MINISTRY OF HEALTH - UNICEF

EVALUATION ON THE PERFORMANCE, RELEVANCE, SUSTAINABILITY, AND SCALABILITY OF VILLAGE MIDWIFERY IN VIET NAM

HA NOI 2020

Abbreviations

AMTSL	Active Management of the Third Stage of Labour
AVR	Average
CDC	Centre for Disease Control and Prevention
CHF	Commune health facility
DOH	Department of Health
EENC	Early Essential Newborn Care
EM	Ethnic minority
GSO	General Statistics Office
HI	Health insurance
ICM	International Conference on Midwifery
MCH	Maternal and child health
MDG	Millennium Development Goal
MICS	Multiple indicator cluster survey
MOF	Ministry of Finance
MOH	Ministry of Health
NGO	Non-governmental organization
NTP	National Target Programme
SBA	Skilled birth attendant
SD	Standard deviation
TBA	Traditional birth attendant
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VM	Village midwife
WHO	World Health Organization
WU	Women's Union

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I. RATIONALE

Over the past decades, Viet Nam has made great strides in advancing life-saving maternal, newborn and child care interventions. Maternal mortality reduced markedly from 233 in 1990 to 46 in 2019 over 100,000 live births. Infant mortality dropped three-fold from 44.4 per thousand to 14 per thousand in the same period [13]. Yet, these mortality figures mean that there remained 580 to 600 maternal deaths and over 10,000 neonatal deaths annually across the country. It is especially worth noting that most maternal and neonatal deaths occurred in mountainous and disadvantaged areas where ethnic minorities reside. A great deal of literature shows that maternal mortality in the Northern Mountains and Central Highlands is four to nine times higher than that in lowlands and urban areas, and among EM women four times higher than among Kinh women (316 vs. 81 over 100,000 live births)[1,2]. Like maternal mortality, neonatal mortality in rural areas is 1.5 times higher than in urban areas (13.4 per thousand vs. 8.7 per thousand), and among EM 3.5 times higher than Kinh (29 per thousand vs. 8.2 per thousand)[3]. Higher maternal and neonatal mortality in disadvantaged areas has been attributed to the dearth of prenatal, intranatal and postnatal care. The percentage of EM women receiving at least four prenatal checkups, skilled birth attendance, and postnatal care is far below their Kinh counterparts.

The main reason for maternity and newborn care in mountainous areas being far poorer than in other areas of the country is the acute shortage of health workforce[4]. The shortage of health workforce in mountainous and disadvantaged villages has left the local need for essential care unmet. Particularly among pregnant mothers and newborns, the absence of some of the most basic services at life-threatening moments has resulted in high morbidity and mortality.

The shortage of health workforce in mountainous areas has been a focus area of the State over the years. Incentives in terms of recruitment, employment, and remuneration for health workforce in disadvantaged areas have been a top priority. A number of important legal normative documents have been issued, including Decree 05/2011/ND-CP on EM-related work; Resolution 52/NQ-CP dated 15 June 2016 on promoting EM workforce period 2016-2020, with a vision to 2030; and the pending Draft Proposal recently finalized on special recruitment, training, and pipelining policies for EM civil service workforce[5]. However, considering the development of the country as a whole, certain incentives remain inadequate and unappealing to the workforce. In addition, language and customary barriers around pregnancy and childbearing are another key obstacle to the access of mountain residents to healthcare. It takes time to produce a formal cadre of EM health workers, which may end up being insufficient to meet the local need. It is also challenging to deploy Kinh health workers to these areas because they find it difficult to fit in and connect with EM people, especially those with unique cultures such as H'mong, Gie Trieng, and Raglai.

With regard to maternal and child healthcare, MOH came up with the idea of introducing EM VMs to EM-dominant areas including Northern Mountains, Central, and

[1] MOH 2010. Report on maternal and neonatal mortality in 14 provinces participating in the maternal and neonatal mortality reduction programme

[2] MOH 2015. Maternal and neonatal mortality survey in seven Northern Mountains provinces

[3] UNICEF-GSO. 2014 MICS

[4] MCH Department. 2012 report on the current status of the reproductive healthcare service network and capacity.

[5] The Government. Draft Decree on Special recruitment, training, and pipelining policies for EM civil service workforce - pending

Central Highlands back in 1992. The approach was to select and train female villagers in at least six months to become VMs, who would then deliver maternity and newborn care services locally. The training programme focused on pregnancy care, safe motherhood, basic newborn care, recognition and first aid for obstetric and neonatal complications. The review conducted at sub-national level years after this idea was put to practice illustrates the important contributions of VMs to raising awareness and changing healthcare behaviours among local residents and encouraging women to access antenatal checkups and deliver at health facilities. All led to reduced incidence of obstetric complications, maternal mortality, and neonatal mortality in the community[6]. The initiative received financial and technical assistance from international organizations such as UNICEF, UNFPA, and EU, and the private sector such as Smith Kline and Vingroup.

Despite evidence collected and consensus reached between the Government and partners on the necessity and success of this initiative, village midwifery, particularly its relevance, scalability, and sustainability, had not been thoroughly studied. Therefore, the MCH Department, with the technical and financial assistance from UNICEF Viet Nam and UNICEF South East Asia, conducted this survey and evaluation to inform recommendations for improved village midwifery. This is crucial to achieve the goal of leaving no one behind set in Agenda 2030 and as the National Assembly and the Government of Viet Nam are acutely interested in addressing EM-related shortcomings fundamentally. Such interest is reflected in Resolution 88/2019/QH14 dated 18 November 2019 of the 14th National Assembly approving the Master Project to promote the socio-economic development of EM and mountainous areas period 2021-2030 with a total budget of around USD 9 billion, including close to USD 6 billion in phase one (2021-2025).

[6] MCH Department, MOH. 25-year review report on the network of VMs in Viet Nam, 2018

II. OBJECTIVES

1. Evaluate the performance of VMs in maternity and newborn care in mountainous areas

2. Evaluate the knowledge and practice of VMs in Ha Giang, Dien Bien, and Kon Tum provinces

3. Evaluate the relevance, sustainability, and scalability of village midwifery in EM areas.

Based on the findings, recommendations shall be provided to MOH and the Government on how to make village midwifery more viable and effective through their leadership.

III. LITERATURE REVIEW

3.1. Concepts pertinent to birth attendants

Traditional midwife is a term coined centuries ago to refer to those involved in birth attendance and provision of other care to women. They were typically local women with limited educational background. Their local presence and meaningful work made them known and respected by all community members. They would be on call around the clock to assist any delivery at the request of families[7].

Traditional midwifery and its value were viewed differently depending on the era, the country, and socio-economic conditions. Yet, it is agreed that birth attendants have been there since the dawn of humanity with their decisive role to play in assisting safe deliveries and securing the life of mothers and newborns. With such undertakings, the skills of birth attendants have gradually improved. From mammal-like self-assisted deliveries in the Stone Age, birth attendance has now become a trained and independent science-based profession in the social structure and healthcare network. It was a long process in the history of humanity, and though respected and appreciated by community members, traditional midwives did not have a role to play in society. Without schooling and professional training, midwives had to learn by doing and face numerous challenges from the ages of religious practices and sorcery through to the end of the Middle Ages[8].

Traditional birth attendants (TBAs): The term 'Traditional birth attendants' (TBAs) has been adopted by WHO (1990, 1992) replacing 'Traditional midwives' to also mean those who assist women before, during, and after their delivery. TBAs are typically illiterate and untrained women. TBAs learn from their seniors and by doing. Their crucial role in ensuring the access of mothers to pregnancy and delivery services is widely accepted and respected. Therefore, it is recommended by WHO to have a training programme in place for TBAs which equip them with adequate skills needed to deliver community-based services[9]

VMs in Viet Nam: Although midwifery training in Viet Nam started back in 1930 at the Indochina Midwifery School, followed by Ha Noi Midwifery School and the National Midwifery School in Sai Gon, the number and scope of training programmes were small. After the country reunified in 1975, intermediate schools were established to provide midwifery training at intermediate and elementary levels across the country. Yet, they failed to keep up with the need for birth attendance. Moreover, socio-cultural features, especially the EM population, in many places prevented women from accessing intranatal care. While maternity and newborn care services had been greatly improved, the access to

[7] Piper, C. J. (1997). Is there a place for traditional midwives in the provision of community-health services? Annals of Tropical Medicine And Parasitology, 91(3), 237–246. doi:10.1080/00034989761094)

[8] Najla Barnawi, Solina Richter and Farida Habib. Midwifery and Midwives: A Historical Analysis. Journal of Research in Nursing and Midwifery (JRNM) (ISSN: 2315-568x) Vol. 2(8) pp. 114-121, December, 2013

[9] The WHO Reproductive Health Library. WHO recommendation on partnership with Traditional Birth Attendants (TBAs) 31 May 2015

the said services among EM women in mountainous and remote areas remained limited. Thus, their maternal and neonatal mortality tended to be three to four times higher than national averages[10,11]. For this very reason, the initiative of training VMs for EM areas was born. These are selected young EM women who have completed at least primary education and are trained on pregnancy care, safe motherhood, essential newborn care, and recognition and first aid for obstetric and neonatal complications. The network of EM midwives is the extended arm of the health sector for maternal and child healthcare and primary healthcare for EM. It contributes to bringing social welfare policies of the Party and the State closer to EM and those living in remote and disadvantaged areas[12].

3.2. TBAs within WHO's activities:

In most developing countries before the 50s, almost all deliveries were assisted by TBAs. Learning from doing and no professional training, TBAs failed to manage many complications and deaths which should have been preventable with training. In that context, since its establishment in 1948, WHO has set midwifery training a top priority in its strategies and action plans. Over the past seven decades, trained birth attendants have proven their decisive role in making deliveries safe and delivering other healthcare services. Aside from training, WHO has set up expert groups to provide technical assistance and develop universal as well as regionally and locally tailored technical guides. Another important initiative is healthcare services provided by TBAs for each and every resident and community. The multidisciplinary approach of WHO to primary healthcare from the 70s has also been applied to service user-centric midwifery. Thus, midwifery is community-oriented with priority given to those living in disadvantaged areas and most in need[13]

Implementing this strategy and approach, WHO has rolled out a number of activities to strengthen TBAs' knowledge and skills. Based on the need of many countries in the world expressed at the Midwifery Education Conference held in Kobe, Japan (1990), WHO, ICM, and UNICEF finalized the contents of midwifery training focusing on the most fundamental skills to manage life-threating complications in the most optimal setting [TBA][14].

Followed were a series of materials published in 1996 and updated in 2001-2002 in line with WHO's guide on managing complications in pregnancy and childbirth[15]. The goal of publishing these training programmes was to provide updated, evidence-based guidelines on managing life-threatening conditions as well as complications.

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[10] MOH 2010. Report on maternal and neonatal mortality in 14 provinces participating in the maternal and neonatal mortality reduction programme

[11] MOH 2015. Maternal and neonatal mortality survey in seven Northern Mountains provinces

[12] MCH Department, MOH. 25-year review report on the network of VMs in Viet Nam, 2018

[13] WHO. Nursing and Midwifery in the History of WHO 1948 – 2017

[14] WHO and UNICEF. Pre-Congress Workshop on Midwifery Education: Action for Safe Motherhood, held in Kobe, Japan in 1990 under the joint sponsorship of WHO, the International Confederation of Midwives (ICM) and the UNICEF

[15] WHO. Managing complications in pregnancy and childbirth: A guide for midwives and doctors

Midwifery training on how to provide care and management of conditions and complications has been proven to improve the quality of care before, during, and after delivery while reducing maternal and neonatal morbidity and mortality. However, a major problem faced by most low-income countries in the world is the poor population and those living in remote areas with poor connectivity finding it difficult to access services, where most maternal and neonatal mortality occurs. The evidence of how important TBAs are is clear, but the key is that they must be based as close to the local population as possible. This is the main driver for the community-based network of TBAs to be established, strengthened, and expanded to provide care to all pregnant and childbearing women.

The First International Forum on Midwifery in the Community was held in Tunisia in 2006 with the representation of 22 countries across four regions (Asia, Africa, Middle East, and Latin America/Caribbean). The goal of the forum was to review and select midwifery knowledge, skills, and practices from countries where it had been adopted to provide suitable guidance for low-income countries which wished to apply, strengthen, and upscale life-saving community-based midwifery effectively. At the forum, confidence was also expressed in the role of community-based midwifery in preventing complications and deaths, and improving maternal and newborn health. The forum urged countries, especially those with higher maternal mortality, to have relevant strategies and training plans in place to make use of community-based midwifery and create enabling environment for the network of TBAs to reach all mothers and newborns, ensuring all pregnant women and deliveries were safe [16].

3.3. Traditional midwifery in the world

Though referred to in different ways as mentioned above (community-based birth attendants, TBAs, etc.) and respected by the community for their work, birth attendance was neither considered a profession nor attached as much importance to as nursing before the era of modern obstetric practices. Perhaps the reason was they were not formally trained and only viewed as childbirth assistants working for poor communities. Another reason was the gender discrimination against women over the long course of history. In the early 19th century, many medical pioneers in the UK realized how much of a mistake it was and tried to advocate for midwifery but all failed due to customary and religious barriers as well as resistance from medical practitioners themselves. Even at the beginning of the modern era, midwifery was closely associated with religious practices in many places across the world and only served the poor population. At the end of the 1800s, the Queen of Thailand opened the first training course for midwives but only to provide care to the poor. The same happened in Chile and other Latin American countries[17].

At the First International Forum on Midwifery in the Community held in Tunisia, various countries shared their success stories in the deployment of community-based birth

[16] UNFPA, ICM, WHO in collaboration with SIDA (Sweden), IMMPACT & FCI. Midwifery in the community: lessons learned - International forum on training and scaling-up midwives and others with midwifery skills. The 1st International Forum on Midwifery in the Community 11- 15 December 2006, Hammamet, Tunisia

[17] The State of the World's Midwifery 2011

attendants to achieve lower maternal and neonatal mortality. The success was not only exclusive to developing countries (Malaysia, Sri Lanka, and India) but also witnessed in developed ones like Sweden[18].

Although the primary function of community-based birth attendants was to assist deliveries and provide postnatal maternity and newborn care, most birth attendants in developing countries worked in areas where basic healthcare services were difficult to access, so they double-hatted providing other healthcare services for the general community. A study by Staugaard in 1991 found that community-based birth attendants play a central role in providing information on sexual behaviours, safe sex, and HIV/AIDS prevention to young people, thereby contributing to social stability[19].

Community-based attendants in other countries also provide care to children and show parents how to manage common diseases such as acute respiratory infections and diarrhea. In other regions, community-based birth attendants contribute to the prevention of other communicable diseases like malaria or sexually transmitted infections[20,21,22].

To undertake such work, community-based birth attendants should be trained with long-term strategies in place, especially in countries where there seems to be no end in sight to universal coverage of basic care. The success story of the three-year training programme in Matlab, Bangladesh may be difficult to replicate to other areas with challenges remaining, including political will[23].

There are many approaches to community-based midwifery training, including two main ones that most low- and middle-income countries which have adopted them found effective. One involves training those who are experienced to some extent and trusted by the community, and the other is training novices who are educated to a certain extent. A lesson learned from Sudan is on-site training to improve knowledge and skills with flexible training duration from a couple of days to one year based on the participants' starting point. The training content focused on prenatal care, recognition of risks, safe delivery, and prompt referral. Although this training approach did allow best practices of midwifery to be fully conveyed, with the resources available, the network contributed to safer pregnancy and delivery[24]

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[18] UNFPA, ICM, WHO in collaboration with SIDA (Sweden), IMMPACT & FCI. Midwifery in the community: lessons learned - International forum on training and scaling-up midwives and others with midwifery skills. The 1st International Forum on Midwifery in the Community 11- 15 December 2006, Hammamet, Tunisia

[19] Staugaard, F. (1991). Role of traditional health workers in prevention and control of AIDS in Africa. Trop Doct. 1991 Jan;21(1):22-4

[20] Frankenberg E, Buttenheim A, Sikoki B, Suriastini W. Do Women Increase Their Use of Reproductive Health Care When It Becomes More Available? Evidence from Indonesia. Studies in family planning. 2009;40(1):27-38.

[21] Greenwood, A. M., et al. (1990). Evaluation of a primary health care programme in The Gambia. I. The impact of trained traditional birth attendants on the outcome of pregnancy. Journal of Tropical Medicine and Hygiene, 1990 Feb;93(1):58-66)

[22] Jaffre, Y. & Prual, A. (1994). Midwives in Niger: an uncomfortable position between social behaviour and health care constraints. Social Science and Medicine, Volume 38, Issue 8, April 1994, pages 1069-1073)

[23] Hlady, W. G., Fauveau, V. A., Khan, S. A., Chakraborty, J. & Yunus, M. (1992). Utilisation of medically trained birth attendants in rural Bangladesh. Asia Pac J Public Health 1992-1993;6(1):18-24

[24] Tremlett, G. (1991). Working with traditional midwives. In Diseases of Children in the Sub-Tropics and Tropics, 4th Edn, ed. Stan®eld, J. P. pp. 94- 95)

To date, some research has been conducted to evaluate the two said training approaches. Despite the lack of scientific evidence to demonstrate the role, performance, and quality of service provided by trained TBAs/community-based birth attendants, a conclusion has been reached on their important contribution to maternity and newborn care.

Reviewing literature on the effectiveness of community-based midwifery as an intervention, Byrne and Vieira concluded that every country has different strategies to make it work and existing literature is not enough to confirm which one or which mix of strategies or policies works best. Moreover, midwifery interventions were typically integrated into safe motherhood programmes, so it is difficult to conclude that the improved health outcomes as well as reduced maternal and neonatal mortality were indeed as a result of midwifery interventions[25,26]. Different studies had different takes on the use of community-based midwives. While research in Indonesia and Myanmar found an increasing need for services provided by TBAs and an increasing number of deliveries assisted by TBAs[27,28] the one in Bangladesh and Pakistan indicated the trend towards using services provided by health facilities and willingness to accept modern obstetric practices[29,30].

The most notable impact made by community-based midwives was promoting prenatal and postnatal maternity care. TBAs in both Indonesia and Pakistan reported a greater number of women seeking prenatal checkups. More importantly, the number of TBAs providing in-home postnatal and newborn care increased significantly.

There are pros and cons to each training approach. The pro of training those with prior experience is that the participants may exchange experiences and find it easier to learn the practices that they are familiar with. However, the con is that it is difficult to change entrenched harmful maternity and newborn care practices such as food taboos during pregnancy, neonatal resuscitation, or unhygienic cord care. The approach of recruiting and equipping local women who are educated to a certain extent with basic skills so that they would go back and serve their own communities struggles with recruitment. Moreover, as someone who are educated to a certain extent and properly trained on midwifery, they expect to assume a certain position or function in the healthcare system - a problem difficult to address in the communities of many developing countries.

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[25] Byrne A, Morgan A. How the integration of traditional birth attendants with formal health systems can increase skilled birth attendance. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics. 2011;115(2):127-34

[26] Vieira C, Portela A, Miller T, Coast E, Leone T, Marston C. Increasing the use of skilled health personnel where traditional birth attendants were providers of childbirth care: a systematic review. PloS one. 2012;7(10):e47946

[27] Frankenberg E, Buttenheim A, Sikoki B, Suriastini W. Do Women Increase Their Use of Reproductive Health Care When It Becomes More Available? Evidence from Indonesia. Studies in family planning. 2009;40(1):27-38

[28] Mullany LC, Lee TJ, Yone L, Lee CI, Teela KC, Paw P, et al. Impact of community-based maternal health workers on coverage of essential maternal health interventions among internally displaced communities in eastern Burma: the MOM project. PLoS medicine. 2010;7(8):e1000317

[29] Fauveau V, Stewart K, Khan SA, Chakraborty J. Effect on mortality of community-based maternity- care programme in rural Bangladesh. Lancet (London, England). 1991;338(8776):1183-6.

[30] Purdin S, Khan T, Saucier R. Reducing maternal mortality among Afghan refugees in Pakistan. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics. 2009;105(1):82-5

3.4. Difficulties and challenges facing the training and utilization of TBAs

Community acceptance: Not all trained TBAs end up being successful in their communities. Their practices may be right but not aligned with local cultures, which is a challenge with less educated population. A study by Niger (1994) found that the reason why women rarely use midwifery care and maternal mortality remains high is their unique customs and unwillingness to accept maternity care provided by TBAs. The conflict between what has been trained and cultural norms should be addressed through communications and step by step resolved to create a change[31].

***Human resources*:** It is an immense challenge to recruit and train human resources for mountainous areas with poor connectivity. Few people are willing to sacrifice to work in such settings, knowing that the services they are trained to provide as well as they themselves may not be accepted by targeted communities. Training locally based human resources is not an easy way out, either. Candidates must at least be educated to a certain extent, but they are hard to find in many places.

