    3. University/ đại học
    4. Other/ khác
5. **Ethnicity/dân tộc 6. Workplace/nơi làm việc:**
    1. Commune/ward healthcare station / Trạm y tế xã/ Phường
    2. District hospital / bệnh viện huyện
    3. Provincial hospital/ Bệnh viện tỉnh
    4. National hospital/ Bệnh viện trung ương

1. Do you feel that through your studies in midwifery you have developed your problem solving skills?/ Anh, chị có nghĩ rằng trong quá trình học hộ sinh tại trường, anh chị đã được phát triển các kỹ năng giải quyết ván đề			
1.Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
2. Do you agree with following statements? «In my daily practice as a midwife: **Anh/ chị có đồng ý với các ý kiến sau không? Trong công việc hàng ngày làm hộ sinh của mình**			
-a) I question how, what and why you do things» Tôi đặt các câu hỏi như thế nào, cái gì, vì sao?			
1. Strongly disagree/ Hoàn toàn không đồng ý	2. Disagree/ đồng ý	3. Undecided/ phân vân	4. Agree/ đồng ý	5. Strongly agree Hoàn toàn đồng ý
-b) I do not make judgements until I have enough data» **Tôi không đưa ra kết luận khi tôi chưa có đủ thông tin**			
1. Strongly disagree/ Hoàn toàn không đồng ý	2. Disagree/ đồng ý	3. Undecided/ phân vân	4. Agree/ đồng ý	5. Strongly agree Hoàn toàn đồng ý
-c) I compare and contrast information about a client's problem and propose solutions to him/her» **Tôi so sánh các thông tin của người bệnh và đề xuất giải pháp cho họ**			
1. Strongly disagree/ Hoàn toàn không đồng ý	2.Disagree/ đồng ý	3. Undecided/ phân vân	4. Agree/ đồng ý	5. Strongly agree Hoàn toàn đồng ý
-d) I try to understand clinical problems by using a variety of guidelines and protocol frames of reference **Tôi cố gắng hiểu các vấn đề lâm sàng dựa trên các văn bản hướng dẫn, nguồn tài liệu tham khảo khác nhau.**			
1. Strongly disagree/ Hoàn toàn không đồng ý	2. Disagree/ đồng ý	3. Undecided/ phân vân	4. Agree/ đồng ý	5. Strongly agree Hoàn toàn đồng ý
3. How would you rate your understanding of your health care system? **Bạn tự đánh giá mức độ hiểu biết của mình về hệ thống y tế**			

1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém
4. In my daily practice I feel confident / Trong công việc hàng ngày, tôi thấy tự tin:			
-a) Handling neonatal emergencies / Xử trí các ca cấp cứu sơ sinh			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-b) Handling maternal emergencies / Xử trí các ca đỡ đẻ cấp cứu			
1.Yes absolutely Hoàn toàn đồng ý	2, To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-c) Identifying and referring high risk pregnancies / Xác định và chuyển các ca mang thai có nguy cơ cao			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-d) Managing normal labor / Quản lý đẻ thường			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-e) Assisting in abnormal labor / Hỗ trợ ca đẻ bất thường			
1.Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-f) Giving breastfeeding counseling / Tư vấn nuôi con bằng sữa mẹ			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-g) Giving counseling on family planning and contraceptive methods / Tư vấn về kế hoạch hóa gia đình và các biện pháp tránh thai			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-h) Participating in vaccination activities / Tham gia các hoạt động tiêm chủng			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không

-i) Assessing nutritional status of mother and give nutritional counseling or supplements **Đánh giá tình trạng dinh dưỡng của bà mẹ và tư vấn hay cung cấp dinh dưỡng**

1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-j) Assessing social factors related to health and health access of the client (eg. education level, economic conditions, living environment, etc) and adjust care accordingly / **Đánh giá các yếu tố xã hội liên quan đến sức khỏe và đánh giá sức khỏe người bệnh (ví dụ, trình độ văn hóa, tình trạng kinh tế, môi trường sống…) và điều chỉnh chăm sóc cho phù hợp**			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-k) Assessing mental health state of mother and give psychosocial support / **Đánh giá tình trạng sức khỏe tâm thần của bà mẹ và đưa ra các hỗ trợ tâm lý**			
1. Yes absolutely Hoàn toàn đồng ý	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
6. Apart from the above mentioned domains, is there any domain related to your daily practice in which you feel insecure? / Ngoài các lĩnh vực trên, còn lĩnh vực nào trong công việc hàng ngày mà anh, chị cả thấy bất an toàn			
1. yes/ có	2. no/không		
-a) If YES, please specify / Nếu có, xin nêu rõ:			
5. Do you feel confident in communicating in your role as midwife: **Anh, chị có cảm thấy tự tin khi trong giao tiếp với vai trò là 1 hộ sinh**			
-a) with adult clients? / Với người bệnh trưởng thành			
1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-b) with children? / Với trẻ em			