Legality and placement in the healthcare system: A controversy in many countries where TBAs are working is what is their place in the healthcare system? What their future is going to be like? Whether they will be trained further to become health workers and be placed in the formal network of service providers, or only treated as a temporary measure to meet the need of certain population groups which the formal network has yet to cover? It is difficult to answer these questions and impossible to have a one-size-fits-all option for all countries. The ongoing shortage of health workforce while formal services fail to keep up with population growth in many countries means that the use of TBAs, though not trained properly, is non-negotiable. Despite common challenges in most developing countries such as service accessibility, public acceptance, and cultural barriers, it is still necessary to use local health workforce[32]. Therefore, it is recommended by WHO to continue and enable community-based midwifery. The key is to have appropriate training programmes in place to promote TBAs into skilled birth attendants, who are capable of providing quality services that can truly improve the health outcomes of mothers and newborns. Governments should have clear policies in place on the role and position of TBAs in the formal healthcare system and enable them to work most effectively. WHO also urges more research and evaluation be done on the performance of TBAs to provide meaningful scientific evidence which informs the strategic utilization of this workforce[33].

3.5. Village midwifery in Viet Nam

3.5.1. Background

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[31] Jaffre, Y. & Prual, A. (1994). Midwives in Niger: an uncomfortable position between social behaviour and health care constraints. Social Science and Medicine, Volume 38, Issue 8, April 1994, pages 1069-1073)=

[32] Piper, C. J. (1997). Is there a place for traditional midwives in the provision of community-health services? Annals of Tropical Medicine And Parasitology, 91(3), 237–246. doi:10.1080/00034989761094)

[33] The WHO Reproductive Health Library. WHO recommendation on partnership with Traditional Birth Attendants (TBAs) 31 May 2015

As the healthcare network was being restructured and refined after the country reunified, maternity and child care was set a top priority by the Government with the establishment of the Department of Maternal and Child Health Protection/Family Planning in 1991. Facing the high maternal mortality rate in Viet Nam back then, the Department of Maternal and Child Health Protection/Family Planning maintained that one of the focus areas was to reduce maternal mortality through improving health outcomes and encouraged research to be done on the state of maternal and child health to generate evidence on effective interventions.

Several studies conducted between 1990 and 1995 found that in mountainous districts of Central coast provinces (Nghe An, Ha Tinh, Quang Binh, Quang Tri, Binh Dinh), the maternal mortality rate ranged from 400 to 900 over 100,000 live births. A survey on mountainous districts of Song Be province (now part of Binh Phuoc province) showed that maternal mortality among the S'tieng could be up to 1,018 over 100,000 live births.

The said studies attributed the reduced access to and use of health services among mountain residents to cultural differences such as languages, customs, and religions concerning pregnancy and delivery. It was also challenging for Kinh health workers to fit in and connect with EM people, especially those with unique cultures such as H'mong, Gie Trieng, and Raglai. To reach EM women and children living in these remote areas, it was important to have locally based EM health workers who spoke the same languages and shared the same customs as local residents and were professionally trained. In that context, in the early 90s, Tu Du Hospital came up with the idea of training EM village midwives (VMs) for disadvantaged areas. VMs were sourced from EM communities to share the same cultures and customs as the locals and find it easy to connect with the locals through advocacy and provision of safe motherhood services in native tongues at village level. With the knowledge, skills, and practices equipped at hospitals, VMs could provide maternity care, assist safe delivery, and recognize obstetric complications[34].

3.5.2. VM training and utilization programmes

Training of 500 VMs by Tu Du Hospital: Understanding the difficulties of providing maternity and child care in remote and EM areas, in 1992, Tu Du Hospital started piloting VM training in Lam Dong and Ninh Thuan provinces with the first 37 participants selected by provincial WUs from the ethnic groups of Nung, Mo Nong, Tay, Khmer, S'tieng, etc. Between 1999 and 2001, four training courses were organized for Bu Dang and Loc Ninh districts, Binh Phuoc province with 113 participants. From its initial success, the hospital developed it into the *programme of training 500 EM VMs*, funded by Glaxo Smith Kline (GSK) and municipal People's Committees. The participants were EM women with *rather low educational attainment, some of whom had only recently learned to read and write Vietnamese*, were selected by Tu Du Hospital from villages with the

[34] MCH Department, MOH. 25-year review report on the network of VMs in Viet Nam, 2018

support of provincial WUs and Reproductive Healthcare Centres. *The training at Tu Du Hospital took six months* before the participants could return to their communities and work under the technical supervision of the hospital. The training focused on prenatal, intranatal, and postnatal care for mothers and newborns, family planning counselling, and awareness raising on primary care, maternity care, and child care, among others. The primary training method was training on job, focusing on practice and skills training. The programme produced 720 midwives in total for 20 beneficiary provinces in the Central, the Central Highlands, and the South. Out of 54 ethnic groups, 38 were represented during these training courses with the J'rai constituting the largest group of participants.

After the training, all VMs returned to their communities. Tu Du Hospital made great efforts to sustain their midwifery practices at community level by providing midwives with in-kind or cash incentives based on their performance of service delivery in the communities. The role and performance of VMs in providing healthcare services in the communities were recognized by local residents, village elders/leaders, local governments, and health sector leaders where they worked.

Training of midwives funded by UNFPA: In 2008, funded by UNFPA, MCH Department started working with Tu Du Hospital to pilot **EM midwifery** in Ha Giang, Ninh Thuan, and Kon Tum provinces[35]. Selected participants were *young EM women, most of whom had completed grade five or higher* and equipped with basic skills on obstetric care and primary management of obstetric and neonatal complications. *For non-village health workers, the training lasted 18 months, including nine months of theories, three months of village health curriculum, and 6 months of community-based practice under the close supervision* of Tu Du Hospital and the National Hospital of Obstetrics and Gynecology. For village health workers, the training duration was three months shorter.

In total, 63 VMs were generated from the programme and returned to their villages in three provinces. VMs were placed under the regular supervision of local healthcare providers, particularly CHFs and highly appreciated for their provision of primary care and maternity and child care.

Training funded by other international organizations: Based on the results and lessons learned from the two programmes above, other programmes and projects funded by the Government such as the reproductive healthcare NTP as well as international organizations, including the Government of the Netherlands, EU, UNICEF, Pathfinder International, and World Vision also began delivering training for VMs in Northern and Central provinces using the standard curriculum of MOH over the course of 6 months, focusing on ensuring the safety of mothers before, during, and after delivery.

3.5.3. Research and evaluation on the performance of VMs

[35] MCH Department - Public Health University. The pilot of training and using EM midwives for 18 months in Ha Giang, Ninh Thuan, and Kon Tum, 2011.

Village midwifery has been an area of interest among policymakers, so research and evaluation on the performance of VMs are encouraged to provide scientific data and inform on how to implement programmes effectively. In general, study findings on provinces with VMs showed many positive signs of their role in providing community-based maternity and child care. The research conducted by Tran Dinh Du concluded that village midwifery suits the cultures and customs of Ha Giang province perfectly. VMs here were capable of performing almost all functions and tasks required by MOH and make an important contribution to maternity and child care in EM areas[36] [8]. The same conclusion was reached by Bui Thi Mai Huong et al. in a research on Ninh Thuan province. The research demonstrated the role and necessity of VMs for the community. They were always on call, advocating for maternity and child care, including the age of marriage, contraceptives using posters, etc. VMs have done well at pregnancy management, follow-up, and postnatal maternity and newborn care per MOH's guidelines. Community members were satisfied, hoping that the practices of VMs be sustained for MCH care.[37].

The end-of-line report developed by the Public Health University on EM village midwifery as an intervention in Ninh Thuan, Kon Tum, Cao Bang, and Ha Giang provinces in 2016 provides a comprehensive evaluation of the knowledge and practices of VMs, as well as advantages and disadvantages they faced during the pilot. As shown in the research, after the intervention was implemented from 2013 to 2016, the basic knowledge of attendance of natural childbirth; Early Essential Newborn Care (EENC); Active Management of the Third Stage of Labour (AMTSL); separation, delivery, and examination of the placenta; neonatal resuscitation as well as lifesavers such as management of high-risk pregnancy, management of pre-eclampsia/eclampsia; management of intranatal risks (uterine rupture), and management of postnatal risks improved substantially among VMs. Their real-life application of the acquired knowledge also proved effective with more prenatal care delivered as in more referrals and more home visits within 42 days post delivery[38].

Combined with qualitative data, this end-of-line evaluation identified some of the challenges faced when sustaining midwifery services, including the lack of support from relevant line ministries and little funding for midwifery services. Based on the data collected, the evaluation team also provided practical recommendations on how to maintain a performing network of VMs; put issued policies to practice so that VMs can benefit from remuneration as prescribed by the State; and upgrade the training programmes to better suit the level of capacity as well as daily work of VMs.

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[36] Nguyen Dinh Du. Review on the 18-month village midwifes training for EM in Ha Giang province; the Second National Conference on Sexual and Reproductive Health: From Evidence to Policy; MOH - UNFPA - Public Health University 2014; p. 24

[37] Bui Thi Mai Huong, Dang Duc Phu, Nguyen Tuan Hung. Improved reproductive health care thanks to VMs perceived by EM women aged 15-49 in Ninh Thuan province. Preventive Health Journal, Volume 28, Issue 1 2018

[38] MCH Department - Public Health University. End-of-line survey on the intervention of EM VMs in Ninh Thuan, Kon Tum, Cao Bang, and Ha Giang provinces, 2016

3.5.4. Enabling environment

MOH has developed and issued documents to recognize VMs as a type of village health workers. Several provinces have issued and implemented recruitment and remuneration policies for VMs. The model of training and using VMs has been funded by the central government, local governments, and development partners. Key normative documents include:

- Decision 75/2009/QD-TTg dated 11 May 2009 by the Prime Minister on allowances for village health workers;

- Joint Circular 147/2007/TTLT-BTC-BYT dated 12 December 2007 by MOF and MOH guiding budget management and expenditure for the NTP on prevention of social diseases, epidemic threats, and HIV/AIDS period 2006-2010, which allows for providing a monthly allowance of VND50,000 (and VND200,000 between 2011 and 2015) to trained VMs who are not covered as village health workers under the Prime Minister's Decision 75/QD-BYT and working in mountainous, remote, and island areas;

- The Population and Reproductive Health Strategy period 2011-2020, approved by the Prime Minister in Decision 2013/QD-TTg dated 14 November 2011, wherein village midwifery services were determined a health workforce solution in EM and mountainous areas which could help Viet Nam achieve MDGs 4 and 5 on reduced maternal and child mortality and provide cultural relevance for safe motherhood services in particular and reproductive health services in general;

- The national guideline on reproductive health services issued together with Decision 4128/QD-BYT dated 29 July 2016 by Minister of Health, which allows VMs to assist home deliveries in cases of natural childbirth where women cannot make it to health facilities in time, or insistence on home deliveries despite being persuaded to deliver at health facilities.

- Basic training curriculum and materials for VMs issued together with Decision 2847/QD-BYT dated 15 August 2012; Advanced training curriculum and materials for VMs issued together with Decision 2531/QD-BYT dated 17 July 2013; Maternal and Child Healthcare Guideline for VMs issued together with Decision 5702/QD-BYT dated 31 December 2015; Technical training contents for VMs issued together with Decision 3724 dated 26 August 2020.

IV. SUBJECTS AND METHODOLOGY OF EVALUATION

4.1. Subjects of evaluation

- All VMs working in 26 provinces across the country.
- People in charge and relevant partners of village midwifery services.

- Governmental organizations, international organizations, and NGOs which support or have activities pertinent to VMs.

4.2. Methodology of evaluation: Cross-sectional survey on the 2017-2019 period combined with quantitative and qualitative methods.

Quantitative method: Quantitative data were collected by:

- Sending and collecting self-administered questionnaires to CDCs in 26 provinces where village midwifery services were available by post;

- Interviewing the subjects with attention paid to all VMs who had been evaluated twice before (in 2012 and 2016 surveys) for their knowledge and practice. Data were directly collected through:

o Theoretical test: self-administered questionnaires that test general knowledge on maternal and neonatal care in Dien Bien, Ha Giang, and Kon Tum provinces.

o Practice observation: to evaluate basic skills (antenatal checkup and emergency management) of VMs in the three said provinces.

- Reviewing secondary data: including reports and studies which evaluated the role of VMs in providing maternity and newborn care, legal normative documents, and training materials for VMs

Qualitative method: In-depth interviews and group discussions were conducted with the following respondents:

In-depth interview:

- At central level: MOH and its partners working on village midwifery services - Annex 5;

- At provincial level: DOHs, CDCs, and WUs - Annex 6;

- Representatives of international organizations or independent experts experienced in the deployment and training of VMs;

- Provincial leaders in charge of culture and social affairs

Group discussion:

- District and commune officers in charge of village midwifery - *Annex 7;*

- VMs - *Annex 8.*

4.3. Scope of evaluation:

4.3.1. Contents: Issues surrounding the performance of functions and tasks of VMs in targeted areas, including:

- Services provided by VMs for maternity and newborn care in the area.

- Knowledge, skills, and practice of VMs compared to requirements of MOH.

- Relevance, sustainability, and scalability of village midwifery in EM areas (SWOT analysis).

4.3.2. Locations: All provinces with village midwifery services available, including:

- General survey: 26 provinces with village midwifery services available

- In-depth evaluation: 03 provinces, i.e., Dien Bien, Ha Giang, and Kon Tum provinces which meet the following criteria:

- Representation of two geographical areas with village midwifery services available: Northern mountains and Central Highlands
- Disadvantaged provinces with a high population of EM
- Prevalence of home deliveries
- Availability of village midwifery services

4.3.3. Data collection:

Quantitative data:

- *Self-administered questionnaires collected by post*. Respondents included those in charge of maternity and child care at CDCs of 26 provinces with village midwifery service available:

- Network and performance of technical tasks by VMs - *Annex 1*
- Information on the training process and routine work of VMs. Difficulties encountered during work and suggestions - *Annex 2*

- *Direct collection of data using self-administered questionnaires and practice observations*. Respondents included selected VMs from Dien Bien, Ha Giang, and Kon Tum provinces (two districts per province, two communes per district).

- Information on the village midwife: Personal information; Current work; Knowledge on maternity and newborn care - Annex 3
- Observation to evaluate the practices of antenatal checkup and emergency management of postpartum bleeding - *Annex 4*

- *Review of secondary data*

- Research and evaluation on village midwifery
- Materials of 03 training programmes for VMs and evaluation reports on these programmes
- Materials and reports of workshops and reviews of programmes/projects
- Legal normative documents on functions, roles, and tasks of VMs

Questionnaires used in the quantitative survey

Collection method	Subjects	Questionnaire
Self-administered questionnaires collected by post	CDC officers in charge of maternity and child care in 26 provinces	Annex 1.1 và 1.2
Self-administered questionnaires collected in person - Services provided by VMs - Knowledge - Self-evaluation - Case study exercise	VMs in the three provinces (20-30 VMs per province, making it 70-90 midwives in total, tentatively)	Annex 1.4: - Section 1.1 and 1.2 - Section 3 - Section 4 - Section 5
Practice observation: Checklist	VMs in the three provinces	Annex 1.5

Qualitative data: Collected through in-depth interviews and group discussions, including:

- Views on the performance of the functions among VMs assigned by MOH? Local relevance? Any adjustment needed to the local context?

- Local network and activities of VMs: local demand, number of midwives, and their actual activities.

- Roles of VMs in the provision of maternity and newborn care? Whether the services provided by VMs actually necessary locally? Which areas are and are not in need of VMs? Why? (Distance and time taken to get to the district hospital (in km and minutes/hours, respectively).

- Cultural and customary factors influencing the demand for VMs;

- Changes in the community's knowledge and practice on maternity and child care over the years (e.g., delivery at health facilities) and changes in infrastructures (roads) affecting the demand for VMs. Whether the vision to 2021-2025 needs adjusting?

- Advantages and disadvantages in the provision of village midwifery services?

- Advantages: Whether they are accepted by the community? Any support from the local government?
- Disadvantages: Faced by VMs? Faced by the local government?
- Technical supervision and support from the commune and district health facilities
- Continued learning opportunities

- Whether the network of VMs will be sustained?

- No: Why? Alternative solutions?
- Yes: On what conditions and with what kind of support? Suggestions on how to improve the quality and performance of the network of VMs?

- Whether any activity related to VMs is included in the next annual work plan?

Summary of subjects and quantity of in-depth interviews and group discussions:

Subjects	In-depth interview	Group discussion	Questionnaire
At central level and with partners	6 interviews with: MCH Department, Department of Personnel and Organization, UNFPA, UNICEF, WHO, Samaritan	-----	Annex 1.6
At provincial level	3 interviews per province with: - MOH leader - CDC leader - WU leader/ Total out of three provinces: 9 in-depth interviews		Annex 1.7
At district/commune level	---------	Per district: 1 group of district and commune health workers: 5-6 people Per province: 2 groups: 10-12 people 3 provinces: 6 groups (30-36 people)	Annex 1.8
VMs	---------	1 group of VMs per district: 5-6 people/group Per province: 2 groups: 10-12 people 3 provinces: 6 groups (30-36 people)	Annex 1.9
Total	**16**	**12 groups (60-72 people)**	

4.4. Data analysis and processing:

- Quantitative data were analyzed and processed using Epi-Info and SPSS software. Qualitative data were analyzed by objective-based topic.

- A number of case studies were described and analyzed on the contribution and success achieved by VMs in saving the lives of mothers and newborns.

4.5. Research ethics

- Consent was obtained from the leadership of MOH, provincial governments, partners, and subjects of research.

- The survey provides scientific evidence which is used to develop plans to improve

the services delivered by VMs and not for any other purposes.

- Evaluation on the practice of VMs was conducted in hypothetical situations and using models. The evaluator used a checklist to observe and evaluate the practice of the midwife, thus not posing any danger to those involved.

V. RESEARCH RESULTS AND DISCUSSIONS

The section on research results provides a comprehensive analysis on data from self-administered questionnaires submitted by post from 26 provinces with village midwifery services available, self-administered questionnaires collected in person, and field observations in Ha Giang, Dien Bien, and Kon Tum provinces.

5.1. Overview of village midwifery in 26 provinces

Table 1. Overview of surveyed provinces (as of 2019, n=26 provinces)

Indicator	2019
No. of women aged 15-49	**7,203,924**
Provinces with the least and the most	13,005 – 861,523 (Thai Nguyen, Thanh Hoa)
% of EM women aged 15-49	**Overall percentage: 49.1%**
Provinces with the smallest and greatest proportion	2.2- 88% (Binh Dinh, Ha Giang)
Total no. of communes	**3,726**
No. of communes with home deliveries	1,386
% of communes with home deliveries	37.2%
In which home deliveries ≥ 20%	702 (50.6%)
Total no. of villages in advantaged areas	**12,939**
Provinces with the least and the most	27 – 1,708 (*Hue - Son La*)
No. of villages in need of VMs	**7,221**
Available	2,632
Not available	4,639

Questionnaires were originally sent to 27 provinces with village midwifery services available, but the services of VMs were no longer provided in Binh Thuan province leading to its not returning the results. The data analyzed belong to 26 provinces.

The number of women at reproductive age in 26 surveyed provinces in 2019 was 7,203,924, accounting for nearly 30% of the national total[39]. EM women in 26 provinces made up 49.1 per cent with the highest being in Hà Giang (88 per cent), which is in line with the province selection criteria set at the beginning. The highest proportion of EM women in Ha Giang explains why it was selected for the first pilot in the North.

Out of 3,726 communes of 26 provinces, 1,386 had home deliveries still (37.2 per cent), over half of which had home deliveries accounting for more than 20% of the deliveries. It shows that despite ongoing and active advocacy for delivery at health facilities among women, the impact was modest in disadvantaged areas where many EM women reside. Local customs, practices, geographical disadvantages, limited access to

[39] GSO. Population and Housing Census 2019

healthcare services, etc. were the primary reasons confirmed by many studies. This is also evidence for continued discussions on assistance provided for home deliveries and the role of VMs.

Table 2. Overview of VMs (as of 2019 in 26 provinces)

Indicator	No. of midwives	Notes
Total no. of VMs with ≥ 6 months of training	2,632	
No. of active VMs with ≥ 6 months of training	1,702 (64.7%)	
Province with the least	*3*	*Phu Yen*
Province with the most	*203*	*Dien Bien*
No. of VMs receiving allowances as village health workers	1,142 (67%)	
Province with the least (%)	*3 (28%)*	*Phu Yen, Nghe An*
Province with the most (%)	*203 (100%)*	*Dien Bien*
No. of VMs in need of further standardized training	784 (29.8%)	
Province with the least	*7*	*Hue, Nghe An*
Province with the most	*371*	*Thanh Hoa*
No. of VMs in need of induction training in the next 5 years	3,348	
Province with the least	*10*	*Phu Yen, Binh Dinh*
Province with the most	*588*	*Ha Giang*

In 26 provinces, 2,632 VMs have received 6 months of training or more as required by MOH; however, only 1,702 of those (or 64.7 per cent) are still active. It is truly a waste of training human resources for the community. The main reason is perhaps that midwives did not receive monthly allowances with data showing that only 67% of VMs are given monthly allowances as village health workers (1,142/1,702). It is indeed a huge barrier to their services when the midwives themselves have to provide for their own families.

Nearly 30 per cent (783) of the VMs were considered by provinces as in need of standardized retraining with the largest number being in Thanh Hoa province (371 midwives). The main reason for standardized retraining was that many VMs though having been trained under programmes/projects in line with the requirements set by MOH were not certificated per prevailing regulations on basic professional training. In addition, some VMs have not been provided with updated training on the National Reproductive Healthcare Guideline issued by MOH in 2016 and are in need of updated training. Moreover, a large number of midwives (3,348) were suggested by provinces as in need of induction training, demonstrating a reality that they are still very much in need of village midwifery services, especially Northern mountainous provinces like Ha Giang which wishes to train an addition of 588 VMs in the next five years.

Table 3. Village midwifery and prenatal care (n=26 provinces)

Indicator	2019
Total no. of women receiving antenatal checkups	42,441

Indicator	2019
(Least - Most)	*(35 – 14,770) (Phu Yen, Dak Lak)*
Total no. of pregnancy care counselling sessions	26,852 (0 – 6,247)
Total no. of at-risk pregnant women identified	2,210 (0 – 495)
Total no. of pregnant women persuaded to receive antenatal checkups and deliver at health facilities	5,121 (0 – 1354)
Total no. of mothers with risks identified during labour	1,341 (0 – 447)
No. of mothers with signs of labour taken to health facilities	2,073 (0 – 447)

Data in 2019 show that VMs provided antenatal checkups or persuaded a large number of women to receive antenatal checkups and deliver at health facilities (42,441 and 5,121). Even the least efficient ones - midwives in Phu Yen provided antenatal checkups to 35 women while the most efficient was midwives in Da Lak, who provided antenatal checkups to 14,470 women. It is an important contribution of VMs as antenatal checkups are an essential service, which ensures that care is provided to women and fetal growth is monitored. Aside from antenatal checkups, pregnancy care, and advocacy for antenatal checkup and delivery at health facilities, data in 2019 also show that thousands of pregnant women were identified with obstetric risks and safely referred to health facilities by VMs.

Table 4. Village midwifery and childbirth care (n=26 provinces)

Indicator	2019
Total no. of home deliveries assisted by village midwifes *Least - Most*	3,340 *0 – 827 (Hue, Thai Nguyen, Bac Can, Lang Son --- Dien Bien)*
Total no. of unexpected deliveries assisted by VMs	1,229
Total no. of deliveries at health facilities assisted by VMs	662
No. of obstetric complications managed by VMs at primary level *Least - Most*	17 *0 – 6 (18 provinces - Lai Chau)*

There were only four provinces (Hue, Thai Nguyen, Bac Can, Lang Son) without any home deliveries assisted by VMs. The remaining 22 provinces saw 3,340 home deliveries and 1,229 unexpected deliveries assisted by VMs. They successfully assisted these deliveries, helping pregnant women deliver safely. The survey also reveals the community's appreciation and trust towards the quality of service provided by VMs. Therefore, many pregnant women who were successfully persuaded to deliver at health facilities requested VMs to accompany them. Data in 2019 shows that 662 deliveries at CHFs were assisted by VMs. That VMs assist deliveries at CHFs is common in almost all mountainous areas with village midwifery services available. From the perspective of pregnant women and their families, the presence of VMs can provide mental support, helping them rest assured when visiting unfamiliar health facilities or facing language

barriers. From the perspective of service providers, CHFs are fully confident in the technical capacity of VMs. In group discussions with local leaders, many heads of CHFs highly viewed the skills of VMs and felt assured when working with VMs to assist deliveries.

"*We found ourselves without any birth attendants on many night shifts while other health workers at the CHF did not know to assist deliveries. The presence of VMs was crucial in making deliveries safe*," *said an officer of Dak Ha district in group discussion for district and commune officers.*

"*At our CHF, we rarely assist any delivery, so VMs are even more experienced than us in the sense. We often call upon VMs for support during deliveries*," *said an officer of Tu Mo Rong district in group discussion for district and commune officers.*

Aside from natural childbirth, VMs also provided primary management of obstetric complications before transporting pregnant women to health facilities. Though small in number (17 cases), they demonstrated important practices that help reduce the risk of more severe complications. In disadvantaged provinces like Lai Chau in particular, in 2019, VMs administered first aid to six pregnant women with obstetric complications, which is a commendable achievement.

Table 5. Village midwifery and postnatal care (n=26 provinces)

Indicator	2019
Total no. of mothers identified with postnatal risks and referred safely	958
Total no. of mothers counselled on newborn care	14,331
Total no. of mothers counselled on family planning	15,197
Total no. of newborns identified with risks and referred safely	422

With regard to postpartum care, table above shows that there were 14,331 mothers counselled on newborn care and 15,197 mothers counselled on family planning in 2019. More important is that aside from counselling, VMs identified risks among mothers and newborns and referred them to health facilities promptly. To be specific, 958 mothers and 422 newborns were referred to health facilities promptly for signs of risks.

5.2. Village midwifery: Field survey results in Ha Giang, Dien Bien, and Kon Tum provinces

As presented in the Methodology section, a field survey was conducted in 12 communes in six districts of Ha Giang, Dien Bien, and Kon Tum provinces. The selection criteria were communes with midwifery services available and representing three provinces chosen for the field survey. Evaluation on the performance of VMs in these three provinces was produced from data collected from three sources:

- Evaluation of CHF leaders: which was presented as part of the results from 26 provinces above (Tables 6-9 and 11)
- Self-evaluation of VMs
- Evaluation of the evaluation team

Hereunder are the data from two sources: Self-evaluation of VMs and Evaluation of the evaluation team.

The subjects of the evaluation included 87 VMs from three districts field-surveyed. Midwives self-evaluated their performance, completed a knowledge test, responded to some case studies, and demonstrated their skills on models. The evaluation team observed and evaluated the performance of VMs.

5.2.1. Village midwifery:

Table 6. Overview of village midwifery (n=87)

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)	
	n	*%*	*n*	*%*	*n*	*%*
Age (AVR ± SD)	30.3 ± 6.6		28.0 ± 4.4		30.4 ± 7.2	
Ethnicity	H'Mong	17.9	H'Mong	60	Xo Dang	73.1
	Dao	25.0	Thai	23.3	Other	26.9
	Giay	53.6	Other	16.7	----	----
Marital status:						
- Unmarried	1	3.7	--	--	4	15.4
- Married	26	96.3	32	100	22	84.6
No. of children to date						
- None	--	--	2	6.5	2	9.1
- 1-2	23	95.8	24	77.4	17	77.3
- > 3	1	4.2	5	16.1	3	13.6
Education Attainment:						
- Primary education completed	1	4.2	5	16.1	--	--
- Lower secondary education completed	17	70.8	18	58.1	20	80.0
- Upper secondary education completed	6	25.0	8	25.8	5	20.0
Proximity to CHF (km):						
- Average ± SD	5.6 ± 2.8		9.4 ± 9.2		6.7 ± 11.7	
- Closest - Farthest	2 - 10		< 1 - 50		< 1 - 60	
Time taken to get to CHF (minutes):						
- Average ± SD	22.7 ± 18.4		34.3 ± 27.5		23.5 ± 23.8	
- Fastest - Longest	10 - 105		5 - 150		2 - 90	
No. of households in charge:						
- Average ± SD	94.7 ± 37.8		91.7 ± 44.6		124.0 ± 55.4	
- Least - Most	30 - 168		28 - 200		45 - 240	

The average age of VMs was 29.4 ± 6.1. The ones in Dien Bien were younger (28.0 ± 4.4), but the difference seemed negligible. All VMs were local EM inhabitants. In Ha Giang province, most VMs were Giay (53.6 per cent), Dao, and H' Mong. In Dien Bien province, most (60 per cent) were H' Mong and Thai while in Kon Tum province, most were Xo Dang (73.1 per cent). This is also one of the pre-training criteria recruitment that local authorities strictly adhered to, in addition to the criterion on education attainment. Most VMs have graduated from lower secondary education schools, while 19 (23.8 per cent) have completed upper secondary education. However, in Dien Bien province, up to 16 per cent of recruited VMs have only completed primary education.

Most VMs are married with one child or more. This criterion is key to providing medical services in certain EM areas. According to local customs, unmarried women are not allowed or trusted to provide medical services or maternity care counsels in certain places. "Being married" as a recruitment criterion was only intended to make sure that the trained VMs would remain in their localities unlike unmarried women who might follow their husbands to another area later on if their husbands are not locals. However, discussions with a number of VMs reveal that being unmarried is indeed a challenge in their work. "*Though I was trained, nobody called me in for service because I wasn't married. Now I am married, but I wasn't allowed to do anything during the first year or so,"* said a VM in Kon Tum province.

Most VMs were villagers who resided within a 5km radius of CHFs, so it took them about 30 minutes or less to travel by motorcycle. Yet, some VMs lived about 20km away, so it took them an hour to get to CHFs. The distance was not a major problem, but the traffic was. In mountainous areas, the weather is typically more extreme. Heavy rainfall, storms, and floods may cause many villages to be isolated and inaccessible.

Table 7. Overview of training (n = 87)

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	n	%	n	%	n	%	n	%
Any other work locally before becoming a VM?								
- Village health worker	3	10.7	1	3.0	9	34.6	13	14.9
- Commune official staff	4	14.3	3	9.1	--	--	7	8.1
- Farmer	21	75.0	29	87.9	17	65.4	67	77.0
VM certificate								
- Yes	25	92.6	32	97.0	23	88.5	80	93.0
- Not yet	2	7.4	1	3.0	3	11.5	6	7.0
Year of graduation from VM training:								
- 2005 - 2006	28	100			7	26.9		
- 2014 - 2015			31	93.9	19	73.1		
- 2015 - 2016			2	6.1				
- 2019								
Training duration:								
- 6 months	28	100	32	97.0	19	73.1	79	90.8
- 12 months			1	3.0	2	7.7	3	3.4
- 18 months			--		5	19.2	5	5.7
Comments on the training contents:								
- Suitable	27	96.4	33	100	26	100	86	98.9
- Not suitable	1	3.6	--	--	--	--	1	1.1
Training in the past three								

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	n	%	n	%	n	%	n	%
years:								
- Yes	3	10.7	22	66.7	19	73.1	44	50.6
- No	25	89.3	11	33.3	7	26.9	43	49.4

Most VMs (77 per cent) were farmers prior to their training. Only 23 per cent of VMs were village health workers or commune official staff members. Most were trained following the standard programme required by MOH, which is 6 months long. Yet, six VMs had not been certificated because they did not sit the final examination as a result of their pregnancy, delivery, illness, or other reasons. Only seven VMs who were trained back in 2005-2006 in Kon Tum province remained active while most active VMs were trained in 2014 or later. Notably, all VMs in Ha Giang province were trained in 2014-2015. Ever since, no other VM training course has been held despite the huge demand in Ha Giang province for VMs.

The six-month training programme developed by MOH was considered suitable by almost all VMs. Nonetheless, on an annual basis, they need updated training to upgrade their knowledge and skills for improved quality of service. Updated training was rarely conducted in the surveyed provinces. Over the past three years, only half of the VMs received additional training.

Table 8. Maternity care (AVR/VM/year)

Indicator	No. of women given antenatal checkups			No. of women administered urine tests			No. of women dispensed iron/folic acid supplements			No. of women identified with risks and referred		
	2017	*2018*	*2019*	*2017*	*2018*	*2019*	*2017*	*2018*	*2019*	*2017*	*2018*	*2019*
Ha Giang (n=28)	2.3	3.2	4.1	5.5	2.5	4.5	11.2	31.3	13.2	5.2	5.8	7.5
Dien Bien (n=33)	8.4	9.3	9.8	4.6	8.3	2.9	11.3	9.7	10.6	1.9	1.5	2.6
Kon Tum (n=26)	10.4	13.6	14.3	1.8	2.5	4.3	11.6	15.4	15.6	1.9	1.9	2.2
Three provinces	8.1	9.8	10.5	3.7	5.8	3.7	11.4	14.9	13.3	2.5	2.4	3.3

Data collected on maternity care from 87 VMs in three provinces show no significant difference in antenatal checkups, urine tests, iron/folic acid supplement dispensation, and risk identification over the course of three years (2017-2019). Comparing the workload undertaken between three provinces, VMs in Kon Tum province stood out, especially in terms of antenatal checkups (about 14 women/VM/year versus 9 in Dien Bien province

and 4 in Ha Giang province). However, VMs in Ha Giang province dominated in terms of risk identification and case referrals. In 2019, each VM in Ha Giang province on average identified about 7-8 at-risk women, while one in Dien Bien and Kon Tum provinces only identified about 2-3 at-risk women.

Table 9. Labour care (AVR/VM/year)

Indicator	No. of women successfully persuaded to deliver at health facilities			No of women identified with labour risks and referred		
	2017	*2018*	*2019*	*2017*	*2018*	*2019*
Ha Giang (n=28)	1.7	2.2	6.2	1.5	1.8	4.4
Dien Bien (n=33)	5.1	5.6	7.1	2.5	2.5	2.4
Kon Tum (n=26)	5.3	7.0	8.9	1.9	2.0	2.7
Three provinces	4.4	5.3	7.5	2.0	2.1	2.9

There was a marked change in the number of mothers successfully persuaded to deliver at health facilities over the course of three years (2017-2019). On average, each VM successfully persuaded 6-8 mothers to deliver at health facilities every year, which demonstrates their great efforts. VMs should be encouraged to bring their counselling role into full play as it is their main responsibility prescribed when it comes to labour care. Ha Giang province saw greater improvements than others in this stage of care with the number of mothers successfully persuaded to deliver at health facilities and identified with risks and referred in 2019 being 3.5 and 2.9 times higher respectively than in 2017.

Table 10. Intranatal care (AVR/VM/year)

Indicator (Yearly average)	No. of home deliveries assisted			No. of deliveries at health facilities assisted			No. of unexpected deliveries assisted		
	2017	*2018*	*2019*	*2017*	*2018*	*2019*	*2017*	*2018*	*2019*
Ha Giang (28)	1.1	0.3	2.2	2.1	2.1	5.4	1.7	2.0	1.3
Dien Bien (33)	3.8	4.2	3.0	4.3	4.0	3.8	5.2	4.4	4.4
Kon Tum (26)	4.6	6.0	7.2	5.2	5.4	7.6	1.7	1.9	2.5
Three provinces	3.6	4.1	4.4	4.3	4.3	5.7	3.2	3.0	3.2

The number of unexpected and home deliveries did not decrease over the course of three years and even trended upward in Kon Tum province (about 4, 8, and 10 on average/VM/year in Ha Giang, Dien Bien, and Kon Tum, respectively). It shows that birth attendance remains a task that VMs must accomplish. Since on average, each VM had to assist about 10 (unexpected and home) deliveries a year like in Kon Tum province, VMs must master birth attendance skills to ensure the safety of mothers and newborns. This figure should be considered by policymakers when it comes to the use of VMs. They are essential for the maternity and newborn care, not only in cases of unexpected and home deliveries, but also in cases of deliveries at health facilities. The number of deliveries assisted by VMs rose substantially in Ha Giang and Kon Tum provinces for two reasons: VMs focusing more and more on persuading mothers to deliver at health facilities and health facilities trusting the skills of birth attendance of VMs.

Table 11. Postpartum care (AVR/VM/year)

Indicator (Yearly average)	No. of mothers and newborns given care during Week 1			No. of mothers and newborns given care from Week 2 to Week 6			No. of newborns identified with risks and referred			No. of mothers identified with risks and referred		
	2017	*2018*	*2019*	*2017*	*2018*	*2019*	*2017*	*2018*	*2019*	*2017*	*2018*	*2019*
Ha Giang (n=28)	1.3	2.0	4.4	0.4	1.0	3.9	0.3	1.7	2.0	0.5	2.0	3.0
Dien Bien (n=33)	7.6	8.5	8.8	7.7	8.4	8.4	1.3	1.5	1.1	0.9	0.8	0.5
Kon Tum (n=26)	5.6	6.7	7.0	6.2	7.4	8.4	2.8	4.1	4.3	1.9	2.6	2.5
Three provinces	6.6	7.0	7.6	6.3	7.1	7.9	1.7	2.6	2.7	1.5	2.1	2.0

Postpartum care was delivered more by VMs in Dien Bien and Kon Tum provinces and trended upward over time with an average number of about 6-9 mothers/VM/year receiving postpartum care. Though providing less postpartum care, the number of VMs in Ha Giang was on a marked increase (about 4-5 mothers/VM/year in 2019 compared to 1-2 mothers in 2017). Similar to postpartum maternity care and newborn care, VMs also identified many cases of mothers and newborns at risk and referred them to health facilities promptly. Each VM on average found about 2-5 mothers and newborns at risk and referred them to health facilities a year, making a significant contribution to reducing maternal and neonatal morbidity and mortality.

Postpartum care is recommended by MOH for all mothers, but health workers of CHFs virtually cannot deliver this service, especially in mountainous and disadvantaged areas. The participation of VMs is necessary to provide postpartum care to communities who may otherwise find it difficult to access postpartum care services in particular and healthcare services in general.

Table 12. Remuneration (n = 87)

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Existing allowance								
- Yes	11	39.3	-	--	9	34.6	20	23.0
- No	17	60.7	33	100	17	65.4	67	77.0
Monthly allowance (Unit: thousand VND)	756 (650-800)		---------		745 (745 – 745)		751.7 (650 – 800)	
Coverage of travel cost								
- Yes now	3	10.7	----	----	5	19.2	8	9.2
- Used to								

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
- Never	0	0.0	4	12.1	3	11.5	7	8.0
	25	89.3	29	87.9	18	69.2	72	82.8
Health insurance (HI):								
- No	1	3.6	--	--	1	3.8	2	2.3
- Yes:	27	96.4	33	100	25	96.2	85	97.7
o Poor household	9	33.3	10	30.3	4	16.0	23	27.1
o EM	16	59.3	23	69.7	19	76.0	58	68.2
o Out-of-pocket	2	7.4	--	--	2	8.0	4	4.7

Despite addressing such a workload of maternity and newborn care, VMs in recent years have barely received any subsidy from the State. By the end of 2019, Dien Bien province started providing monthly allowances to VMs equivalent to 0.3 times the basic wage (VND447,000/month). However, it suspended the payment of monthly allowances to VMs in January 2020. In Ha Giang and Kon Tum provinces, about a third of VMs received allowances from local budgets or local projects, which are rather modest - only about VND750,000/month. This problem is worth addressing as soon as possible by local authorities as well as leaders of the health system. VMs in the network are all at working age and breadwinners of their respective families, so having an income means a lot to the daily lives of their entire families. Although most VMs are also working as farmers, the time, effort, and dedication they have invested in the health of community members totally deserve a certain amount of allowance. Having additional financial assistance makes their lives easier, helping them feel assured when working as VMs and more importantly, recognized for their work. The previous amount of allowance (VND800,000/month) is actually just about one-week worth of other work VMs do. Nevertheless, the subsidy from the State is symbolic of honour, pride, and recognition from the governments.

In Ha Giang and Kon Tum provinces, a few VMs retained the vehicles (motorcycles) granted to them at the beginning by projects, but the majority did not receive any support to cover travel cost, including means of transport and petrol. It presented such a huge problem that CHFs refrained from inviting VMs to monthly meetings despite the importance of such interaction.

With regard to HI, most VMs (97.7 per cent) in the surveyed areas reported being covered by HI. However, it is worth noting that all of their HI packages were ones for poor households or EM living in particularly disadvantaged areas, who are beneficiaries covered by the State as currently prescribed. About 30 per cent of those were HI for poor households. As members of poor households, VMs are likely to confront plenty of

challenges. Thus, it is urgent to offer them allowances and travel costs, with priority given to VMs from poor households.