1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-c) with colleagues and other health professionals? / Với đồng nghiệp và các nhân viên y tế khác			

1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-d) with relatives? / Với người thân			
1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-e) with people from different ethnic, cultural and social backgrounds? Với những người khác về tôn giáo, văn hóa và địa vị kinh tế?			
1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
-f) with critically ill and/or terminal patients? Với người bệnh nặng và/hoặc người bệnh hấp hối?			
1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không
6. Do you know how to suspect, identify and manage a case of gender/domestic violence? Anh, chị có nghi ngờ, xác định và quản lý các ca bạo hành giao đình?			
1. Yes/ có	2. No/không		
-a) If YES, how many cases did you identify and manage past year? Nếu có, anh, chị đã xác định và quản lý bao nhiêu ca năm ngoái			
1. None/không	2. 1-3	3. 3-5	4. 5-10	5. More than 10 Trên 10
7. How would you rate your understanding of the professional role, rights and obligations of a midwife in your country? / Anh chị tự đánh giá mưc độ hiểu biết của mình về vai trò, quyền và nghĩa vụ của hộ sinh ở Việt Nam?			
1. Excellent / Rất tốt	2. Good/ Tốt	3. Fair / Khá	4. Poor/ Kém
8. Do you feel responsible and accountable for clinical decisions and actions? / Anh, chị có cảm thấy mình có trách nhiệm với các xử trí và quyết định lâm sàng của mình?			

1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	4. Not at all Hoàn toàn không

9. How would you rate your reading proficiency in English? Anh, chị tự đánh giá khả năng đọc tiếng Anh của mình?			
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém

10. How do you rate your own basic computer skills:
Anh, chị tự đánh giá kỹ năng máy tính cơ bản của mình?

1. Excellent /Rất tốt 2. Good /Tốt 3. Fair /Khá 4. Poor /Kém

11. Are you comfortable with / Anh, chị cảm thấy thoải mái với công việc

-a) Searching the web for scientific literature
Tìm các thông tin khoa học trên mạng

1. Yes absolutely 2. To some extent 3. Not really 4. Not at all
Hoàn toàn đồng ý Một mức nào đó không thực sự Hoàn toàn không

-b) Critically appraising a scientific paper / Phân tích các bài báo khoa học

1.Yes absolutely 2. To some extent 3. Not really 4. Not at all
Hoàn toàn đồng ý Một mức nào đó không thực sự Hoàn toàn không

-c) Formulating a research question? / Đặt các câu hỏi nghiên cứu

1. Yes absolutely 2. To some extent 3. Not really 4. Not at all Hoàn toàn đồng ý
Một mức nào đó không thực sự Hoàn toàn không

12. Do you agree with following statements? " In my daily practice:
Anh chị có đồng ý với các nội dung sau đây? "trong công việc hàng ngày:

-a) I make decisions based on my own experience" / Tôi đưa ra quyết định dựa vào kinh nghiệm của bản thân

1. Strongly disagree/ 2. Disagree/ 3. Undecided/ 4. Agree/ 5. Strongly agree
Hoàn toàn không đồng ý phân vân đồng ý Hoàn toàn đồng ý đồng ý

-b) I make decisions based on traditional/routine based practices established in my working environment "
Tôi đưa ra quyết định dựa trên các thực hành đã trở thành truyền thống của khoa tôi

1. Strongly disagree/ 2. Disagree/ 3. Undecided/ 4. Agree/ 5. Strongly agree
Hoàn toàn không đồng ý phân vân đồng ý Hoàn toàn đồng ý đồng ý

-c) I make decisions based on clinical protocols and guidelines"
Tôi đưa ra quyết định dựa trên các hướng dẫn lâm sàng

1. Strongly disagree/ 2.Disagree/ 3.Undecided/ 4.Agree/ 5.Strongly agree
Hoàn toàn không đồng ý phân vân đồng ý Hoàn toàn đồng ý đồng ý

13. Do you know how to keep yourself up to date with developments in midwifery (e.g. new guidelines, new practices?) **Tôi luôn cập nhật thông tin liên quan đến thực hành hộ sinh (ví dụ: các hướng dẫn mới, thực hành mới**				
1. Yes absolutely **Hoàn toàn đồng ý**	2. To some extent Một mức nào đó	3. Not really không thực sự	3. Not at all Hoàn toàn không	
14. Since your graduation from midwifery school have you attended a postgraduate course/training/conference related to midwifery? **Từ khi tốt nghiệp hộ sinh, anh chị đã tham dự khóa học sau đại học/ tập huấn/hội nghị nào liên quan đến hộ sinh không?**				
1. yes /có	2. no/không			
-a) If YES how many approximately? / Nếu có, khoảng bao nhiêu lần?				
1. 1-3	**2.** 3-5	3. 5-10	4. 10 15	5. More than 15 Trên 15
-b) If YES how many in the past year? / Nếu có, bao nhiêu lần năm trước				

Annex IV:

QUESTIONNAIRE FOR CLIENTS (VIETNAM); IMPLEMENTATION PHASE

BỘ CÂU HỎI ĐÁNH GIÁ KHOẢNG TRỐNG CHƯƠNG TRÌNH ĐÀO TẠO

Đối tượng: Phụ nữ có thai hoặc sau đẻ

Template questionnaire for clients (please apply some sort of randomization principle, do not apply it in women that are visiting the midwife services for the first time, consider using a trained interviewer in order to get feedback also from potentially illiterate people)

Bảng câu hỏi mẫu cho khách hàng đã sử dụng dịch vụ do nữ hộ sinh cung cấp (chọn mẫu ngẫu nhiên, không áp dụng đối với phụ nữ lần đầu tiên đến sử dụng dịch vụ do nữ hộ sinh cung cấp, điều tra viên là người đã được đào tạo để có thể thu thập được thông tin từ người mù chữ)

No	Questions	Answers
1.	*Have you ever been examined or catered by a midwife?* Chị đã bao giờ được một nữ hộ sin kiểm tra hoặc phục vụ chưa?	1. Yes (continue) / Rồi (tiếp tục) 2. No (abort interview) / Chưa (Dừng PV)
2.	*What is your age?* Chị bao nhiêu tuổi?	.....(years)
3.	*Where do you live?* Chị sống ở đâu?	1. urban / Thành thị 2. rural / Nông thôn
4.	*What is your level of education?* Trình độ học vấn của chị?	1. Secondary school / THCS 2. High school / THPT 3. Intermediate school/college / Trung cấp, cao đẳng 4. Higher education / Đại học 5. Other / Khác
5.	*Please specify your ethnicity?* Chị dân tộc gì?	1. Kinh / Dân tộc Kinh 2.Ethnic minorities / Dân tộc thiểu số
6.	*What is your marital status?* Tình trạng hôn nhân của chị là gì?	1. Married/ Đã kết hôn 2. Single / sống 1 mình

		3. Divorced/ Ly dị 4. Widow/ góa
7.	*How many live children do you have?* Chị có bao nhiêu con?	.....con
8.	*Are you currently pregnant?* Chị đang mang thai không?	1.Yes (continue with questionnaire A)/ **Có (tiếp tục với câu hỏi phần A)** 2.No (continue with questionnaire B)/ **Không (tiếp tục với câu hỏi phần B)**

Questionnaire A (antenatal situation) / Bảng câu hỏi A (tình huống tiền sản)

9.	*Is this your first pregnancy?* Đây có phải là lần mang thai đầu tiên của chị không?	1. yes/ Phải 2. no/ Không
A.	**How satisfied are you with? Mức độ hài lòng của chị như thế nào?**	
10.	*The clinical examinations conducted so far by midwifes?* Thăm khám lâm sàng của chị do nữ hộ sinh thực hiện từ trước đến nay?	1.very dissatisfied/ Rất không hài lòng 2.dissatisfied/ Không hài lòng 3.neutral/ lưỡng lự 4.satisfied / Hài lòng 5.very satisfied / Rất hài lòng
11.	*The information regarding your pregnancy and childbirth provided by midwifes?* Các thông tin liên quan đến việc mang thai và sinh con của chị do nữ hộ sinh cung cấp?	1. very dissatisfied/ Rất không hài lòng 2. dissatisfied/ Không hài lòng 3. neutral/ lưỡng lự 4. satisfied / Hài lòng 5. very satisfied / Rất hài lòng
12.	*The confidentiality with which midwifes dealt with the information provided by you?* Nữ hộ sinh đã giữ tính bảo mật của các thông tin mà chị cung cấp?	1.very dissatisfied/ Rất không hài lòng 2. dissatisfied/ Không hài lòng 3. neutral/ lưỡng lự 4. satisfied / Hài lòng 5. very satisfied / Rất hài lòng
13.	*Have you felt being treated politely and in a respectful manner by midwifes so far?* Chị đã cảm thấy được nữ hộ sinh đối xử một cách lịch sự và theo cách tôn trọng từ trước đến nay?	1. Yes absolutely / Chắc chắn rồi 2. To some extent/ 1 mức độ nào đó 3. Not really/ không chắc chắn 4. Not at all / không bao giờ