Table 13. Working environment (n=87)

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Culturally appropriate?								
- Yes	27	96.4	33	100	26	100	86	98.9
- No	1	3.6	--	--	--	--	1	1.1
Work difficulties:								
- No	6	21.4	2	6.1	2	7.7	10	11.5
- Yes	22	78.6	31	93.9	24	92.3	77	88.5
o Lack of knowledge and skills	11	50.0	14	45.2	14	58.3	39	50.6
o Lack of supplies and medicine	17	77.3	21	67.7	11	45.8	49	63.6
o Lack of means of transport	5	22.7	23	74.2	15	62.5	43	55.8
o Unsupportive family and community	6	27.3	10	32.3	5	20.8	21	27.3
o Lack of support from CHF	2	9.1	1	3.2	4	16.7	7	9.1
o Little/no allowance	15	68.1	21	67.7	14	58.3	50	64.9
Suggestions:								
- No	5	17.9	--	----	--	--	5	5.7
- Yes:	23	82.1	33	100	26	100	82	94.3
o Recognition of VMs as village health workers	7	30.4	13	39.4	16	61.5	36	43.9
o Additional training	16	69.6	21	63.6	19	73.1	56	68.3
o Allowance	14	60.9	24	72.7	24	92.3	62	75.6
o Travel cost	16	69.6	18	54.5	17	65.4	51	62.2
- Other (file cabinet)	--	0.0	3	9.1	1	3.8	4	4.9

Apart from allowances and travel costs, most VMs encounter other work challenges. The most mentioned challenge was the lack of knowledge and skills and the lack of supplies and medicine (about 50-60 per cent). As illustrated in Table 9, nearly half of the VMs did not receive any additional training to upgrade their knowledge in the past three years, which explains why they found themselves lack of knowledge. A concern which can be addressed immediately is that over 60 per cent of VMs reported lacking supplies and medicine for their work (close to 80 per cent in Ha Giang province). It is certainly not too costly for local governments to invest in such supplies for VMs. Moreover, most VMs only found themselves in need of replacement for items that were out of order or had expired. Having adequate supplies does not only help VMs provide the best service possible, but also build trust among mothers, families, and communities. Nearly 30 per cent of VMs were not supported by their families and communities certainly due to services provided not meeting local demand, for which the lack of knowledge and supplies were one of the primary reasons.

Stating the difficulties above, VMs also provided corresponding suggestions to make their working environment better. The suggestions of allowances provided, travel costs covered, additional training provided, and recognition as village health workers are reasonable and should be considered by authorities for action. There were other minor suggestions which reflect how much VMs cared about their work. For example, the suggestion of "*having cabinets provided to protect files from rodents*" has kept us thinking. A minor obstacle may turn into insurmountable one to VMs from poor households without the support of families and communities. CHFs should take these suggestions of VMs in consideration and mobilize community support.

5.2.2. Evaluation on VMs' knowledge and practices

VMs' knowledge and practices were evaluated using self-administered questionnaires and observation. Knowledge evaluation covered basic contents on maternity care from pregnancy care, labour care, intranatal care to postpartum care for both mothers and newborns.

- Knowledge evaluation was accomplished using self-administered questionnaires and case study exercise which helped VMs demonstrate their ability to address situations commonly encountered or potentially encountered within the functions and tasks of VMs. Three cases that VMs were required to solve included: Antenatal checkups; Recognition and management of preeclampsia and eclampsia; and recognition and management of abnormal labour.

- Practice evaluation was conducted by observing how VMs demonstrated two skillsets on models: procedural steps of antenatal checkup and first-aid for postpartum hemorrhage caused by uterine atony.

5.2.2.1. Knowledge evaluation

Table 20 below compiles the evaluation results from self-administered questionnaires. VMs had good knowledge on maternity and newborn care with 85 per cent of VMs scoring 60 per cent or higher, especially in Kon Tum province where all VMs passed. Kon Tum province's high pass rate was perhaps thanks to the retraining VMs received and their regular practice of most VMs there under the supervision and support of relevant sectoral departments. This result also reflects how effective the proper VM training in Kon Tum province was. Apart from the six-month training required by MOH, a number of VMs in the province was trained under the 12-month training programme of Tu Du Hospital and 18-month training programme of UNFPA. This evaluation result is similar to that produced by Le Minh Thi in 2015[40], which shows that the knowledge on prenatal, intranatal, and postnatal care of VMs in Kon Tum province was good. Another positive aspect worth mentioning is the even level of knowledge across all VMs in Kon Tum province with an average score of 28.1 and a small SD of ± 2.3. The uniform proficiency of VMs presents a major advantage during training, update, and exchange of knowledge between VMs. The pass rate was lower among VMs in Dien Bien province (84.8 per cent) and Ha Giang province (71.4 per cent) with a rather huge knowledge gap between VMs (from 7 to 30 points). It is attributed to the fact that in these two provinces, a few midwives made a recent comeback after being on a hiatus or were hardly active due to the lack of support (100 per cent of VMs in Ha Giang province did not receive any

[40]Le Minh Thi, Doan Thi Thuy Duong, Vo Minh Tuan, and Bui Thi Thu Ha. Knowledge and practices on prenatal, intranatal, and postnatal care among EM VMs in Kon Tum province. Public Health Journal, Issue 47 March 2019

support). Although the immediate post-training results achieved by the two provinces were considered good, the lack of incentive, encouragement, supervision, and support later on undermined the knowledge acquired[41,42]

Table 14. Knowledge of VMs on maternity and newborn care (n=87)

Indicator	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
Know the contents of counselling (4 points):				
- AVR ± SD	2.8 ± 1.3	3.1 ± 1.3	3.9 ± 0.4	3.2 ± 1.2
- Lowest - Highest	1 - 4	1 – 4	2 - 4	1 - 4
Know the signs of danger during pregnancy (4 points):				
- AVR ± SD	2.8 ± 1.4	3.4 ± 1.1	3.9 ± 0.3	3.3 ± 1.1
- Lowest - Highest	0 - 4	1 – 4	3 - 4	0 - 4
Know how to monitor in labour (6 points):				
- AVR ± SD	4.5 ± 2.0	4.9 ± 1.9	5.7 ± 0.5	5.0 ± 1.7
- Lowest - Highest	1 - 6	1 – 6	4 - 6	1 - 6
Knowledge signs of danger/abnormal labour (5 points):				
- AVR ± SD	3.4 ± 2.6	4.0 ± 1.5	4.6 ± 0.6	4.0 ± 1.5
- Lowest - Highest	1 - 5	1 – 5	2 - 5	1 - 5
Know how to provide maternity and newborn care right after childbirth (3 points):				
- AVR ± SD	2.7 ± 0.4	2.6 ± 0.7	2.9 ± 0.3	2.7 ± 0.6
- Lowest - Highest	1 - 3	1 – 3	2 - 3	1 - 3
Know the causes of postpartum hemorrhage (4 points):				
- AVR ± SD	2.5 ± 1.1	2.8 ± 1.1	3.3 ± 0.9	2.9 ± 1.1
- Lowest - Highest	1 - 4	0 – 4	1 - 4	0 - 4
Know recommendations on breastfeeding (4 points):				
- AVR ± SD	3.1 ± 1.0	3.4 ± 0.9	3.8 ± 0.6	3.4 ± 0.9
- Lowest - Highest	1 - 4	1 – 4	2 - 4	1 - 4
Total score (30 points):				
- AVR ± SD	21.7 ± 6.1	24.3 ± 7.5	28.1 ± 2.3	24.6 ± 6.4
- Lowest - Highest	7 - 30	7 – 30	21 - 30	7 - 30
Overall evaluation:				
- Pass (18 points or higher)	20 (71.4)	28 (84.9)	26 (100)	74 (85.1)
- Fail (<18 points)	8 (28.6)	5 (15.1)	0 (0.0)	13 (14.9)

[41] Le Minh Thi, Doan Thi Thuy Duong, and Bui Thi Thu Ha. Knowledge and practice evaluation of EM VMs six months post training in Dien Bien province. Ethnic Studies Journal. Issue 19 September 2017.

[42] Nguyen Dinh Du, Tran Thi Duc Hanh, Vu Thi Hoang Lan, Bui Thi Thu Ha. Knowledge and practice evaulation on safe motherhood of EM VMs three years post training in Ha Giang province in 2014, Public Health Journal; Issue 37 October 2015, p. 39-44

Table 15. Average knowledge score on maternity care before, during, and after delivery

Indicator	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
Prenatal (total score: 8				
- AVR ± SD	5.6 ± 2.3	6.5 ± 2.2	7.9 ± 0.5	6.6 ± 2.1
- Lowest	2	2	6	2
- Highest	8	8	8	8
- **Pass:** (5 points or higher)	27 (81.8%)	19 (67.9%)	26 (100%)	72 (82.8%)
Intranatal (total score: 11)				
- AVR ± SD	7.9 ± 2.9	9.0 ± 3.3	10.3 ± 1.1	9.0 ± 2.8
- Lowest	2	2	7	2
- Highest	11	11	11	11
- **Pass:** (6 points or higher)	28 (84.9%)	22 (78.6%)	26 (100%)	76 (87.4%)
Postnatal (total score: 11)				
- AVR ± SD	8.3 ± 2.2	8.8 ± 2.4	9.9 ± 1.5	9.0 ± 2.2
- Lowest	3	3	5	3
- Highest	11	11	11	11
- **Pass:** (6 points or higher)	28 (84.9%)	25 (89.3%)	25 (96.2%)	78 (89.7%)

Though the pass rate of VMs for their knowledge on the three stages of prenatal, intranatal, and postnatal care appeared higher with the latter two, the difference was not clear in all three provinces (82.8 per cent; 87.4 per cent, and 89.7 per cent). It is different from the post-training evaluation result produced by Le Minh Thi which indicated that the pass rate on intranatal care was lower than on prenatal and postnatal care. The change was perhaps due to the fact that the work of VMs required them to fill in their original knowledge gaps. All three stages of maternity and newborn care are equally important, so it is necessary to be knowledge of the care continuum. It is crucial that VMs be provided with supervision, support, and updated training to improve their capacity.

In Dien Bien province alone, the pass rate on prenatal care was markedly lower than intranatal and postnatal care (67.9 per cent compared to 78.6 per cent and 89.3 per cent). It is difficult to account for such phenomenon as VMs in Dien Bien province delivered plenty of antenatal checkups and care. It is important to find out the causes to provide right interventions. However, in the short run, CHFs and district health centres should provide short-term supplementary training on prenatal care for VMs.

Table 16. Ability to manage normal prenatal checkups

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	Correct	%	Correct	%	Correct	%	Correct	%
Calculate gestational age by menstrual period (1 point)	6	21.4	18	54.6	6	23.1	30	34.5
Calculate gestational age by fundal height (1 point)	1	3.6	14	42.4	10	38.5	25	28.7
Assess fetal growth (1 point)	3	10.7	13	39.4	5	19.2	21	24.1
Estimate date of delivery by last menstruation period (1 point)	5	17.9	27	81.8	7	26.9	39	44.8
Provide right counsels (3 points)	13	46.4	27	81.8	11	42.3	51	58.6
Classification (total score: 7): Fail (<3 points)	26	92.9	14	42.4	19	73.1	60	68.9
Pass (3-4 points)	2	7.1	13	39.4	5	19.2	19	23.0
Pass (5 points)	0	0.0	6	18.2	2	7.7	8	9.2

Surprisingly, the ability of VMs in all three provinces, especially Ha Giang, to manage normal prenatal checkups was poor. Only two VMs (7.1 per cent) responded correctly to the scenarios given. The reason is probably that the scenarios given had to do with tasks of less concern in the surveyed areas. Most EM women did not remember the first day of the last menstrual period, so almost all VMs skipped this question when interviewing them and therefore, failed to estimate the date of delivery. Other than that, it might be too difficult for VMs to calculate the gestational age by fundal height or to assess fetal growth. In future research, consideration should be given to developing more relevant scenarios.

Table 17. Ability to recognize and manage preeclampsia and eclampsia

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	Correct	%	Correct	%	Correct	%	Correct	%
List steps taken to identify preeclampsia (4 points)	9	32.1	19	57.6	21	80.8	49	43.7
Be able to identify eclampsia (1 point)	8	28.6	16	48.5	18	69.2	42	48.3

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	Correct	%	Correct	%	Correct	%	Correct	%
List out what to do to respond to eclampsia (3 points)	7	25.0	27	81.8	24	92.3	58	66.7
Classification (total score: 7): Fail (<4 points)	26	92.9	23	69.7	17	65.4	66	75.9
Pass (4-5 points)	2	7.1	6	18.2	9	34.6	17	19.5
Pass (6-7 points)	0	0.0	4	12.1	0	0.0	4	4.6

Similar to management of normal antenatal checkups, nearly 76 per cent of VMs failed to identify and manage preeclampsia and eclampsia. The highest fail rate was observed in VMs of Ha Giang province. Only four out of 87 VMs in three provinces achieved the maximum score (6-7 points).

Table 18. Ability to recognize and manage abnormal labour

Indicator	Ha Giang (n=28)		Dien Bien (n=33)		Kon Tum (n=26)		Total (n=87)	
	Correct	%	Correct	%	Correct	%	Correct	%
Be able to identify signs of abnormal labour (3 points)	16	57.1	31	93.4	26	100	73	83.9
List out correctly what to do (2 points)	11	39.4	33	100	26	100	70	80.5
Classification (total score: 5): Fail (<3 points)	25	89.3	7	21.2	6	23.1	38	43.7
Pass (3-4 points)	3	10.7	26	78.8	20	76.9	49	56.3

Compared to the two aforementioned scenarios, the ability to identify and manage abnormal labour was better with only 43.7 per cent of VMs failing to meet the pass score. The relatively high pass rate of VMs in Dien Bien and Kon Tum provinces shows that the identification and management of abnormal labour was a common practice in the two provinces. It should be highlighted that few VMs in Ha Giang province were able to present signs of abnormal labour as well as how to respond to such signs. It is understandable because many VMs in Ha Giang province returned to their work after going on a hiatus to do something else. The time of data collection was after the first wave of COVID-19 outbreak when many factories were closed down and work near the border of China reduced, VMs who had disengaged for a while asked to come back. The long hiatus definitely caused them to be out of practice; therefore, Ha Giang province needs retraining and incentives for VMs. Ha Giang is one of three provinces without any support for VMs, leading to a high likelihood of dropout still despite the huge demand for their service. It is indeed unfortunate for mothers and children in disadvantaged areas to manage without the support of VMs because Ha Giang

was where the first VM pilot was conducted among Northern mountainous provinces and considered highly effective[43].

5.2.2.2. Practice evaluation

As mentioned above, due to resource constraints, we only managed to evaluate two skill sets that VMs perform most frequently, including antenatal checkup and first aid for postpartum hemorrhage caused by uterine atony.

In alignment with the procedure of antenatal checkup per the National Guideline on reproductive health care services as well as the functions and tasks assigned to VMs, our evaluation covered ten essential steps of an antenatal visit. Each step was evaluated on three levels to inform specific interventions for improvement while overall evaluation of the whole antenatal checkup procedure was also provided on whether VMs passed by achieving 14 out of 20 points (70 per cent or more).

Table 25 below presents the evaluation results on antenatal checkup. Out of 87 VMs, 73.6 per cent passed the requirements of overall antenatal checkup in the three provinces. The remaining either did incorrectly or did not cover all steps required. Few steps were completely skipped.

Three steps that were taken least correctly or skipped most in the three provinces included: Taking history (67.8 per cent); Asking for height, weight, and weight gain (73.6 per cent), and Visually assessing the uterus (59.8 per cent). History, height, weight, and weight gain taking was of less interest probably because VMs did not find such information important or because such information had already been shared by the pregnant women whom VMs knew or frequently met in person. Assessment of weight gain, which takes knowledge and estimation skills, was an area that a number of WMs struggled. Regarding the step of full-body visual assessment, up to 54 per cent of VMs did not complete all sub-steps required, did them incorrectly, or skipped them.

The weaknesses in how VMs practiced should certainly be addressed through training because the lack of knowledge and skills is the key barrier to the confidence of VMs as well as their quality of service, which may lead to loss of public confidence. Evaluating the performance of VMs, a study conducted in Dien Bien and Kon Tum provinces confirmed that the proficiency and confidence of VMs, coupled with community funding and support, are fundamental[44]. VMs are now struggling with funding; therefore, knowledge and skills building, which helps them build confidence in their service delivery, is an intervention that should be implemented at once.

[43] Nguyen Dinh Du. Evaluation on the effectiveness of the 18-month EM VM training in Ha Giang province. Doctoral thesis in Public Health 2015

[44] Duong Thi Thuy Doan et al. Utilization of Services provided by EM VMs in Viet Nam: Lessons from Implementation Research. Journal of public health management and practice: JPHMP 2018;24 suppl 2 Supplement, Public Health in Vietnam:S9-S18.

Table 19. Antenatal checkup by VMs (n=87)

	Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
1	Taking history:				
	- No	7 (25.0)	6 (18.2)	11 (42.3)	24 (17.2)
	- Not enough/not correctly	17 (60.7)	14 (42.4)	13 (50.0)	44 (50.6)
	- Enough and correctly	4 (14.3)	13 (39.4)	2 (7.7)	**19 (32.2)**
2	Asking about the last menstrual period and estimating the date of delivery:				
	- No	1 (3.6)	2 (6.1)	1 (3.9)	4 (4.6)
	- Not enough/not correctly	1 (3.6)	13 (39.4)	6 (23.1)	20 (23.0)
	- Enough and correctly (%)	26 (92.9)	18 (54.5)	19 (73.1)	**63 (72.4)**
3	Measuring the pulse rate, temperature, and blood pressure:				
	- No	0 (0.0)	1 (3.0)	0 (0)	1 (1.2)
	- Not enough/not correctly	8 (28.6)	1 (3.0)	6 (23.1)	15 (17.2)
	- Enough and correctly (%)	20 (71.4)	31 (93.9)	20 (76.9)	71 (81.6)
4	Visually assessing full body:				
	- No	0 (0.0)	1 (3.0)	1 (3.8)	2 (2.3)
	- Not enough/not correctly	15 (53.6)	20 (60.6)	10 (38.5)	45 (51.7)
	- Enough and correctly (%)	13 (46.4)	12 (36.4)	15 (57.7)	**40 (46.0)**
5	Asking for height, weight, and weight gain:				
	- No	20 (71.4)	2 (6.1)	10 (38.5)	32 (36.8)
	- Not enough/not correctly	6 (21.4)	24 (72.7)	2 (7.7)	32 (36.8)
	- Enough and correctly	2 (7.1)	7 (21.2)	14 (53.8)	**23 (26.4)**
6	Visually assessing the uterus:				
	- No	10 (35.7)	9 (27.3)	5 (19.2)	24 (27.6)
	- Not enough/not correctly	3 (10.7)	18 (54.6)	7 (26.9)	28 (32.2)
	- Enough and correctly	15 (53.6)	6 (18.2)	14 (53.9)	**35 (40.2)**
7	Performing abdominal palpation to determine fetal position				
	- No	0 (0.0)	2 (6.1)	1 (3.9)	3 (3.5)
	- Not enough/not correctly	8 (28.6)	16 (48.5)	5 (19.2)	29 (33.3)
	- Enough and correctly	20 (71.4)	15 (45.5)	20 (76.9)	**55 (63.2)**
8	Measuring the fundal height and abdominal girth				
	- No	1 (3.6)	1 (3.0)	2 (7.7)	4 (4.6)
	- Not enough/not correctly	7 (25.0)	1 (3.0)	1 (3.8)	9 (10.3)
	- Enough and correctly	20 (71.4)	31 (93.9)	23 (88.5)	**74 (85.1)**
9	Listening to the fetal heartbeat				
	- No	0 (0.0)	1 (3.0)	0 (0)	1 (1.2)
	- Not enough/not correctly	1 (3.6)	2 (6.1)	2 (7.7)	5 (5.7)
	- Enough and correctly	27 (96.4)	30 (90.9)	24 (92.3)	**81 (93.1)**
10	Providing explanation and guidance:				
	- No	6 (21.4)	1 (3.0)	2 (7.7)	9 (10.3)
	- Not enough/not correctly	20 (71.4)	8 (24.2)	6 (23.1)	34 (39.1)
	- Enough and correctly	2 (7.1)	24 (72.7)	18 (69.2)	**44 (50.6)**

	Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
	Total score (20 points): - Lowest - Highest	 8 17	 8 18	 10 16	 8 18
	Evaluation: - Pass: ≥14 points (70% or higher) - Fail: < (14 points)	 20 (71.4) 8 (28.6)	 24 (72.8) 9 (27.2)	 20 (76.9) 6 (23.1)	 **64 (73.6)** 23 (26.4)

The analysis on which step VMs did most correctly and least correctly serves to inform CHFs on what to remind VMs to pay more attention to, i.e., to keep the doing what they have done well and addressing what they have missed. It also helps training courses to direct their focus to the steps that VMs in each province have not done well. Table 26 below summarizes the steps done most correctly and least correctly in the procedure of antenatal checkup.