B.	**Postnatal care/other services** **Chăm sóc sau sinh/dịch vụ khác**	
14.	*Where did you deliver your last baby?* Chị đã sinh em bé cuối cùng ở đâu?	1.At home/ Ở nhà 2. Commune/ward healthcare station / TYT xã/phường 3. District hospital / Bệnh viện huyện 4. Provincial hospital/ Bệnh viện tỉnh 5. National hospital/ Bệnh viện trung ương
15.	*How was your baby after delivery?* Em bé của chị sau khi sinh như thế nào?	1. Healthy/ Khỏe mạnh 2. Sick/ ốm 3. No comment/ Không trả lời
16.	*Your overall experience from the delivery was:* Trải nghiệm tổng thể của chị từ việc sinh đẻ là:	1. Very negative/ Rất tiêu cực 2. Rather negative/ Khá tiêu cực 3. Neutral / Bình thường 4. Rather positive / Khá tích cực 5. Very positive / Rất tích cực
17.	*Were you attended by a midwife during delivery*? (if no, skip the rest of the answers until question 24) Chị có được một nữ hộ sinh tham gia khi sinh nở không? (nếu không, bỏ qua phần còn lại của câu trả lời cho đến câu hỏi 24)	1. Yes/ Có 2. No/ Không
	If YES, did the midwife (s): **Nếu có, nữ hộ sinh đã làm việc sau:**	
18.	*Treat you and your relatives in a respectful manner?* Đối xử với chị và người thân của chị một cách tôn trọng?	1. Yes absolutely/ Chắc chắn rồi 2. To some extent/ một mức nào đó 3. Not really/ Không chắc chắn 4. Not at all/ Không bao giờ
19.	*Provide you information about the delivery process?*	1. Yes absolutely/ Chắc chắn rồi 2. To some extent/ một mức nào đó

	Cung cấp cho chị thông tin về quá trình sinh nở?	3. Not really/ Không chắc chắn 4. Not at all/ Không bao giờ
20.	*Give you the opportunity to participate in decision making?* Cho chị cơ hội tham gia ra quyết định?	1. Yes absolutely/ Chắc chắn rồi 2. To some extent/ một mức nào đó 3. Not really/ Không chắc chắn 4. Not at all/ Không bao giờ
21.	*Allow to a companionship of your choice to be at your side during labor?* Cho phép một người chị đồng hành theo sự lựa chọn của chị ở bên cạnh chị trong khi chuyển dạ?	1. Yes absolutely/ Chắc chắn rồi 2. To some extent/ một mức nào đó 3. Not really/ Không chắc chắn 4. Not at all/ Không bao giờ
22.	*Give you the opportunity to express a problem/concern?* Cung cấp cho chị cơ hội để thể hiện một vấn đề / mối quan tâm?	1. Yes absolutely/ Chắc chắn rồi 2. To some extent/ một mức nào đó 3. Not really/ Không chắc chắn 4. Not at all/ Không bao giờ
23.	*Overall, how satisfied were you with the midwifery care of the midwife(s) attending you during labor?* Nhìn chung, chị hài lòng như thế nào với sự chăm sóc hộ sinh của nữ hộ sinh tham dự khi chị chuyển dạ?	1. very dissatisfied/ Rất không hài lòng 2. dissatisfied/ Không hài lòng 3. neutral / Trung lập 4. satisfied/ Hài lòng 5. very satisfied/ Rất hài lòng
24.	*Have you and/or child been attended by a midwife after giving birth?* Chị và / hoặc con đã được một nữ hộ sinh tham dự sau khi sinh?	1. Yes/ Đúng 2. No/ Không 3. I am not sure/ Tôi không chắc
25.	*If YES, what for? Please specify (If no, questionnaire ends here)*	....

	Nếu có, để làm gì? Vui lòng ghi rõ (Nếu không, bảng câu hỏi kết thúc tại đây)	
26.	*Overall, how satisfied were you with these aformentioned services provided by the midwife(s)?* Nhìn chung, chị hài lòng như thế nào với các dịch vụ nói trên được cung cấp bởi nữ hộ sinh?	1. very dissatisfied/ Rất không hài lòng dissatisfied/ Không hài lòng 2. neutral / Trung lập 3. satisfied/ Hài lòng 4. very satisfied/ Rất hài lòng

Annex V:

QUESTIONNAIRE FOR OBSTETRICIANS (VIETNAM); IMPLEMENTATION PHASE

BỘ CÂU HỎI ĐÁNH GIÁ KHOẢNG TRỐNG CHƯƠNG TRÌNH ĐÀO TẠO

Đối tượng: Bác sỹ làm việc cùng nữ hộ sinh

1. Age / Tuổi: ….....
2. Sex/ Giới: 1. M (Nam) 2. F (Nữ)
3. Years in service/Năm công tác: …….....
4. Ethnicity/Dân tộc: 1. Kinh 2. Ethnic minorities/Dân tộc khác 5. Workplace/Nơi làm việc:
    1. Commune/ward healthcare station / Trạm y tế xã/ Phường
    2. District hospital / bệnh viện huyện
    3. Provincial hospital/ Bệnh viện tỉnh
    4. National hospital/ Bệnh viện trung ương

1. Do you teach midwifes? (If no skip to question 2)/ Anh (chị) có dạy hộ sinh không? (Nếu không bỏ qua câu hỏi 2)				
1. yes/ Có	2. no/ Không			
-a) If YES, do you think that the official study curriculum reflects the content of the classes/workshops/electives they are having? /) Nếu CÓ, anh, chị có nghĩ rằng chương trình học chính thức phản ánh nội dung của các lớp học / hội thảo / môn tự chọn mà họ đang có không?				
1.Yes absolutely/Hoàn toàn đồng ý	2.To some extent/Một mức nào đó	3.Not really/ không thực sự	4. Not at all/ không hoàn toàn	5. I do not know/ Tôi không biết
-b) If YES, do you feel that during their studiesthey are getting enough chances of putting in practice the things they are being taught in theory?/ Nếu CÓ, anh chị có nghĩ rằng trong thời gian học tập sinh viên có đủ cơ hội để thực hành những điều họ đang được dạy trong lý thuyết không?				
1. Yes absolutely/ Hoàn toàn đồng ý	2. To some extent/ Một mức nào đó	3.Not really/ không thực sự	4. Not at all/ không đồng ý	5. I do not know Tôi không biết
-c) Are you satisfied with the existing teaching aids/equipment/ infrastructure (eg. Simulation mannequins, real patient videos etc)?/ Anh chị có hài lòng với các thiết bị phục vụ giảng dạy/ dụng cụ/ cơ sở hạ tầng giảng dạy hiện có (ví dụ: mô hình mô phỏng, video bệnh nhân thực sự, v.v.) không?				
1.Yes absolutely/ Hoàn toàn hài lòng	2. To some extent/ Một mức nào đó	3. Not really/ không thực sự hài lòng	4. Not at all/ không hài lòng	5. I do not know Tôi không biết

IF NO,in your opinion,which additional teaching aids/equipment/infrastructure would be helpful? / NẾU KHÔNG, theo ý kiến của anh chị, những phương tiện dạy học / thiết bị / cơ sở hạ tầng bổ sung nào sẽ hữu ích?

.....

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2. Overall, how would you rate your collaboration with midwifes?/ Nhìn chung, anh chị đánh giá thế nào về sự hợp tác của anh chị với nữ hộ sinh?				
1. Excellent Rất tốt	2. Good/ Tốt	3. Fair / Khá	4. Poor/ Kém	5. I am not sure Tôi không rõ
3. How would you rate the quality of referrals from midwifes in your working place?/ Anh chị đánh giá thế nào về chất lượng nữ hộ sinh ở nơi làm việc của anh chị?				
1. Excellent/ Rất tốt	2. Good/ Tốt	3. Fair / Khá	4. Poor/ Kém	5. I am not sure Tôi không rõ
4. Based on your observations in your workplace how would you rate the knowledge, skills and attitude of midwifes with respect to: / Dựa trên những quan sát của anh chị tại nơi làm việc, anh chị sẽ đánh giá kiến thức, kỹ năng và thái độ của nữ hộ sinh như thế nào đối với:				
-a)Handle neonatal emergencies/ Xử lý cấp cứu sơ sinh				
1. Excellent / Rất tốt	2. Good/ Tốt	3. Fair/ Khá	4. Poor/ Kém	5. I am not sure Tôi không rõ
-b)Handle maternal emergencies/ Xử lý tình huống cấp cứu cho bà mẹ				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-c)Identify and refer high risk pregnancies/ Xác định và chuyển tuyến thai phụ có nguy cơ cao				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair / khá	4. Poor /Kém	5. I do not know Tôi không rõ
-d)Manage normal labor/ Quản lý theo dõi chyển dạ thường				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair / Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-e)Assist in abnormal labor/ Đỡ đẻ thường				

1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-f)Give breastfeeding counseling/ Tư vấn cho bà mẹ cho con bú				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-g)Give counseling on family planning and contraception/ Tư vấn về kế hoạch hóa gia đình và các biện pháp tránh thai				
○ Excellent/ Rất tốt	○ Good Tốt	○ Fair Khá	○ Poor Kém	○ I do not know Tôi không rõ
-h)Participate in vaccination activities/ Tham gia các hoạt động tiêm chủng				
1. Excellent Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor/ Kém	5. I do not know Tôi không rõ
-i)Assess nutritional status of mother and give nutritional counseling or supplements/ Đánh giá tình trạng dinh dưỡng của bà mẹ và tư vấn đưa ra lời khuyên hoặc bổ sung dinh dưỡng				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-j)Assess social factors related to health and health access of the client (eg,education level, economic situation, living environment) and adjust care accordingly/ Đánh giá các yếu tố xã hội liên quan đến sức khỏe và tiếp cận tìm mối liên quan đến sức khỏe của khách hàng (ví dụ: trình độ học vấn, tình hình kinh tế, môi trường sống) để điều chỉnh chăm sóc phù hợp				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-k)Assess mental health state of mother and give psychosocial support/ Đánh giá tình trạng sức khỏe tâm thần của mẹ và hỗ trợ tâm lý				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
5. Based on your observations in your workplace how would you rate the communication skills of midwifes: / Dựa trên những quan sát của anh chị tại nơi làm việc, anh chị sẽ đánh giá các kỹ năng giao tiếp của nữ hộ sinh như thế nào:				