Table 20. Steps done most correctly and least correctly during antenatal checkup (n=87)

Indicator	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)
Least correctly	- Asking for height, weight, and weight gain (7.1%) - Providing explanation and guidance (7.1%)	- Visually assessing the uterus (18.2%)	- Taking history (7.7%)
Most correctly	- Measuring the fundal height and abdominal girth (96.4%) - Listening to the fetal heartbeat (96.4%)	- Measuring the fundal height and abdominal girth (93.9%) - Measuring the pulse rate, temperature, and blood pressure (93.9%)	- Measuring the fundal height and abdominal girth (88.5%) - Listening to the fetal heartbeat (96.4%)

The result of steps done most correctly and least correctly during antenatal checkup differed by province. VMs in Ha Giang province paid little attention to "asking for height, weight, and weight gain" and "providing explanation and guidance". VMs in Dien Bien province paid little attention to "visually assessing the uterus" while those in Kon Tum province paid little attention to "taking history".

The steps done most correctly had to do with medical examination. Most VMs in Ha Giang, Dien Bien, and Kon Tum provinces did the step of "measuring the fundal height and abdominal girth"; "listening to the fetal heartbeat" (Ha Giang and Kon Tum); and "measuring the pulse, temperature, and blood pressure (Dien Bien) correctly.

Table 21. First aid for postpartum hemorrhage caused by uterine atony (n=87)

Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
Performing uterine massage:				
- Not enough/not correctly	14 (50.0)	3 (9.1)	8 (30.8)	25 (28.7)
- Enough and correctly (%)	14 (50.0)	30 (90.9)	18 (69.2)	**62 (71.3)**
Providing guidance on how to perform uterine massage:				
- Not enough/not correctly	21 (75.0)	10 (30.4)	9 (34.6)	40 (46.0)
- Enough and correctly (%)	7 (25.0)	23 (69.7)	17 (65.4)	47 (54.0)
Measuring the pulse and blood pressure:				
- Not enough/not correctly	9 (32.1)	7 (21.2)	13 (50.0)	29 (33.3)
- Enough and correctly (%)	19 (67.9)	26 (78.8)	13 (50.0)	**58 (66.7)**
Contacting CHF for help:				
- Not enough/not correctly	8 (28.6)	4 (12.1)	5 (19.2)	117 (19.5)
- Enough and correctly (%)	20 (71.4)	29 (87.9)	21 (80.8)	**70 (80.5)**
Assessing first aid outcomes:				
- Not enough/not correctly	23 (82.2)	27 (81.8)	23 (88.5)	73 (83.9)
- Enough and correctly (%)	5 (17.9)	6 (18.2)	3 (11.5)	14 (16.1)
Performing uterine compression with both hands outside:				
- Not enough/not correctly	25 (89.3)	25 (75.8)	25 (76.2)	75 (86.2)
- Enough and correctly (%)	3 (10.7)	8 (24.2)	1 (3.8)	12 (13.8)
Performing uterine compression with one hand outside and one hand inside:				
- Not enough/not correctly	7 (25.0)	25 (75.8)	14 (53.8)	46 (52.9)
- Enough and correctly (%)	21 (75.0)	8 (24.2)	12 (46.2)	41 (47.1)
Providing explanation to the family on the referral:				
- Not enough/not correctly	16 (57.1)	4 (12.5)	9 (34.6)	29 (33.7)
- Enough and correctly (%)	12 (42.9)	28 (87.5)	17 (65.4)	**57 (66.3)**

Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
Evaluation (total score: 16):				
- Pass*	7 (25.0)	25 (75.8)	14 (53.8)	46 (52.9)
- Fail: < 10 points	21 (75.0)	8 (24.2)	12 (46.2)	41 (47.1)

** Pass: Achieving 10 points or higher (60%) and including step 1 (uterine massage) and step 4 (contacting CHF)*

Compared to antenatal checkup, the pass rate on first aid for postpartum hemorrhage caused by uterine atony of VMs in all three provinces was higher with over 47 per cent of VMs doing all sub-steps needed correctly. The good practices included performing uterine massage (71.3 per cent); measuring the pulse and blood pressure (66.7 per cent); contacting CHF for help (80.5 per cent), and providing explanation to the family on the referral (63.3 per cent). Though doing all sub-steps needed correctly, the practices of VMs were only considered acceptable, not yet perfect. For example, the pass rate on "uterine massage" was high, but whether the techniques performed would work was questionable. The performance of techniques on models presented a challenge to evaluators as practices need real-life situations.

Many VMs did not perform such common practices as checking the pulse or measuring the blood pressure correctly. It was specifically shown in how VMs were able to find the right spot to take the pulse or struggled measuring the blood pressure. Certain skills such as calling for help and explaining to family members on the referral were not mastered with communication being all over the place and needing much improvement.

Observing the techniques of VMs, it was clear that training programmes should pay more attention to routine practices, from the most simple skills like taking the pulse, counting the beats, measuring the blood pressure, etc. to culturally appropriate communication. The language and speed of communication of VMs are also another area of concern for training programmes. Based on experiences gained when exchanging conversations and presenting scenarios to VMs, VMs had a lot of difficulty understanding what the observers said.

Table 22. Steps done most correctly and least correctly during first aid for postpartum hemorrhage caused by uterine atony (n=87)

Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
Least correctly	Performing uterine compression with one hand inside and one hand outside (3.6%)	Performing uterine compression with one hand inside and one hand outside	Performing uterine compression with both hands outside if bleeding does not stops (3.8%)	Performing uterine compression with one hand inside and one hand outside

Indicator n (%)	Ha Giang (n=28)	Dien Bien (n=33)	Kon Tum (n=26)	Total (n=87)
		(0.0%)		(3.4%)
Most correctly	Contacting CHF for help (71.4%)	Performing uterine massage (90.9%)	Contacting CHF for help (80.8%)	Contacting CHF for help (80.5%)

The technique of "uterine compression with one hand inside and one hand outside" was done least correctly probably because it was not employed much in practice. However, CHFs should have plans to help VMs revise the technique in case postpartum hemorrhage happens. The steps done most correctly included "performing uterine massage" and "contacting CHF for help". Nonetheless, as mentioned above, the quality of these steps needs improving for a better quality of service.

The knowledge and practice evaluation results were collected through self-administered questionnaires and observations of techniques performed on models essentially reflect the true performance of VMs. Yet, as observers, we reckon VMs' responses to scenarios and delivery of antenatal checkup would be better in reality.

Language is another barrier when observers presented scenarios and collected feedback from VMs. Observers often had to explain the requirements of the exercise to the VMs and patiently describe and give examples so that VMs could understand. Moreover, VMs were not used to having someone observing what they do and performing on a model, which is different from what they do in reality.

During discussions with VMs on their daily work, they told us about how happy they were when to provide first aid for pregnant women with abnormal signs. Their sharing further confirmed that what we felt was right. A WM in Quan Ba district, Ha Giang province was jubilant telling us how she successfully managed a case of postpartum hemorrhage.

I sometimes pay a visit to the women whose life was threatened during their third delivery due to postpartum bleeding a couple of years ago. Her two previous deliveries were at home. With the third delivery, during her labour, her husband was away from home. Even though I was from a different village, she heard that I was trained on birth attendance so she called me in for help. When I arrived, her cervix was wide open, so I started assisting her delivery right away. During the delivery of the placenta, I found her bleeding a great deal. I immediately called a health worker at the CHF in for help. While waiting for the health workers to come, I performed uterine massage and saw it contract but the bleeding continued. Then I performed two-handed uterine compression upon the uterine artery, but the bleeding didn't stop. I had to compress the uterus with one hand inside and one hand outside to mitigate bleeding. About 20 minutes later, the CHF's health workers arrived. They assessed her, controlled the uterus, and administered an injection for the uterus to fully contract. That's when the bleeding gradually stopped."

5.3. Evaluation on the performance of village midwifery in maternity and newborn care

The evaluation of provincial authorities on the performance of VMs in maternity and newborn care is presented in the following areas: the necessity of VMs; their work performance; whether the functions and tasks assigned suitable for VMs; how local authorities support VMs; and difficulties VMs had during their work and suggestions to facilitate their work.

Evaluative feedback was collected from two sources: self-administered questionnaires submitted by 26 provinces and data collected first-hand by the research team from their field visits to Ha Giang, Dien Bien, and Kon Tum provinces. Figures from the field visits were primarily used to analyze Objectives 2 and 3 and to illustrate the evaluation results submitted by 26 provinces under Objective 1.

Table 23. Necessity of VMs

Indicator	**Inputs of CDCs in 26 provinces**		**Inputs of 12 CHFs field-surveyed**	
	No. of inputs	*%*	*No. of inputs*	*%*
Culturally appropriate?	20	76.9	7	58.3
Necessary for hard-to-reach areas	22	84.6	11	91.7
Helping to reduce the risk of maternal and neonatal morbidity	22	84.6	9	75.0
All of the above	20	76.9	7	58.3

The necessity of VMs was determined based on three criteria: (1) whether the work of VMs is culturally appropriate; (2) whether the work of VMs is necessary for hard-to-

reach areas; and (3) whether the work of VMs helps to reduce the risk of maternal and neonatal morbidity. The results show that the criteria brought up most by provincial authorities (22 out of 26 provinces, or 84.6 per cent) were that VMs are necessary for hard-to-reach areas and that VMs help to reduce the risk of maternal and neonatal morbidity. Out of 26 provinces, 20 (76.9 per cent) agreed that it is necessary to have VMs based on the three aforementioned criteria, proving that VMs are integral to their provinces.

The outcome of field visits to the three representative provinces and their 12 communes were similar when it came to the question of whether VMs are necessary. The reason most respondents (91.7 per cent) gave was that VMs are necessary to hard-to-reach areas. The role of VMs in reducing the risk of maternal and neonatal morbidity was also recognized by 75 per cent of CHFs, less than the result collected from the survey of 26 provinces. It makes sense because the number of events occurring in each commune is less than that in the entire province, making it difficult for commune-level health workers to make any conclusion on this matter.

In half of the communes, the work of VMs was considered culturally appropriate, which is perfectly in line with our field observations of where VMs are working. It is difficult to get around and especially to reach households on bad weather days with heavy rainfall, storms, floods, and land erosion. During in-depth interview with the research team, many CHF health workers said, *"some households are a mountain away from each other. We can only get there on foot and it might take the whole day"* or *"if we try to reach remote villages and are caught in the middle of soil erosion, we have to stay there for a few days because there's no other way to go back home."*

58.3 per cent of commune leaders considered the work of VMs culturally appropriate, less than that result of 26 provinces (76.9 per cent). It is understandable because commune leaders are local inhabitants and did not see much difference from before. There have been significant improvements in the integration of EM communities. Many of them have become more open-minded and willing to adopt new scientific and technological advancements in general and healthcare-related ones in particular. However, in remote, hard-to-reach areas where changes are most needed, there remain difficulties to turn them around.

Table 24. Effective services provided by VMs

Indicator	**Inputs of CDCs in 26 provinces**		**Inputs of 12 CHFs field-surveyed**	
	No. of inputs	*%*	*No. of inputs*	*%*
Prenatal care	22	84.6	8	66.7
Birth attendance	21	80.8	9	75.0
Recognition of danger signs/first aid and referral	22	84.6	9	75.0
Newborn care counselling	21	80.8	8	66.7
Family planning counselling	22	84.6	5	41.7

Most provinces (>80 per cent) considered the technical tasks performed by VMs as required by MOH (prenatal, intranatal, and postnatal care) effective. Even though VMs are not recommended to provide birth attendance in the community, except in cases of unexpected deliveries, 21 out of 26 provinces highly thought of this task undertaken by

VMs. More discussions are needed when it comes to task allocation for VMs with such constant demand in certain localities for birth attendance as home deliveries do not seem to go down. The question is whether the quality of birth attendance service delivered by VMs should be improved through training so that they can do so in the safest manner, aside from counselling and advocacy skills to encourage women to deliver at health facilities.

Similar to the overall evaluation of 26 provinces, most inputs from CHFs indicated that VMs were effective in providing maternity and newborn care. The least effective task was family planning counselling, perhaps because family planning is a matter of less interest in EM areas.

Birth attendance and first aid for danger signs before referral were considered the most effective work performed by VMs. As mentioned above, "birth attendance" continued to be viewed by many local authorities as the primary job of VMs. VMs knew the risks involved in home deliveries and did persuade pregnant women to deliver at health facilities, but *"the mothers refused to, so when they entered the labour stage, they called me in, and I had to come and assist the deliveries."*

Table 25. Performance of VMs against their assigned functions and tasks in Circular 07/2013/TT-BCT

Indicator	**Inputs of CDCs in 26 provinces**		**Inputs of 12 CHFs field-surveyed**	
	No. of inputs	*%*	*No. of inputs*	*%*
Suitable	23	88.5	10	83.3
No response	3	11.5	1	8.3
Other (early detection of pregnant women)	-	-	1	8.3

Circular No. 07/2013/TT-BYT[45] was issued by MOH on the standards, functions, and tasks of village health workers and VMs. Highly appreciating the work performance of VMs, local authorities totally agreed with the task allocation for VMs under Circular 07. Out of 26 provinces, 23 considered the functions and tasks currently undertaken by VMs relevant to their work settings. Phu Yen, Lai Chau, and Son La provinces did not provide their comments, probably because they missed this question or had not thoroughly looked into the Circular.

Similar to the inputs of 26 provinces, most CHF leaders found the functions and tasks assigned to VMs suitable. There was only one respondent who considered "early detection of pregnant women" not fitting, probably because he/she found it difficult to do so. It happens in many areas across the country, so early pregnancy checkup remains uncommon. The MCH Department has included this criterion in the annual report template[46] to encourage women early pregnancy checkup.

Table 26. Difficulties facing the work of VMs

[45] MOH. Circular 07/2013/TT-BYT dated 8 March 2013 of the Minister of Health on the standards, functions, and tasks of village health workers.

[46] MOH 2017. National Guideline on Reproductive health services

Indicator	Inputs of CDCs in 26 provinces		Inputs of 12 CHFs field-surveyed	
	No. of inputs	*%*	*No. of inputs*	*%*
No	4	15.4	2	16.6
Yes	22	84.6	10	83.3
Difficulties *(n=22)*			*n=10*	
- Lack of knowledge	16	72.7	3	30
- Lack of skills	18	81.8	5	50
- Lack of necessary supplies and medicine	19	86.4	7	70
- Lack of means of transport	16	72.7	5	50
- Unsupportive family	4	18.2	3	30
- Lack of community support and trust	10	45.5	4	40
- Lack of support from CHF	3	13.6	-	-
- Unsuitable functions and tasks	2	9.1	-	-
- Other (lack of allowances, recognition as village health workers)	6	27.3	2	20

Most provinces (22/26 provinces) reported difficulties encountered by VMs. On top of list was work-related difficulties (16/22 provinces), including the lack of skills, knowledge, necessary supplies and medicine, and means of transport. To address these difficulties, training is needed. There should be guidance from the central government on how the funding from the Health and Population NTP can be used sensibly to train the trainers at provincial and district levels and how local governments can mobilize other sources of funding. The most important and sustainable is local sources of funding, even though it may be challenging as most provinces deploying VMs are poor.

If technical difficulties are addressed, it is certain that the quality of work and prestige of VMs will be improved and other difficulties like the lack of community support and trust will be relieved.

Through in-depth interviews and group discussions at provincial and local levels, the most mentioned and difficult problem to address was remuneration related (see Table 10 below), especially from 2020. According to Decree 34/2019/ND-CP dated 24 April 2019 of the Government, village health workers as well as VMs who are non-full-timers shall not receive monthly allowances any longer. They will only receive compensations on a case-by-case basis, which are covered by the membership fees of the youth union or other mass organizations and other sources of funding (if any).

Means of transport was also mentioned by 16/22 provinces as a difficulty. This problem arose from incentives originally given to VMs at the start. In certain provinces, VMs were offered motorcycles thanks to the initial source of funding. But later when the source of funding downsized, many VMs were left with no means of transport. It is necessary to provide support to VMs in need. Such support not only helps them do their job better, but also presents a gesture of kindness in life. Despite resource constraints, local governments should pay more attention to the working conditions for VMs.

Compared to the overall evaluation of 26 provinces, technical difficulties were brought up less during the field visits in three provinces with the lack of knowledge being least mentioned (30 per cent). This result reflects the ongoing support that these three provinces receive from UNICEF (Dien Bien) and provincial People's Committees (Kon Tum and Ha Giang). Unsupportive families (30 per cent) had much to do with allowances and employment options. For border provinces in particular, it is common that the locals find employment across the border or some young VMs who have completed upper secondary education would want to find higher paying jobs in factories.

Lack of community support and trust (40 per cent) had much to do with the lack of supplies and medicine. Some VMs complained, "*We know that oxytocin is needed to stop postpartum bleeding, but we don't have it and are not allowed to use it*" or "*We don't even have medicine available for them in cases of high temperature, common cold, etc.*" Other VMs said that their commune governments did not support the work of VMs because VMs could not even address common health problems in the community.

Table 27. Local support for VMs (n=26)

Indicator	No. of inputs	%
No	10	38.5
No response	4	15.4
Yes	12	46.2
Current areas of support (n=12) - Recognition of VMs as village health workers - Learning opportunities - Monthly allowances - Other	 6 5 9	 50.0 41.7 75.0
Past areas of support: - Recognition of VMs as village health workers - Monthly allowances - Means of transport - Other:	 6 4 1	 23.1 15.4 7.7

As reported, by the end of 2019, only 12 out of 26 provinces (46.2 per cent) continued providing one of the types of support for VMs listed in Table 10, including four offering monthly allowances to VMs (Ninh Thuan, Lai Chau, Dien Bien, and Lao cai). Other provinces were working on allocating other tasks of village health workers to VMs. By the end of 2019, 1,142 VMs had received monthly allowances per Decision 75/2009/QD-TTg. In 2020, implementing the Government's Decree 34/2019/ND-CP, a number of provinces has stopped paying monthly allowances to village health workers as well as VMs. The provincial government of one province has tried to appoint VMs as heads of village-based WUs so that they can receive subsidy from the local budget. It is worth noting that five provinces have spent a part of their recurrent expenditure on capacity building for VMs.

Table 28. Recommendations for improved village midwifery

Content	Inputs of CDCs in 26 provinces		Inputs of 12 CHFs field-surveyed	
Recommendations for MOH	No. of inputs	%	No. of inputs	%
Monthly allowances	16	61.5	5	41.7
Knowledge upgrade	15	57.7	-	-
HI for VMs	1	3.8	-	-
Provision of supplies	-	-	5	41.7
Recommendations for provincial/district governments				
Allowances	21	80.8	10	83.3
Means of transport	18	69.2	8	66.7
Working conditions	19	73.1	9	75.0
Training	21	80.8	10	83.3

Regarding recommendations for MOH: Allowances and HI for VMs are recommendations that MOH cannot act upon itself. However, MOH can mobilize the support of relevant sectoral ministries to address these concerns for provincial governments. MOH is now working with Vingroup to implement a project in support of VMs. The project will be implemented in two phases. Phase one from September 2019 to June 2021 will cover ten provinces with a large number of VMs, including Lai Chau, Dien Bien, Son La, Lao Cai, Ha Giang, Cao Bang, Thanh Hoa, Dak Nong, Gia Lai, and Kon Tum. The project will focus its funding on helping VMs implement five key tasks, including: delivering three antenatal visits per pregnant women (VND300,000/person); persuading pregnant women to deliver at health facilities (VND250,000/person); assisting natural deliveries at home for pregnant women who do not deliver at health facilities (VND250,000/delivery); conducting three follow-up visits to deliver postnatal maternity and newborn care (VND300,000/case); and identifying danger signs in mothers and newborns and referring them to health facilities (VND200,000/case). Phase two of the project will be implemented until the end of 2025 with potential expansion to 26 provinces with village midwifery services available.

The recommendation on training will certainly be acted upon by MOH in many ways such as advocating and working with organizations to increase funding for training. It was found out during in-depth interviews with some partners, several provinces such as Dien Bien and Lao Cai will be provided with additional training with the support of UNICEF, Samaritan, and Vingroup. The most important support that MOH can provide is to update and revise training materials to make sure that they match the capacity of VMs and their daily work. The presentation and language used in the training materials for VMs should be simplified with lessons prioritizing skills and practices through training on job. MOH has also provide its inputs for and supported the Circular on special recruitment, training,

and pipelining policies for EM civil service workforce,[47] including the training of better quality VMs.

Certain recommendations at commune level such as provision of supplies actually have to do with common items that VMs have had but are now out of order (like medical bags, thermometres, blood pressure gauges,...). Such request can easily be met.

Recommendations at provincial and commune levels for provincial People's Committees are based on the actual difficulties met with the work of VMs. The recommendations at provincial level and at commune level are of equal importance. The more frequently mentioned recommendations remain allowances and training, showing the provinces are still in need of the network of VMs. DOHs should present convincing evidence to persuade provincial People's Committees to support the work of VMs.

5.4 Evaluation on the relevance, sustainability, and scalability of village midwifery in EM areas

To evaluate the relevance, sustainability, and scalability of village midwifery in disadvantages areas in the country, the evaluation team conducted 16 in-depth interviews and 12 group discussions at all levels from the central to village levels. At the central level, 7 in-depth interviews were conducted with leaders of state agencies (MCH Department, Department of Personnel and Organization - MOH), partner international organizations: UN, NGOs (UNFPA, WHO, UNICEF, Samaritan) whose activities are related to village midwifery. At the local level, in-depth interviews and group discussions were conducted with the authorities of provinces, districts, communes, and VMs. During the fieldwork, the evaluation team also had the opportunity to visit people's houses and witness some of the village midwifery services. The results of interviews and discussions will be presented according to the three contents of Objective 3: the relevance, sustainability, and scalability of village midwifery.

5.4.1 The relevance:

In addition to the relevance to the assigned functions and tasks prescribed by the MOH (Circular No. 07/2013/TT-BYT dated 8 March 2013 of the Minister of Health on the standards, functions and tasks of village health workers) as analysed in the quantitative evaluation of professional knowledge and skills, the relevance of village midwifery is analysed by qualitative method through in-depth interviews and group discussions, with a focus on answering the two questions: "Are village midwifery services suitable with the locality's characteristics?" and "Do VMs have capability to deliver services that satisfy clients' needs and get their acceptance?"

- **Suitability with the locality**

The decision to implement village midwifery services in EM, mountainous, and remote areas where people have difficulties in accessing the health system at all levels has proven its relevance throughout nearly 30 years of implementation. In discussions with key officials at the district and commune levels, they all evaluated that village midwifery services were suitable with the locality. The suitability is reflected in meeting people's needs in terms of ethnic culture, customs and addressing their difficulties in accessing services provided at health facilities due to inconvenient location and traffic.

[47] The Government. Draft Decree on Special recruitment, training, and pipelining policies for EM civil service workforce - pending

Some local leaders affirmed that only VMs could connect with and provide care for mothers in their areas because the people perceived that all the care related to pregnant women and childbirth was a private matter that only their husbands, female family members or very close people can talk about.

"Early marriage is a common phenomenon among Mong people, and they are hesitant to receive care. When we directly go to the village, they are still hesitant and afraid. In case of male health workers, they even do not let us to conduct medical examination. However, in case of VMs, they agree for VMs to administer injection, conduct prenatal checkup, and talk joyfully. In the past, we did not have midwives, we had to go to each household, it was hard but ineffective. Since we had village midwifery in place, the coordination is much better"- Group discussion, Dien Bien Dong district

Speaking the same language and understanding EM customs are important factors that help VMs to conduct their work, while health workers at CHFs or district level cannot perform as well as VMs.

"When we went to the people's house, there was a local person to interpret for us, but the mothers often answered in a reserved manner. However, when a VM talked to a mother, the mother turned to become someone else, she got lively and shared a lot of information with the midwife"- CHF Staff member in Ha Giang

"When they put green leaves in front of their houses, it means we are not allowed to enter the house. If we do not know their rule, and enter the house, we will be locked in (previously, I did not know this rule, and I was locked in for two days). VMs know this rule, they will ask the mother to take the baby to the porch and provide postnatal care in a joyful atmosphere"- Group discussion - Dien Bien Dong district

The local people trust VMs a lot. Many mothers agree to go to health facilities for prenatal checkup and delivery provided that they must be accompanied by the VMs. They consider the VMs as their relatives. - Group discussion - District official, Kon Tum province

The relevance of village midwifery is also confirmed by sponsoring organizations. Working with Lao Cai province for a long time, representatives of Samaritans were very touched when talking about VMs' contribution in providing maternity and child care in disadvantaged areas. They found that VMs were friendly people who understood the language, customs of mothers, were enthusiastic about their work and gained the community's trust.

"We highly appreciate the role of VMs because our program is about reproductive health for women and young children. In EM culture and customs, reproductive health is a very private matter, male village health workers cannot do this work, but VMs conduct this work very well. Before working as VMs, they are neighbours, friends and relatives in that village. It was very easy for them to learn how to reach local people"- Representative of Samaritan

Culture and customs are very distinctive matters in EM areas. The survey shows that there were women who lived very close to CHF, but they still chose to deliver at home and invited VMs to assist the delivery. In the scope of this survey, we do not have the conditions to further study about the customs, but it is necessary to pay more attention to this matter in VMs' work to ensure safe delivery for both mothers and newborns, and at the same satisfy the cultural and spiritual needs of the EM people.

The relevance is also reflected in meeting the health care needs of people in areas with difficulties in accessing health services. Most of the districts in the 26 provinces implementing village midwifery have many villages far from CHF, with poor connectivity in terms of distance, roads, and means of transportation.

"In Northern mountainous provinces like Dien Bien, travel is very difficult. In villages tens of kilometres away, even in favourable weather, it takes people all day long to arrive at CHF. In cases of floods and landslides, people cannot go. If a woman delivers, she has to stay at home. If case of obstetric complication, they will call for a transporting vehicle, but the vehicle just can stop in the main road and cannot enter the village"- Group discussion in Dien Bien

"The two hills look close to each other, but it takes all day long to travel. We just can walk through the hill and cannot ride a motorbike. Only VMs can directly visit pregnant women's houses, CHFs do not have enough people to conduct prenatal checkup or postnatal care"- Group discussion, Ha Giang.

It can be said that traffic in mountainous areas has been markedly improved for many years and has supported people a lot in their daily, social life, as well as health care activities. However, there are some areas that have not enjoyed these benefits, they even encounter more difficulties. The reason is that when the main road is constructed, it removes the trails people have used for many generations and they have to use longer route to get to the main road. This fact greatly impedes the lives of people in those areas, including the use of health services.

"In Muong Nhe, when the main road is constructed, people can only use that road. The small roads leading to the main road were destroyed and it becomes harder for people in that area to access transportation than before"- Representative of UNFPA

In normal condition, the traffic and connectivity is already poor; in the rainy season, almost all activities are delayed. If a person goes to the village and unfortunately encounters rain, flood, or landslide, he/she may have to stay there for a long time before being able to return home. Therefore, just with the difficult location, there is no one more suitable for maternity care than the VMs living in that area. Without them, who will provide support when a woman encounters an urgent situation such as labour, childbirth or any other maternal health issues?

The farthest village in my commune is 17km from the CHF. It is very difficult to travel, and the educational level of people is very low. The CHF do not have sufficient human resources and they cannot go to serve people in the village. VMs have helped in many ways: conducting advocacy, communication on prenatal check-up, vaccination, weighing and measuring children, etc. In my commune, VMs are really necessary - Representative of the Commune People's Committee, Dien Bien Dong district

"In Kon Tum, EM people account for a high proportion, geographical and travel conditions are difficult. In many cases, the mothers reported about labour too late (the cervix was completely open, the labour occurred while she was on the field, etc.). In this case, only VMs could help the mothers – group discussion of Kon Tum province

The relevance of village midwifery is also reflected in the linkage in maternity and child care between the community and health facilities. The evaluations of the provinces all confirm that *"Village midwifery is an important channel in pregnancy management and it is an extended arm of commune midwives".* The effective support and coordination of

VMs in the health system is a testament to the successful implementation of continuum-of-care approach recommended by WHO for all countries across the world.

"The coordination and contact with VMs are very tight. Sometimes mothers deliver at CHFs and meet nurses on duty, they still invite the VMs to assist the deliveries" – group discussion in Kon Tum province

"VMs always want to do good things for patients. They opened Zalo to call CHF staff members and even called the district level for advice on "birth attendance by phone". Particularly since the beginning of this year, I have received 3 phone calls to counsel about cases of big pregnancy, prolonged labour"- Leader of Health Centre of Dien Bien Dong district

- **VMs' service delivery capacity and the community's acceptance:**

Consistent with the results of the quantitative survey presented in Tables 7 and 12, most of the local leaders (provincial, district, and communal level) affirmed that VMs have sufficient capacity to provide maternity and child care services in the area of operation. Contribution to reducing the risk of maternal and neonatal diseases was also recognized by 75 per cent of CHFs, proving that VMs really worked effectively and played a very important role in the community.

"VMs make the most practical contribution to reducing maternal mortality and ensuring the safety of mothers during birth delivery in the village" – group discussion of officials in Kon Tum Province

"After monitoring 102 communes, we have found that VMs have been working very well. There are more midwives than CHF officials. Some midwives also assist deliveries at CHFs, district hospitals (because the mothers ask the VMs to go along and assist the delivery). VMs provide maternity care and assist deliveries very well, so it is very reassuring"- group discussions of officials in Kon Tum province

The capacity of VMs is reflected in the completion of assigned tasks such as pregnancy care, postnatal counselling and care; especially early recognition of risks in pregnant women, mothers and children in postpartum period. Quantitative results presented in Table 3; 4; 5 show that every year, VMs conduct a significant amount of care for mothers and children of EM communities.

"The services such as prenatal checkup, counselling, maternity care, are all very well conducted. Mothers are also encouraged to deliver at health facilities. Currently, in the villages and communes, unexpected delivery and home delivery have decreased"- group discussions in Dak Ha

"VMs know pregnant mothers in the villages and conduct care according to the procedures, counsel the mothers on how to eat and drink well and know what is harmful to the foetus, and ask mothers to inform VMs when problems occur. VMs can also perform the work of village health workers"- group discussion, Dien Bien Dong.

Although birth attendance is not a compulsory task for VMs, in the current situation, it has become one of their main work and is highly appreciated by the community. A number of VMs are well trained, have practiced a lot in the area and become reputable people not only to the people but also accepted by the government and professional agencies.

"She is Y. N, working as a midwife, but better than just a midwife. Sometimes the CHF do not have a midwife, so they call her for support, and she comes to support enthusiastically. She is on call around the clock to assist". Representative of CHF - Dak Sao, Kon Tum

"In a case, the mother is 8 km away from the CHF, when the village midwife called the CHF at 10pm, the foetal hand was already reaching out. It was not possible to go to the CHF, car was not available. I also guided them through the steps according to what I had learnt and finally, they made it - Dien Bien Dong group discussion

Not only completing professional work, the capacity of the VMs is also reflected in the fields of family counselling, community mobilization and connection with health facilities. Below is one of the many examples about VMs' roles

We visited the H'mong baby, who is now 10 month olds in the below photo. Her house is in Hua Ngai Commune, Muong Cha, Dien Bien, 12 km from the CHF and 25 km from the district hospital. Her mother was pregnant for the first time. She knew this was a case of twins but she still delivered at home and the husband assisted. The first fetus died because of asphyxiation, and the mother was shocked due to excessive bleeding. The neighbours told that the village had a village midwife who had received training at the provincial level, so the family members invited the midwife to come and support. After check-up, the village midwife found that the second fetus still had heartbeat; and the fetus turned horizontal presentation, thus it was not possible to deliver. The village midwife asked the family members and neighbours to use a hammock to carry the mother to the CHF, and at the same time called to report to the CHF. The CHF contacted the district health centre to assign a vehicle to the CHF to pick up and take the mother to the district health centre for C-section, saving both the mother and the baby.

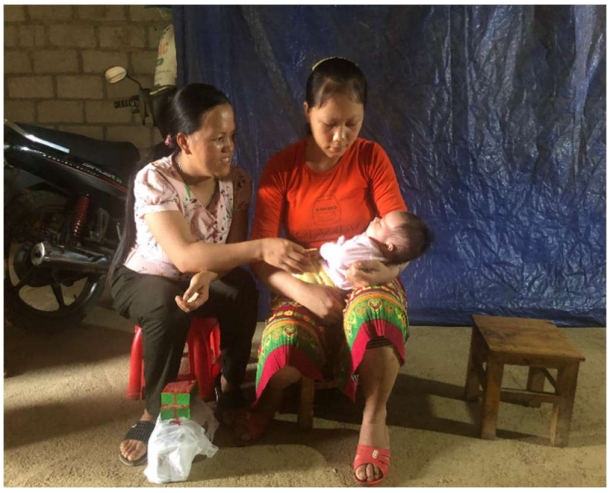
The village midwife contributed to saving the lives of both the mother and the infant by re risks, mobilizing communities and informing health facilities for coordination in handling the situation. In this case, the village midwife proved her capacity to provide services and connect the community with health facilities perfectly!

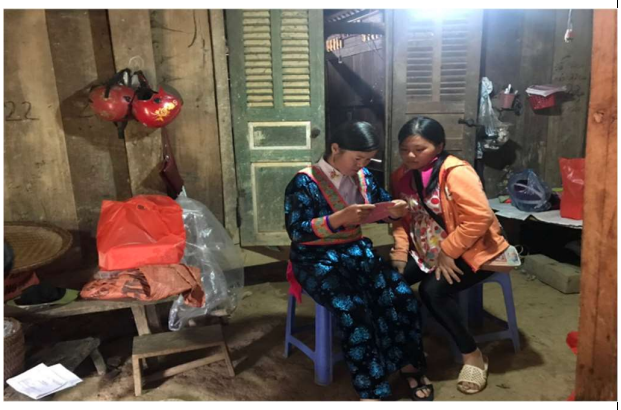
- Acceptance of the people:

In this survey, due to the inability to directly interview mothers and family members, the research team evaluated the people's acceptance through the assessment of local leaders at all levels and interviewing a number of VMs. Besides, when visiting a number of households, it can be clearly seen through observations that the VMs were always warmly and sincerely welcomed and received. Every time when the VMs came to the house, the mothers and families share their concerns about taking maternity care. They did not want to go to health facilities for prenatal checkup and delivery; but if counselled to do so, they requested the VMs to accompany them.

People's acceptance not only means "accept" but also trust and respect. The mothers use the services provided by VMs not just because there is no other option, but also because they think it is good and suitable for them. For example, there are some mothers who live near the CHFs but still deliver at home and want to have VMs come to help because *"they can easily share the difficulties with us. Here, they do not prepare diapers, clothes for babies; so when going to the health centre, they are often got scolded by hospital staff. While we do not scold, and also give them old clothes, towels, diapers." – VMs in Dac Ha*

"There are many things I want to tell. In 2002, when I returned from the training, I assisted my sister-in-law's delivery but the placenta was not removed. I called the CHF (1 hour from the time the placenta was not removed). I performed uterine massage, but the placenta still wasn't removed. So I took the mother to the CHF. When we arrived at the CHF, the placenta fell out in the bed, so I was very happy. In another case of twins, I encouraged the mother and her family member to go to the health facility, but they did not go because of lacking money. I told them I was worried because this was a case of twins and her third pregnancy. But they didn't go either. When they called me at 3am, I came and saw one child was about to come out. After assisting delivery for the first baby, I continued with the second one. Luckily, it was a safe delivery for the two babies: 3.1kg boy and 2.8kg girl. Now, I also have a lot of experience. In case of twins, I would take them to the health facility for delivery or C-section"





5.4.2 The sustainability:

In group discussions with local leaders as well as in-depth interviews with a number of VMs about the sustainability of village midwifery in localities, most of them agree that it is possible to sustain the model; but there still exist a lot of difficulties and challenges that require cooperation and support in both the professional and political system.

The sustainability thanks to the current support overweighs the hindering factors. The most important and decisive factors are the community's needs and the grassroots health network; the support of the local government and the most core factor is the capacity and enthusiasm of VMs.

- **The community's needs and the grassroots health network**: In discussion on the community's actual needs and the grassroots health network, all opinions affirm that

village midwifery is really necessary for maternity and child care in disadvantaged and EM areas. In these regions, as discussed above, there are specific factors that are difficult to change immediately. These are issues related to culture, customs, as well as difficult traffic conditions, so maternity and child care requires a local person who live in each village. The community's needs are very evident, as mentioned by most of the participants in group *discussions "we have no idea of when we will not need VMs"* or *"Remote villages need VMs forever"*.

Like a number of other evaluations and studies, the VMs' function in birth attendance is quite prominent in all areas. Although according to the regulations on the functions and tasks, VMs can assist home deliveries when they cannot persuade the women to deliver at health facilities; in fact, the survey shows that VMs always encourage pregnant women to deliver at health facilities and are always ready to accompany them to assist in both professional and psychological matters. However, the number of home deliveries does not tend to decrease in recent years, so it is necessary to equip more tools, equipment and provide training, update knowledge and skills for midwives to ensure safe home deliveries.

"In a case of first childbirth, and the family are Catholic. I persuaded the mother to deliver at the health facility, but the family decided not to go. They said that if death was unavoidable, there was no difference in dying here or there. The baby was suffocated. I conducted resuscitation to save the baby. In another case of breech presentation and significant bleeding, I was called to assist. I called the CHF to take the mother to the hospital. I accompanied them to the hospital, both the mother and the baby were saved. In cases of refusal to go to the hospital, I encouraged and took the pregnant woman to the hospital"- Dak Ha village midwife	

For the communal health network in these disadvantaged areas, village midwifery is an extended arm, an indispensable force of the CHFs. In disadvantaged conditions, CHFs' thin human resources cannot cover a residential area. Although there are not many people, the households live far apart, and are difficult to reach. Besides, because of barriers in language, culture, beliefs and low literacy, it is difficult for them to access services, communication, and counselling from commune and district health workers.

"We need to sustain village midwifery. Without VMs, we become like lame and dead. They are much more effective than us in providing maternity and child care. They speak their own language and can share with each other"- group discussions of Dien Bien Dong district

- **The support of both the local government and the community:** is an important factor to ensure the sustainability of village midwifery. Affirming the role, position and effectiveness of VMs, local authorities at all levels as well as village elders, village chiefs and EM people always encourage the work of VMs.

The local government: some provinces still try to allocate a certain amount of funding for the operation of village midwifery. In holidays and New Year events, VMs are also invited to join. Some well-performing midwives have the opportunity to attend meetings at the district and provincial level, which are also encouragement to motivate them to work.

The health sector: With the strategy to ensure long-term operation of village midwifery, the health sector always proposes and provides appropriate incentives, creates conditions for midwives to work. The Department of Organization and Personnel, the MOH has paid significant attention to policies for VMs, and clearly defines that this as a very important resource in maternity and child care in EM areas.

"The Personnel and Organization Department is the first department to encourage the MCH Department to propose that the VMs are included in the health system and eligible for allowance; Propose to the Minister that village midwifery is one of the two forms of village health care, advise the Government to issue Decision No. 75/2009/QD-CP, Circular No. 07/2013/TT-BYT on allowance for VMs" - Leader of the Personnel and Organization Department

As leaders of the health sector in the localities, witnessing the work and effective contributions of VMs, provincial DOHs also pay significant attention to the regime for VMs so that they can work in the system for a long time.

"The DOH has repeatedly proposed to the Provincial People's Committee to submit to the Provincial People's Council on providing allowance for VMs. Until now we are still waiting for the approval of the People's Council" – group discussion of the health leaders in Kon Tum province

The support of the health sector is also reflected in the regular professional exchange and support, support for working equipment, and funding for training courses. Many districts in the provinces still maintain monthly meetings with VMs, provide sufficient tools for the midwives to work. CHFs and some district hospitals allow VMs to participate in birth attendance at their facilities when the pregnant women are transported to. The status of VMs is also enhanced in the community through organization of some communication activities led by midwives,

"We have received the support and intervention in the ADB Project, including plans on retraining and induction training for VMs, and investing in equipment" - Kon Tum group discussion

"Ho Co village is 6 km away from the CHF. When the village midwife called, it was 12 at night. They said the baby's two feet already came out, there was not enough time to to go the CHF, so they asked for advice and instruction. We still came to the house for support" – Group discussion Dien Bien Dong district

"The management and contact with VMs are tightly conducted. Many times, when the mothers delivered at the CHF and met the nurses on duty, the CHF staff member invited the VMs to assist the mothers' delivery– group discussions in Tumorong district - Kon Tum.

"Establishing clubs, with village midwife as the leader. Exchanging and sharing information with mothers; participating in community health checkup"- Kon Tum group discussion

Support from the community and family is as simple as neighbourly feelings. These emotions cannot be measured and last forever, which is the source of motivation and joy for VMs to work.

"My husband supports my work. When I attended the training course, my husband took care of our 15-month-old child at home."- village midwife in Dak Ha

"Families often call me at night, near morning. My husband used motorbike to take me there and he had no complaints"- Village midwife in Dien Bien

"They help me with the field work, give me eggs. The people love me. I feel comforted and happy"- village midwife in Tumorong,

"Many VMs are also given chickens and eggs by the mother' families for assisting the delivery or providing maternity and newborn care. Many families invite the VMs to the celebration of their baby's first month"- group discussion in Dak Ha district.