-a) with adult clients?/ với khách hàng là người trưởng thành				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-b) with children? Với trẻ em				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-c) with colleagues and other health professionals?/ với đồng nghiệp và các chuyên gia y tế khác?				
1. Excellent Rất tốt	2. Good Tốt	3. Fair Khá	4. Poor Kém	5. I do not know Tôi không rõ
-d) with relatives? Với gia đình bệnh nhân				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
-e) with people from different ethnic, cultural and social backgrounds? / với những người thuộc dân tộc thiểu số, văn hóa và thành phần xã hội khác nhau?				
1. Excellent /Rất tốt	2. Good/ Tốt	3. Fair /Khá	4. Poor /Kém	5. I do not know Tôi không rõ
- f) with critically ill and/or terminal patients?/ với bệnh nhân trong tình trạng nguy kịch và/ hoặc giai đoạn hấp hối				
1. Excellent /Rất tốt	2. Good /Tốt	3. Fair Khá	4. Poor /Kém	5. I do not know Tôi không rõ
6.Based on your observations in your workplace do you agree with following statements?/ Dựa trên những quan sát của anh chị tại nơi làm việc, anh chị có đồng ý với những tuyên bố sau không?				
-a) Midwives have a high understanding of their professional role, rights and obligations / Nữ hộ sinh có hiểu biết cao về vai trò, quyền và nghĩa vụ nghề nghiệp của họ				
1. Strongly disagree/ Rất không đồng ý	2. Disagree/ Không đồng ý	3. Undecided/ phân vân	4. Agree/ Đồng ý	5. Strongly agree/ Rất đồng ý

-b) Midwives assume accountability and responsibility for actions their responsibilities./ Nữ hộ sinh nhận trách nhiệm và chịu trách nhiệm cho hành động thuộc trách nhiệm của họ.				
1. Strongly disagree/ Rất không đồng ý	2. Disagree/ Không đồng ý	3. Undecided/ phân vân	4. Agree/ Đồng ý	5. Strongly agree/ Rất đồng ý

Questions 1: domain 1 of the gap analysis
Questions 2-4: domain 2 of the gap analysis
Questions 5-6: domain 3 of the gap analysis

Annex VI:

QUESTIONNAIRE FOR MIDWIFERY STUDENTS (VIETNAM); IMPLEMENTATION PHASE

Template questionnaire for students in midwifery (prefinal and final year of studies)

Age:

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Sex: M/F

Year of studies: Prefinal/Final

Highest level of education achieved prior to midwifery studies:

1. Intermediate
2. College
3. University
4. Other

Ethnicity:

1. Kinh

2.Ethnic minorities

1. Do you think that the official study curriculum reflects the content of the classes/workshops/electives you have had up to now?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
2. Do you feel that during your studies you are getting enough chances of putting in practice the things you are being taught in theory?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
3. Do you feel that during your studies you have developed your problem solving skills?				

○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
4. Are you satisfied with the existing teaching aids/equipment/ infrastructure (eg. Simulation mannequins, real patient videos etc)?				
○ Yes	○ No			
IF NO, in your opinion, which additional teaching aids/equipment/infrastructure would be helpful?				
5. How would you rate your understanding of your health care system?				
○ Excellent	○ Good	○ Fair	○ Poor	
6. Through your studies, you feel prepared you to:				
-a) Handle neonatal emergencies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b) Handle maternal emergencies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) Identify and refer high risk pregnancies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-d) Manage normal labor				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-e) Assist in abnormal labor				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-f) Give breastfeeding counseling				

○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-g) Give counseling on family planning and contraception				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-h) Assist in vaccination activities				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-i) Assess nutritional status of mother and give nutritional counseling or supplements				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-j) Assess social factors related to health and health access of the client (eg, poverty, unemployment, water access) and adjust care accordingly				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-k) Assess mental health state of mother and give psychosocial support				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
7. Do you feel prepared in communicating in your future role as midwife:				
-a) with clients?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b) with children?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) with colleagues and other health professionals?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-d) with relatives?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	