- **The capability and enthusiasm of VMs**: The capability of VMs have been mentioned above; and in fact, it has been shown that VMs have made many wonderful things. In addition to performing the tasks according to the assigned functions and duties, assisting home deliveries and unexpected deliveries in the rice fields, VMs have handled many very special cases where the boundary of life and death urge them to do even though it is not their duty. For example, in case of a pregnant women delivering with horizontal presentation, the village midwife safely handled through zalo guidance from the district doctor. Or in the case of birth delivery with reverse presentation, excessive bleeding, the village midwife promptly handled, called for support, and safely transported the pregnant woman to the hospital to ensure safe C-section for both the mother and baby, etc. Perhaps it happens every day in remote areas of the country that we cannot fully collect all the information. A foreign expert of Samaritan shared the work of the VMs in their project area with emotion and admiration:

"A mother was about to deliver at home and contacted the village midwife to assist the delivery. The village midwife came immediately and recognised danger to the lives and advised the mother to go to the district hospital. At the district hospital, they checked and found out this was a case of twins, they said it was too difficult for them and advised to transport the mother to the provincial hospital. Finally the mother delivered to 3 babies safely" - Samaritan's representative.

In addition to the capability to deliver quality services, for the specific health care related to pregnancy and childbirth, the passion and dedication for work is indispensable for VMs to ensure the continuum of care in the network. With small allowance and currently not available in many areas, if it is not because of enthusiasm, love and attachment to the community, it is impossible to pursue this profession for a long time.

Actually, at the time of recruitment, not all the VMs chose this work because of the love for the work *"later on, will be able to help the people",* some VMs merely satisfied the recruitment requirement, and even other VMs attended training because there were no one else to assign this task. However, after receiving training, most of the VMs are attached to the work. In fact, there are also a number of VMs who quit their jobs for many reasons which will be mentioned in the following section; through contacting with many VMs, we can feel their love for the job, their love and attachment to the community.

"There are a lot of difficulties, but I try to help the people. Now the road is better and more convenient, we can transport the mothers by motorbike or by taxi, if possible.

However, many families have nothing (deliver without preparing anything), so we help them. They did not prepare any clothing for the baby because of the lack of money and because of their custom of abstaining" – Village midwife in Kon Tum

"A few years ago, when a woman was about to deliver, her family member tried to look for me but I did not know, so they invited a traditional birth attendant to support. When I knew and prepared the tools, the baby already died. I supported with the placenta removal, taking care of the mother, etc. Throughout that week, I kept feeling upset and regretted if only I had come in time, I would have been able to save the baby. Just thinking about it made me want to cry, feel like it was my fault and I can never forget it. Next time, if I am called, I will be immediately available – a VM in Kon Tum

There is a lot of love and sharing like that in the areas where VMs work and this has won the hearts of the donors and sponsoring organizations. Samaritan representative shared that if they havd to choose to support, VMs must be the first choice. She said so because she witnessed the needs of mothers and children in disadvantaged areas and the important role that VMs played in satisfying those needs.

"The more difficult the village is, the better sense of community, more enthusiastic and responsible that VMs get" - representative of Samaritan

"I would like to receive allowance so I have the motivation to continue this work. But if I don't get allowance, I still continue this job. My husband supports me"- a VM in Kon Tum

Despite their contributions, when asked about wishes, they mainly expressed wishes about further training to improve knowledge and skills, having enough tools and means to conduct work. The families are too poor with few furniture, they only wished to have *"a cabinet to protect files and books from rodents"* and a few VMs had the idea *"I want to go to Hanoi to know what the capital is like"*.

The sustainability of village midwifery has also been confirmed by the MCH Department as absolutely necessary and possible. Maintaining appropriate and effective village midwifery services will help to reduce maternal and infant mortality in remote and EM areas in the next 1-2 decades. Continuing to maintain and develop the village midwifery network is also an important contribution to reducing inequality in access to basic health services, and actively implementing Viet Nam's Sustainable Development Goals on maternity and child health by 2030[48].

5.4.3 Scalability: It is very necessary and feasible to replicate the village midwifery model because of the following reasons:

- Currently, the MOH is actively preparing the contents and will soon submit to the Government to issue a Resolution on strengthening and maintaining the contingent of village health workers and midwives, in which the Government affirms that there will be support for the village midwifery network.

- In case that if in each village, the State only provides allowance for one health worker to work; in disadvantaged mountainous areas, VMs have more advantages to be

[48] MCH Department –MOH, 2015. 25-year review report on the network of VMs in Viet Nam

selected. The actual survey shows that some localities are conducting this action. The reason is that although village health workers make certain contributions to the community, they cannot undertake the work of VMs. On the contrary, VMs can conduct the work of village health workers and in fact, in the three surveyed provinces, there are many VMs who are undertaking both of these jobs.

- The survey on VMs' training needs also shows that many localities wish to replicate this model (Table 1). The current number of VMs cannot meet the needs of providing maternity and child care services in many disadvantaged mountainous areas in many in North Central and Northern mountainous provinces.

- The local support: An important supporting factor is that some provinces still have allowance for VMs. In the three surveyed provinces, Dien Bien and Kon Tum are still able to mobilize the local budget and funding from some projects, so VMs still get monthly allowance.

- The local and donor support: It is important to emphasize significant support from the donors who have been accompanying the MOH on village midwifery services. Discussing with representatives of some domestic and foreign organizations, we received a positive response for the replication of the village midwifery model. The United Nations (UN) agencies wish to accompany the Government of Viet Nam to strengthen this system and still have plans to provide support. The WHO is always a source of technical assistance and training to village health workers; UNICEF and UNFPA will directly provide support in training, monitoring and evaluation.

"Continue to support UNICEF's provinces, specifically to support Dien Bien in provide induction training for VMs, in newborn care" - Representative of UNICEF

"UNFPA's support plan in the coming time is to improve the performing capacity of VMs through the use of Smartphones; train new VMs for the most disadvantaged villages and communes"- Representative of UNFPA

In the current transition period, VMs do not receive allowance from the State's budget, thus the support of a number of non-governmental organizations (NGOs), businesses is very practical, helping to maintain village midwifery services to serve as the basis for the replication phase. Samaritan and Vingroup are two important partners who are very actively supporting village midwifery services.

"Our organization has provided support for this model for 15 years. It is recognized as a very effective model which needs to be replicated to many other provinces. So our organization continues to support some provinces to implement this model. Particularly, we will support Lao Cai province to provide training and effectively use the trained VMs"- Representative of Samaritan.

Policies to support VMs to perform professional tasks, including: prenatal checkup; encouraging mothers to deliver at health facilities; assisting natural home delivery for mothers who do not deliver at health facilities; conducting maternity and newborn care after home delivery; recognising, administering first aid and conducting referral of cases with signs of danger in mothers and newborns have a very significant impact in encouraging VMs to actively participate in their activities. Many VMs who stopped working now have registered to participate in the Project and continue to work.

- The State's policy

Currently, the MOH is developing the contents of Project 7 - Healthcare for the people, improving the health and stature of EM people; child malnutrition prevention and control

under the Master Plan on socio-economic development of EM and mountainous areas for the 2021-2030 period, including providing support for VMs such as monthly allowance, updated training, providing clean delivery kits. If implemented, the Project's activities will basically solve VMs' difficulties in providing maternity and newborn care for particularly disadvantaged EM areas, thereby maintaining and reinforcing the contingent of VMs.

5.5 Cost estimation to sustain, strengthen, and upscale the network of VMs

5.5.1 Cost of network maintenance

In order to sustain village midwifery services, it is necessary to satisfy two main requirements, which are to provide allowance and supply equipment, consumables for VMs to work.

5.5.1.1. Estimated cost of remunerating VMs

Based on the norms in the Prime Minister's Decision No. 75/2009/QD-BYT, village health workers/ VMs working in particularly disadvantaged areas (Region III) are eligible for a monthly allowance equal to 0.5 of basic wage (VND1,600,000), which is VND800,000. Thus, the amount of funding required to sustain village midwifery services each year is:

- Allowance for 01 VM per year: VND800,000 x 12 months = **VND9,600,000**

- Total annual allowance for 1,702 active VMs[49] will be:

VND9,6000 x 1,702 = **VND16,330,000,000** *(sixteen billion three hundred thirty three million dong)*

According to the plan to 2025, it is necessary to have 2,500 active VMs, so the total funding of allowance for the entire network each year as follows:

VND9,6000 x 2,500 = **24,000,000,000** *(Twenty four billion dong)*

5.5.1.2. Estimated cost of equipment and consumables

Equipment and consumables necessary for VMs' work include three items: Clean delivery bag; Bag to contain tools and consumables. Specifically:

+ Purchase clean delivery packages for VMs to assist home delivery:

VND50,000/package x 50,000 deliveries[50]= **VND2,500,000,000** *(Two billion five hundred million dong)*

+ Purchase tool bags for VMs:

VND3,000,000/package x 1000[51] = **VND3,000,000.000** *(Three billion dong)*

By 2015, in order to train additional 1500-2000 VMs in the 2021-2025 period, it is necessary to supplement about **VND4.5-6 billion** to buy tool bags for newly trained VMs.

+ Purchase consumables (urine protein dipstick, cotton bandages, gloves, etc.): On average, every year each VM needs about VND300,000 to buy consumables for their work. Thus, each year, the country needs about **VND500 million** to purchase consumables for all the 1702 VMs to use in their work. If the number of VMs increases to 3,500 by 2025, each year about **VND1 billion** is needed to buy consumables for this team.

[49] Survey Report of the MCH Department

[50] Estimates by the MCH Department

[51] Currently lacking

5.5.2 Cost of network strengthening

To ensure the quality of services, like all other health workers, VMs need to be regularly updated with knowledge and skills, at least every 5 years. Funding for training (5 days) in the 2021 - 2015 period is estimated at around **VND17-25 billion** (the average for one VM is VND10,000,000).

Funding mobilization:

- The Central State's budget: is expected to support training for VMs under the National Target Program for socio-economic development in EM and mountainous areas in the 2021-2030 period.

- Funding sources: from a number of domestic and foreign sources such as the EU, UNICEF, VinGroup, UNFPA, etc.

5.5.3. Cost of network expansion

To replicate and cover villages in disadvantaged areas, it is necessary to provide training for 1500-2000 VMs in the 2021-2025 period. With the current expenditure of some projects, the cost of induction training for one VM (6-month program) is about VND50,000,000 (including all the costs of participants' accommodation, travel, and training cost). Thus, the cost for training for 1500-2000 VMs will be about **VND75-100 billion**.

Mobilization capacity: Currently, there are many domestic and foreign donors (VinGroup, UNICEF, UNFPA, Samaritan, etc.)[52] committed to support VM induction training for localities that provide allowance for VMs.

VI. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions:

Through the research survey in 26 provinces with village midwifery services available, including the three provinces chosen for the field survey (Ha Giang, Dien Bien and Kon Tum), we have the following main conclusions:

6.1.1. Village midwifery for maternity and newborn care in mountainous areas

- **VMs have really made an important contribution to maternity and newborn care in mountainous areas, specifically:**

- Prenatal care: Every year, conducting prenatal checkup and care for a large number of pregnant women (42,441); counselling for about 26,852 women on pregnancy care and conducting successful referral to health facilities for 5,121 pregnant women, of which 2,073 cases were referred to the higher level because of risks during labour; Detecting 2,210 women at risk during pregnancy and 1,341 during labour. The provinces that perform well and the most certain activities are Dien Bien (Counselling on pregnancy care); Son La (Risk identification), Dak Lak (Referral to health facilities) and Thanh Hoa (Risk identification during labour and referral).

[52] VinGroup is committed to support mountainous provinces to provide induction training for 1,000 VMs in the 2021-2025 period through the project "Supporting VMs"; UNICEF and UNFPA plan to train additional 120 VMs; Samarital is willing to provide village midwifery training for provinces that pay allowances for VMs.

- Intranatal care: Successfully assisted 3,340 home deliveries and 1,229 unexpected deliveries. Assisted deliveries at CHFs for 662 mothers and well administered first aid for 17 cases of obstetric complications.

- Postnatal care: Detected and referred 958 mothers with abnormal issues and 422 newborns with signs of danger. Provided counselling for 14,331 mothers on newborn care and 15,197 mothers on family planning;

- **Most of the provinces (> 80 per cent) assessed the implementation of VMs' professional tasks according to the MOH's regulations (providing prenatal, intranatal, and postnatal care) to be effective.** Prenatal care, identification/ administering first aid in case of danger signs, and family planning counselling received the highest evaluation from many provinces (84.6 per cent).
- **The majority (20 provinces - 76.9 per cent) assessed village midwifery as necessary in the localities on all 3 evaluation criteria:** culturally appropriate; necessary for hard-to-reach areas; and contributing to reducing the risk of maternal and neonatal morbidity.
- **The village midwifery services in most provinces (22/26 provinces) faced a number of difficulties.** The most were difficulties related to the work (16-22 provinces): lack of skills, lack of professional knowledge, lack of necessary supplies and medicine, and lack of means of transport.
- **The central and local support tended to decrease, particularly monthly allowance for VMs**. Especially from 2020, due to the implementation of the Government's Decree No. 34/2019/ND-CP, most of the provinces had to stop paying allowance to village health workers in general and VMs in particular.

6.1.2. Knowledge and practice of VMs in Ha Giang, Dien Bien, and Kon Tum provinces

- **Knowledge:**

- VMs had good knowledge on maternity and newborn care with 85 per cent of VMs scoring 60 per cent or higher, especially in Kon Tum province where all VMs passed the average score of 28,1 and the difference is not large (± 2.3). The pass rate was lower among VMs in Dien Bien province (84.8 per cent) and Ha Giang province (71.4 per cent) with a rather huge knowledge gap between VMs (from 7 to 30 points).

- The pass rate on intranatal and postnatal care was higher, but the difference was not significant (82.8 per cent, 87.4 per cent and 98.7 per cent). In Dien Bien province alone, the pass rate on prenatal care was markedly lower than intranatal and postnatal care (67.9 per cent compared to 78.6 per cent and 89.3 per cent).

- **Practice:**

Prenatal care:

- In all the three provinces: 73.6 per cent passed the requirements of overall prenatal checkup. Three steps that were taken least correctly or skipped most: Taking history (67.8 per cent); Asking for height, weight, and weight gain (73.6 per cent), and Visually assessing the uterus (59.8 per cent). Regarding the step of full-body visual assessment, up to 54 per cent of VMs did not complete all sub-steps required, did them incorrectly, or skipped them.

- There were differences in prenatal care practice in the provinces:

  - VMs in Ha Giang province paid little attention to "asking for height, weight, and weight gain" and "providing explanation and guidance". VMs in Dien Bien province paid little attention to "visually assessing the uterus" while those in Kon Tum province paid little attention to "taking history".
  - The steps done most correctly had to do with medical examination. Most VMs in Ha Giang, Dien Bien, and Kon Tum provinces did the step of "measuring the fundal height and abdominal girth"; "listening to the fetal heartbeat" (Ha Giang and Kon Tum); and "measuring the pulse, temperature, and blood pressure (Dien Bien) correctly.

First aid for postpartum hemorrhage caused by uterine atony

- It was observed that more than 47 per cent of VMs conducted steps correctly and enough during first aid for postpartum hemorrhage caused by uterine atony . The good practices included performing uterine massage (71.3 per cent); measuring the pulse and blood pressure (66.7 per cent); contacting CHF for help (80.5 per cent), and providing explanation to the family on the referral (63.3 per cent). The technique of "uterine compression with one hand inside and one hand outside" was done least correctly, and the steps done most correctly included "performing uterine massage" and "contacting CHF for help"

6.1.3. Relevance, sustainability and scalability of village midwifery in EM areas

- **Relevance**: 20/26 (76.9 per cent) assessed village midwifery as suitable with EM areas on all the three criteria: culturally appropriate; necessary for hard-to-reach areas; and contributing to reducing the risk of maternal and neonatal morbidity

- In group discussions, in-depth interviews in the three provinces, it is emphasized that the relevance is because of:

  - Suitability with the local characteristics
  - Necessity for the community
  - VMs' capacity to provide services to meet clients' needs
  - The community's acceptance

- Sustainability: There are a number of challenges but it is still possible to sustain the model because of:

  - Significant demand of the community and the grassroots health network;
  - Support from the local authorities
  - The capacity and enthusiasm of VMs as the most important factor

- Scalability: Difficult but there are many positive signs of support.

The authorities at all levels highly appreciate village midwifery services. The MOH is preparing to submit to the Government to issue a separate resolution on strengthening and maintaining the contingent of village health workers and VMs. Some provinces still provide allowance for VMs, and there is considerable support from local and international donors.

6.2. Recommendation

6.2.1. To the MOH

- Promptly complete the contents and submit to the Government for promulgation of a Resolution on strengthening and maintaining the contingent of village health workers, VMs,

- Strengthen the direction of localities to supervise the recruitment and use of VMs, creating favourable conditions for VMs to work,

- Review training documents, update training contents and programs for VMs to make them more suitable with the actual level of participants and cultures of regions,

- Mobilize funding, domestic and foreign resources in the training and operation of village midwifery,

- Advise the Government, collaborate with relevant Ministries, departments, agencies (Committee for Ethnic Affairs, Ministry of Home Affairs, etc.) to issue policies to support VMs (especially monthly allowance), as well as to enhance their role and position in the MCH care network, especially through the integration of this initiative in the National Target Program for socio-economic development in EM and mountainous areas in the next 10 years.

6.2.2. To the localities:

- Continue policies to support and raise awareness for EM people on reproductive health matters, especially in remote and disadvantaged areas;

- Provincial Peoples Committee should allocate budget and allowance for VMs to work; encourage families and communities to support and create a favourable environment for VMs to work;

- DOHs: should correctly implement the criteria on recruitment and use of VMs to ensure their long-term commitment to the work; direct the supervision of and provide support to closely connect village midwifery services and CHFs;

- Continue to evaluate Vingroup's special support models, to draw lessons learnt and make adjustment for the next phases of this program;

- Adopt policies and initiatives to mobilize support from hospitals, domestic and international enterprises and international organizations for the continuation and expansion of this model.

6.2.3. To domestic and international donors:

- Continue to accompany, advocate and support the Government of Viet Nam in the formulation and implementation of policies for sustainable development of EM areas, including policies to sustain, reinforce and develop village midwifery model in EM disadvantaged areas;

- Continue to support localities in training and upscaling village midwifery in EM areas, where the custom of women not going to health facilities for prenatal checkup and delivery still exists;

- Support the MOH in developing and updating training contents and programs for VMs, as well as organizing training courses to update knowledge and skills for VMs; managing, using and supervising, supporting VMs after the training.

ANNEX 1. DATA COLLECTION TEMPLATES

Annex 1.1
QUESTIONNAIRE ON THE CURRENT NETWORK AND PERFORMANCE OF VMs
(For Provincial CDCs)

Form Code ☐☐

In order to develop policies and plans to improve the quality of maternity and child care services, contributing to reducing maternal and neonatal mortality, particularly in mountainous and remote areas, The Department of Maternity and Child Health, the Ministry of Health, in collaboration with the United Nations Children's Fund, organizes a survey to collect information related to the training, use and performance of VMs in the past years.

This is the form for Provincial Centres for Disease Control to fill in. Please collect information and fill out the form below. After completing filling in the information, please send it to the Department of Maternity and Child Health, MOH - 138[a] - Giang Vo - Ba Dinh - Hanoi.