-e) with people from different ethnic, cultural and social backgrounds?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-f) with critically ill and/or terminal patients?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
9. Do you know how to suspect, identify and manage a case of gender/domestic violence?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
10. How would you rate your understanding of the professional role, rights and obligations of a midwife in your country?				
○ Excellent	○ Good	○ Fair	○ Poor	
11. How would you rate your reading proficiency in English?				
○ Excellent	○ Good	○ Fair	○ Poor	
12. How do you rate your own:				
-a)Computer literacy				
○ Excellent	○ Good	○ Fair	○ Poor	
-b) Internet literacy				
○ Excellent	○ Good	○ Fair	○ Poor	
-c) Typing skills				
○ Excellent	○ Good	○ Fair	○ Poor	
13. Are you comfortable with:				
-a) Searching the web for scientific literature				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b) Critically appraising scientific literature				

○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) Formulating a research question?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
14. Do you think that evidence based practice is relevant for the profession of midwifes?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
15. Through your studies have you learned how to keep yourself up to date with developments in midwifery (e.g. new guidelines, new practices?)				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	

Questions 1-4: domain 1 of the gap analysis

Questions 5-6: domain 2 of the gap analysis

Questions 7-10: domain 3 of the gap analysis

Questions 10-15: domain 4 of the gap analysis

Annex VII:

QUESTIONNAIRE FOR MIDWIFERY STUDENTS (CAMBODIA); IMPLEMENTATION PHASE

Template questionnaire for students in midwifery (prefinal and final year of studies)

Age:

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Sex: M/F

Year of studies: Prefinal/Final

1. Do you think that the official study curriculum reflects the content of the classes/workshops/electives you have had up to now?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
2. Do you feel that during your studies you are getting enough chances of putting in practice the things you are being taught in theory?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
3. Do you feel that during your studies you have developed your problem solving skills?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
4. Are you satisfied with the existing teaching aids/equipment/ infrastructure (eg. Simulation mannequins, real patient videos etc)?				
○ Yes	○ No			
IF NO, in your opinion, which additional teaching aids/equipment/infrastructure would be helpful?				

5. How would you rate your understanding of your health care system?				
○ Excellent	○ Good	○ Fair	○ Poor	
6. Through your studies, you feel prepared you to:				
-a) Handle neonatal emergencies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b) Handle maternal emergencies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) Identify and refer high risk pregnancies				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-d) Manage normal labor				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-e) Assist in abnormal labor				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-f) Give breastfeeding counseling				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-g) Give counseling on family planning and contraception				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	

-h) Assess nutritional status of mother and give nutritional counseling or supplements				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-i) Assess social factors related to health and health access of the client (education level, economic conditions, living environment) and adjust care accordingly				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-j) Assess mental health state of mother and give psychosocial support				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-k) Prevent and control infections in pregnancy, intrapartum and postpartum				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-l) Screen for breast and cervical cancer				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-m) Attend newborns				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-n) To use ultrasound/Doppler in midwifery care				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-o) To perform basic life support				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
7. Do you feel prepared in communicating in your future role as midwife:				

-a)with clients?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b)with children?				

○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) with colleagues and other health professionals?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-d) with relatives?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-e) with people from different ethnic, cultural and social backgrounds?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-f) with critically ill and/or terminal patients?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
8. Do you know how to suspect, identify and manage a case of gender/domestic violence?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
9. How would you rate your understanding of the professional role, rights and obligations of a midwife in your country?				
○ Excellent	○ Good	○ Fair	○ Poor	
10. How would you rate your reading proficiency in English?				
○ Excellent	○ Good	○ Fair	○ Poor	
11. How do you rate your own basic computer skills:				
○ Excellent	○ Good	○ Fair	○ Poor	
12. Are you comfortable with:				
-a) Searching the web for scientific literature				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-b)Critically appraising scientific literature				

○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
-c) Formulating a research question?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
13. Do you think that evidence based practice is relevant for the profession of midwifes?				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	
14. Through your studies have you learned how to keep yourself up to date with developments in midwifery (e.g. new guidelines, new practices?)				
○ Yes absolutely	○ To some extent	○ Not really	○ Not at all	

Questions 1-4: domain 1 of the gap analysis

Questions 5-6: domain 2 of the gap analysis

Questions 7-10: domain 3 of the gap analysis

Questions 10-15: domain 4 of the gap analysis

Annex VIII:

SUMMARY OF RESULTS, INTERPRETATION AND EVIDENCE SYNTHESIS

		Evidence of implementation phase			
		Gap verified	Gap rejected	Inconclusive data/unkown	Comments
VIETNAM					
Potential gaps identified in the preparatory phase					
Domain 1					
-Theory- practice gap		(✓)			Qualitative data and partly quantitative (only obstetricians surveyed) supportive of existing gap/perhaps HEIsdependent
-Knowledge translation		(✓)			Qualitative data and partly quantitative (only obstetricians surveyed) supportive of existing gap
-Tangible resources		✓			more high-quality puppets for interactive midwifery education and introduction of videos with virtual clinical cases
-Expectations perceptions gap		(✓)			No feedback mechanism and active involvement of students in shaping of curricula
-Critical thinking/clinical reasoning		(✓)			
Domain 2					
-Lack of adequate knowledge of health system		✓			Including debilities in identifying and referring high risk pregnancies
-Social determinants of health		✓			

-breastfeeding and nutritional counseling		✓			not verifiable in surveys with students and practicing midwifes and/or clients, but stated as major gap in FDGs/interviews and survey with obstetricians
-Neonatal emergencies		(✓)			
-Normal labor				✓	while qualitative data are suggestive of a major gap in labor skills (i.e. very high episiotomy rate is being attributed to lack of skills/confidence to handle normal labor) quantitative data from surveys contradict this assumption. ->Further investigation?
-Complicated labor				✓	while qualitative data are suggestive of a major gap in labor skills (i.e. very high episiotomy rate is being attributed to lack of skills/confidence to handle normal labor) quantitative data from surveys contradict this assumption. Further investigation?
-Immunization		✓			
-Palliative care		(✓)			
-Screening cervical and breast cancer		(✓)			
Mental health status assessment and psychological support		✓			
Family planning services		(✓)			Affirmed mainly by obstetricians
Domain 3					

-Communication skills		(✓)			In particular, gaps were identifiable in *communication of sensitive information* (e.g. HIV status), *communication with clients from ethnic minorities* – a finding that was discretely detectable also in the survey of clients – *and critically ill patients*.
-Respectful and patient centered care (including awareness of obstetric violence)		(✓)			No findings of apparent obstetric violence, hower free choice of companionship was provided to only 18% of the surveyed clients, while at the same time less than the half of the women felt that they were given the opportunity to express a problem or concern during the process of labor

-Gender violence		✓			
-Understanding role, rights, obligations (incl. concepts of transparency and accountability)		(✓)			
Domain 4					
-Research awareness		✓			rather low *research awareness and research familiarization* of practicing midwifes and midwifery students
-Skills for life-long learning			(✓)		Life-long learning seemed to be practiced by significant percentage of midwifes, though data suggest that midwifery students and practicing midwifes might be ill equipped for pursuing also *autonomous learning*

-Evidence based practice (including development and adherence to guidelines)		✓			
-English reading proficiency		✓			
-Computer literacy (basic computer skills)		✓			
CAMBODIA					
Potential gaps identified in the preparatory phase					
Domain 1					
-Theory- practice gap			(✓)		
-Knowledge translation		(✓)			Qualitative data indicative of a major *knowledge translation gap, t*hough not detectable in the surveyed midwifery students (response bias?)
-Tangible resources		✓			upgrading of the existing infrastructure, a common suggestion was the introduction of new teaching material such as *simulation videos* and *play roles*
-Expectations perceptions gap			(✓)		
-Critical thinking/clinical reasoning				✓	Survey of midwifes did not include related questions, FDGs/interviews did not cover this topic. Investigate further?
Domain 2					
-Lack of adequate knowledge of health system		(✓)			
-Social determinants of health		(✓)			
-Hygiene and infection control			✓		In contradiction with literature -gap closure recently? Expert opinion of HEIs needed

-Neonatal emergencies and standard newborn practices		(✓)			
-Normal labor			✓		
-Complicated labor		(✓)			
-Screening for breast and cervical cancer		(✓)			
-Usage of ultrasound/doppler in midwifery care			✓		despite the fact that 2/3 of the surveyed students were still in their prefinal study years, almost 65% affirmed being absolutely prepared while another 25% affirmed being to some extent to *use ultrasound/doppler* in midwifery practice. Expert advisory board opinion?
Domain 3					
-Communication skills		(✓)			midwifery students seem to be less prepared in *communicating as professionals with critically ill patients* and *ethnic minorities*
-Respectful and patient centered care (including awareness of obstetric violence)		(✓)			
-Understanding role, rights, obligations (incl. concepts of transparency and accountability)		(✓)			understanding of their *role, rights and obligations* as future midwifes seemed not be sufficiently developed in a substantial proportion
					of the surveyed students
Domain 4					
-Research awareness		(✓)			FDG discussion results and some key survey results are indicative of practical obstacles in achieving and ensuring high *levels research awareness*, *life-long learning* and compliance with *evidence-based practice*
-Skills for life-long learning		(✓)			
-Evidence based practice (including development and adherence to guidelines)		(✓)			

-English reading proficiency		✓			
-Computer literacy (basic computer skills)		✓			

(): in brackets stands for “partially” or “highly probable”