Province/ City:

Full name of the informant:

Title of informant:

Phone number:..... Email:

Date of completion of the form:

-

No.	Contents	2019	Note
I	**General information about the village midwifery network**		
1	Total number of women aged 15-49 years (according to the 2019 census)		
2	Total number of EM women aged 15-49		
3	Total number of communes / wards / towns		
4	Number of communes with the rate of home delivery:	<20 per cent:…… ≥ 20 per cent:…….	
5	Total number of villages in particularly disadvantaged areas (according to the Prime Minister's Decision)		
6a	Total number of villages that face difficulties in reproductive health care *(according to Circular No. 07/2013/TT-BYT)* and need to arrange one village midwife		
6b	Number of villages that face difficulties in reproductive health care and have not had VMs		
7a	Total number of VMs who have received 6 months of training or more *(by all sources)*		
7b	Number of VMs who have received 6 months of training or more *(by all sources)* and are currently active		

No.	Contents	2019	Note
7c	Number of VMs who have received allowance for village health workers according to Decision No.75/QD-TTg of the Prime Minister.		
9	Number of VMs who need to be further provided with standardized training in the coming time (are midwives who have been trained in previous programmes and projects but have not been certificated on basic professional training, now need to be provided with standardized training for 3 months and certificated)		
10	Number of VMs suggested as in need of induction training in the next 5 years		
II	**Performance of technical tasks by VMs**		
TT	**Contents**	**2019**	**Note**
1	Total number of women given prenatal checkup		
2	Number of pregnant women receiving urine tests conducted by VMs		
3	Total number of counselling sessions on pregnancy care conducted by VMs		
4	Total number of high-risk pregnant women identified by VMs		
5	Total number of pregnant women who are referred to higher level by VMs		
6	Total number of home deliveries assisted by VMs		
7	Total number of mothers who deliver at health facilities and are assisted by VMs		
8	Total number of unexpected deliveries assisted by VMs		
9	Total number of women identified by VMs as high-risk during labour		
10	Total number of women who are in labour and referred to higher level by VMs		
11	Total number of obstetric complications administered first aid by VMs		
12	Total number of mothers identified by VMs as having signs of danger after delivery		
13	Total number of mothers referred to higher level by VMs after delivery		
14	Total number of mothers counselled by VMs on newborn care after delivery		
15	Total number of mothers counselled by VMs on family planning after delivery		
16	Total number of newborns identified with risks and referred by VMs		

Day month 2020

Confirmation of the head of the unit **Informant**

Sign and seal **Sign**

Annex 1.2

EVALUATION FORM
ON THE PERFORMANCE OF VILLAGE MIDWIFERY
(for provincial CDCs)

Form code ☐☐

In order to develop policies and plans to improve the quality of maternity and child care services, contributing to reducing maternal and neonatal mortality, particularly in mountainous and remote areas, The Department of Maternity and Child Health, the Ministry of Health, in collaboration with the United Nations Children's Fund, organizes a survey to collect information related to the training, use and performance of VMs in the past years.

This is the form for Provincial Centres for Disease Control to fill in. Please collect information and fill out the form below. After completing filling in the information, please send it to the Department of Maternity and Child Health, MOH - 138[a] - Giang Vo - Ba Dinh - Hanoi.

Instruction for filling in the form:

- *Read the questions carefully and circle or fill in the appropriate information in the answer section.*
- *In case of making MISTAKES: MAKE A CROSS (X) in the position of the mistake and fill in the comments/ choices next to the mistake (do not erase).*
- *When filling in the form, please use a pen, a ballpoint pen (not a pencil).*

Province/ City:

Full name of the informant:

Title of informant:

Phone number:..... Email:

Date of completion of the form:

No.		2017	2018	2019
1	Total number of pregnant women receiving prenatal checkup **in communes** with village midwifery services available			
2	Total number of deliveries **in communes** with village midwifery services available			
3	Total number of home deliveries **in communes** with village midwifery services available			
4	Total number of obstetric complications occurring in **communes** with village midwifery services available			

5. Comments of the locality on the village midwifery services

(You may choose many options, please circle the corresponding numbers)

5.1. Culturally appropriate

5.2. In areas where it is difficult to access health facilities (mountainous and remote areas), it is necessary to have VMs.

5.3. Village midwifery services contribute to reducing problems related to maternity and newborn health.

5.4. Other opinions (please specify)

6. According to the unit/ locality, which of the following village midwifery services are conducted really effectively?

(You may choose many options, please circle the corresponding numbers)

6.1: Prenatal care (prenatal checkup, counselling on pregnancy care)

6.2. Assisting natural deliveries (in case the women cannot go to health facilities)/ Assisting unexpected deliveries

6.3. Identifying/ administering first aid for women having signs of danger and conducting referral.

6.4. Counselling on newborn care

6.5. Counselling on family planning

6.6. None of the above services are conducted effectively

6.7. Other opinions (please specify)

7a. Are the qualification, training, functions and tasks of VMs in accordance with the provisions of Circular No. 07/2013/TT-BYT (*attached*) suitable with the local condition?

7a1. Suitable (Skip question 7b)

7a2. Unsuitable

7b. If not, please specify:

……
……
……
……

8a. Does the locality have any support for the village midwifery services?

8a1. Yes
8a2. No (Skip question 8.b)

8b. If yes, please specify.

(You may choose many options, please circle the corresponding numbers)

8b.1. Formally recognized as local health workers	8b.2. Used to be recognized (reason for discontinuation)
8b.3. Continue studying to improve capacity	8b.4. Supported with monthly allowance
8b.5. Used to be supported with monthly	8b.6. Supported with travel condition

allowance (reason for discontinuation)	(bicycle, motorbike, travel costs)
8b.7. Used to be supported with travel condition: bicycle, motorbike, travel costs (reason for discontinuation)	8b.8. Others (please specify)

9a. Are there any difficulties/ obstacles for VMs to work in the locality?

9a1. Yes

9a2. No (Skip question 9b)

9b. If yes, what are the main difficulties/ obstacles?

(You may choose many options, please circle the corresponding numbers)

9b.1. Lack of knowledge

9b.2. Lack of skills

9b.3. Lack of necessary supplies and medicine

9b.4. Lack of means of transport

9b.5. Unsupportive family

9b.6. Lack of community support in EM midwives' service delivery

9b.7. Lack of community trust in VMs' skills

9b.8. Lack of support from CHF

9b.9. Current regulations on the functions and tasks of VMs are not appropriate

9b.9. Others (please specify ……)

10. From viewpoint of the locality/ unit, what should be done to maintain/ improve the quality of village midwifery services?

(You may choose many options, please circle the corresponding numbers)

10.1. Monthly allowance

10.2. Coverage of travel cost

10.3. Support in working conditions (equipment, medicine, etc.)

10.4. Training and updating knowledge and skills

10.5. Others (please specify)

11. To maintain/ improve the quality of village midwifery services, what are the recommendations of the locality/ unit to the MOH?

……
……
……
……

Day month year 2020

Confirmation of the head of the unit **Informant**

Sign and seal **Sign**

Annex 1.3

EVALUATION FORM
ON THE PERFORMANCE OF VILLAGE MIDWIFERY
(for CHFs)

Form code ☐☐☐☐☐☐

In order to develop policies and plans to improve the quality of maternity and child care services, contributing to reducing maternal and neonatal mortality, particularly in mountainous and remote areas, The Department of Maternity and Child Health, the Ministry of Health, in collaboration with the United Nations Children's Fund, organizes a survey to collect information related to the training, use and performance of VMs in the past years.

This is the form for commune health facilities (CHFs) to fill in. Please collect information and fill out the form below. After completing filling in the information, please send it to the Department of Maternity and Child Health, MOH - 138ª - Giang Vo - Ba Dinh - Hanoi.

Instruction for filling in the form:

- *Read the questions carefully and circle or fill in the appropriate information in the answer section.*
- *In case of making MISTAKES: MAKE A CROSS (X) in the position of the mistake and fill in the comments/ choices next to the mistake (do not erase).*
- *When filling in the form, please use a pen, a ballpoint pen (not a pencil).*

Province: District: Commune:

Full name of the informant: Title:

Phone number:..... Email:

Date of completion of the form:

No.		2017	2018	2019
1.	Total number of pregnant women receiving prenatal checkup **in the whole commune**			
2.	Total number of deliveries **in the whole commune**			

No.		2017	2018	2019
3	Total number of home deliveries **in the whole commune**			
4	Total number of obstetric complications occurring **in the whole commune**			

5. Comments of the locality on the village midwifery services

(You may choose many options, please circle the corresponding numbers)

5.1. Culturally appropriate

5.2. In areas where it is difficult to access health facilities (mountainous and remote areas), it is necessary to have VMs.

5.3. Village midwifery services contribute to reducing problems related to maternity and newborn health.

5.4. Other opinions (please specify)

6. According to the unit/ locality, which of the following village midwifery services are conducted really effectively?

(You may choose many options, please circle the corresponding numbers)

6.1: Prenatal care (prenatal checkup, counselling on pregnancy care)

6.2. Assisting natural deliveries (in case the women cannot go to health facilities)/ Assisting unexpected deliveries

6.3. Identifying/ administering first aid for women having signs of danger and conducting referral.

6.4. Counselling on newborn care

6.5. Counselling on family planning

6.6. None of the above services are conducted effectively

6.7. Other opinions (please specify)

7a. Are the qualification, training, functions and tasks of VMs in accordance with the provisions of Circular No. 07/2013/TT-BYT (*attached*) suitable with the local condition?

7a1. Suitable (Skip question 7b)

7a2. Unsuitable

7b. If not, please specify:

……
……
……
……

8a. Does the locality have any support for the village midwifery services?

8a1. Yes
8a2. No (Skip question 8.b)

8b. If yes, please specify.

(You may choose many options, please circle the corresponding numbers)

8b.1. Formally recognized as local health workers	8b.2. Used to be recognized (reason for discontinuation)
8b.3. Continue studying to improve capacity	8b.4. Supported with monthly allowance
8b.5. Used to be supported with monthly allowance (reason for discontinuation)	8b.6. Supported with travel condition (bicycle, motorbike, travel costs)
8b.7. Used to be supported with travel condition: bicycle, motorbike, travel costs (reason for discontinuation)	8b.8. Others (please specify)

9a. Are there any difficulties/ obstacles for VMs to work in the locality?

9a1. Yes

9a2. No (Skip question 9b)

9b. If yes, what are the main difficulties/ obstacles?

(You may choose many options, please circle the corresponding numbers)

9b.1. Lack of knowledge

9b.2. Lack of skills

9b.3. Lack of necessary supplies and medicine

9b.4. Lack of means of transport

9b.5. Unsupportive family

9b.6. Lack of community support in EM midwives' service delivery

9b.7. Lack of community trust in VMs' skills

9b.8. Lack of support from CHF

9b.9. Current regulations on the functions and tasks of VMs are not appropriate

9b.9. Others (please specify ……)

10. From the viewpoint of the locality/ unit, what should be done to maintain/ improve the quality of village midwifery services?

(You may choose many options, please circle the corresponding numbers)

10.1. Monthly allowance

10.2. Coverage of travel cost

10.3. Support in working conditions (equipment, medicine, etc.)

10.4. Training and updating knowledge and skills

10.5. Others (please specify)

11. To maintain/ improve the quality of village midwifery services, what are the recommendations of the locality/ unit to the MOH/ DOH?

-To the DOH:

……..

…….

- To the MOH:

……

……..

Confirmation of the head of the CHF ***Day month year 2020***

Informant

Sign and seal **Sign**

Annex 1.4

SELF-ADMINISTERED QUESTIONNAIRE FOR VMs

Form code ☐☐☐☐☐☐

In order to develop policies and plans to improve the quality of maternity and child care services, contributing to reducing maternal and neonatal mortality, particularly in mountainous and remote areas, The Department of Maternity and Child Health, the Ministry of Health, in collaboration with the United Nations Children's Fund, organizes a survey to collect information related to the training, use and performance of VMs in the past years.

This is a self-administered questionnaire for VMs. Please fill out the form below and return it to the evaluator.

Thank you for taking the time to fill out the form. Wish you health and good work.

Instructions for filling in the form:

- *Read the questions carefully and fill in the appropriate information in the answer column. For MULTIPE CHOICE question: circle (O) the corresponding number or check (X) the answer you think is correct.*
- *In case of making MISTAKE: MAKE A CROSS (X) in the position of the mistake, then CIRCLE the correct answer*
- *When filling in the form, please use a pen or ballpoint pen (do not use a pencil), avoid erasing.*

PART 1. GENERAL INFORMATION

Please read the questions carefully, circle the number that you choose or fill in the appropriate information in the answer column.

No.	Question	Answer
1.	Full name, Mobile phone number	……..
2.	Year of birth (write calendar year)	……..
3.	Ethnic group	……..
4.	Where is your current residence?	Village…… Commune……. District…….. Province……..
5.	Distance from the area under your charge to the nearest health facility (CHF or clinic, hospital)	…….km
6.	The amount of time to travel from the area under your charge to the nearest health facility by the most popular mean of transport in the village	……..hours…….minutes
7.	Information about the area under your charge	Number of households:…….. What are the main ethnic groups: …… …… Total number of deliveries from January 2019 to the end of May2020:…… In which: - How many deliveries at CHF/ hospital? .....….. - How many home deliveries, unexpected deliveries in the rice fields? .....…. - How many obstetric complications occurred? ..... - How many people received prenatal checkup conducted by you? ..... - How many deliveries that you have assisted? .....
8.	Are you married? *(Circle the number of the option of your choice)*	1. Not yet married 2. Married 3. Separated/ Divorced/ widowed
9.	How many children do you have?	……..
10.	What grade did you complete?	…….
11.	Did you do any work in the locality before participating in the training for	1. Village health care 2. Associations and unions in the

No.	Question	Answer
	VMs? (Circle the number of the option of your choice)	commune 3. Others (please specify)
12.	Have you been granted a vocational certificate by the training institution?	1. Yes 2. Note yet
13.	What year did you finish the training for VMs?	Year……
14.	What is the total duration that you have participated in training for VMs? *(Circle the number of the item you choose - If taking more than one course, sum up the total training duration and circle the corresponding number. For example: participating in 2 courses: 6 months and 9 months. The total duration is 15 months: Circle item 6 and specify 15 months)*	1. Less than 6 months 2. 6 months 4. 12 months 3. 9 months 5. 18 months 6. Others (please specify)……
15.	In your opinion, is the training content suitable for the work you are doing? *(Circle the number you choose)*	1. Suitable 2. Not suitable (*specify the contents that are not suitable)*..... ....
13.	In the last three years, have you participated in any training to update knowledge/ skills?	1. Yes 2. No
16.	Are you currently receiving monthly salary/ allowance?	1. Yes 2. No
17.	If yes, what is the current monthly salary/ allowance amount that you are paid?	VND……..……
18.	Are you provided with travel support (bicycle, motorbike)/ coverage of travel costs? *(Circle the number you choose)*	1. Yes now 2. Used to 3. Never
19a	Are you currently eligible for health insurance?	1. Yes 2. No (If "No", go to question 20)

No.	Question	Answer
19b.	If yes, what is health insurance? *(Circle the number you choose)*	1. Poor household 2. EM people 3. Out-of-pocket 4. Others (please specify)
20	Is the work you are doing suitable with the local culture and customs?	1. Suitable 2. Not suitable
21a	Do you have any difficulty in the work you are doing?	1. Yes 2. No (if "No", go to question 22)
21b	If yes, what are the difficulties? *(You can circle <u>MANY</u> options)*	1. Lack of knowledge 2. Lack of skills 3. Lack of necessary supplies and medicine 4. Lack of means of transport 5. Unsupportive family 6. Lack of community support in EM midwives' service delivery 7. Lack of community trust in VMs' skills 8. Lack of support from CHF 9. Unavailable/ Insufficient monthly allowance 10. Others (please specify) ……
22.	Do you have any wishes/ recommendations to higher level agencies? *(You can circle on MANY options)*	1. Be formally recognized as a local health worker 2. Continue studying to improve capacity 3. Be supported/ continue to be supported with monthly salary/ allowance 4. Be supported with means of transport (bicycle, motorbike), travel cost 5. Other recommendations (please specify)…… …… 6. No recommendations

PART 2. ACTIVITIES CONDUCTED IN THE LOCALITIES

Fill in the table below the activities ***you have performed*** in the locality after completing the training course in the last three years. If you do not remember or you do not conduct the activity, please specify in the corresponding box (**Do not leave the box blank**)

TT	Activities	Number of cases		
		2017	2018	2019
1	Number of pregnant women whom you have conducted prenatal checkup			
2	Number of pregnant women whom you have conducted urine tests			
3	Number of pregnant women whom you have provided with ion–folic acid supplementation tablets			
4	Number of high-risk pregnant women whom you have identified and referred to the higher level			
5	Number of pregnant women whom you have successfully encouraged to deliver at health facilities			
6	Number of mothers whom you have assisted natural home delivery with cusp-of-fetal-head presentation			
7	How many natural deliveries you have assisted at CHF?			
8	How many unexpected deliveries you have assisted?			
9	Number of mothers whom you have recognised as having risks during labour and conducted referral to higher level			
10	Number of mothers and newborns whom you have provided in-home care in the first week after delivery			
11	Number of mothers and newborns whom you have provided in-home care from the second to the sixth week after delivery			
12	Number of newborns whom you have identified as having risks and conducted referral to higher level			
13	Number of mothers whom you have recognised as having risks and conducted referral to higher level			
14	In addition to the above activities, do you also perform other activities? If yes, what are they?			

TT	Activities	Number of cases		
		2017	2018	2019
	.....	.....	.....	.....
	.....	.....	.....	.....
	.....	.....	.....	.....
	.....	.....	.....	.....

PART 3. KNOWLEDGE EVALUATION
(prenatal, intranatal, and postnatal care)

Please read the questions carefully, circle ***all*** the numbers in the answer column that you think are correct. Each correct answer gets 1 point. Each wrong answer is minus 1 point.

No	Question	Answer
1.	What do you often **RECOMMEND** pregnant women to prepare for delivery?	1. Select a health facility for delivery 2. Prepare items for the mother and newborn for delivery 3. Go to the health facility as soon as there are signs of labour: amniotic fluid, pink discharge, intermittent abdominal pains 4. Go to see a shaman 5. Prepare vehicle to go to the health facility
2.	Danger/ abmornal signs of the mother during pregnancy are:	1. Vaginal bleeding 2. Sleepiness 3. Abnormal , foul, dirty vaginal discharge 4. Headache, facial and leg edema 5. High blood pressure 6. Back pain 7. Others (please specify)
3.	When monitoring a labour, the task of VMs is to perform the following steps:	1. Monitor the whole body 2. Monitor uterine contraction 3. Monitor fetal heartbeat 4. Monitor the situation of amniotic fluid 5. Monitor the extent of cervical opening 6. Monitor the progress of the fetal presentation 7. Others (please specify)
4.	Danger/ abnormal signs of mothers during labour are:	1. Prolonged labour (over 15 hours) 2. Premature rupture of amniotic fluid 3. Excessive vaginal bleeding 4. Abnormal fetal presentation (not cusp-of-fetal-head presentation) 5. Multiple pregnancies 6. Blood pressure 110/70 7. Others (please specify)

No	Question	Answer
5.	What need to be done **immediately** for mother and newborn after delivery?	1. Place the newborn in skin-to-skin contact with the mother 2. Breastfeed the newborn right away 3. Bottle-feed the newborn 4. Check if the mother is bleeding 5. Apply drops into the newborn's eyes 6. Weigh the newborn before the first breastfeeding 7. Others (please specify)
6.	Causes of postnatal hemorrhage	1. Uterine atony 2. Perineal tear, vaginal tear, cervical tear, uterine rupture 3. Retained, unremoved placenta 4. The mother has blood disease 5. Others (please specify)
7.	Choose the correct statements related to breastfeeding	1. Breastfeed early within 1 hour after birth 2. It is necessary to exclusively breastfeed the baby in the first 6 months 3. After delivery, mothers need to eat sufficiently without food taboos in order to get enough milk for breastfeeding 4. In breastfeeding, let the baby complete sucking the milk from one side of the mother's breast before sucking the other side in order for milk to be produced as much as possible and to avoid losing milk 5. Do not breastfeed at night because it affects the mother's sleep 6. After delivery, it is necessary to express and discard the first milk before breastfeeding
		Total score: 30. Score achieved:

PART 4: SELF-EVALUATION
(For the 24 basic skills that VMs are allowed to perform)

No.	Clinical skills	Make an X in <u>one</u> of the options below into the corresponding cell and column				
		1. I perform this skill **every week**.	**2.** I perform this skill **every month**.	**3.** I perform this skill **every few months**	**4**. I **do not** perform this skill	**5.** I **cannot** perform this skill

No.	Clinical skills	Make an X in <u>one</u> of the options below into the corresponding cell and column				
				.		
1.	Ask for the current pregnancy history					
2.	Provide counselling on delivery and emergency situations					
3.	Calculate gestational age and expected date of delivery					
4.	Measuring the fundal height and abdominal girth					
5.	Identify signs of labour					
6.	Conduct abdominal examination to determine fetal position and presentation					
7.	Recognize the second stage of labour (Exert oneself to deliver)					
8.	Monitor and manage a natural delivery					
9.	Monitor and manage the 2nd stage of labour (assist delivery)					
10	Place the baby in skin-to-skin contact with the mother right after birth					
11.	Monitor pulse, blood pressure in stage 3 (placenta removal)					
12.	Check placenta and placental membrane					
13.	Assess the Apgar score					
14.	Resuscitate a suffocated newborn					
15.	Support early breastfeeding					
16.	Eye care for newborns					
17.	Monitor uterine contraction after delivery					
18.	Conduct newborn checkup after birth					
19.	Recognising bleeding during and immediately after delivery					
20.	Administer first aid in case of bleeding during and immediately after delivery					
21.	Recognize danger signs in newborns					
22.	Recognize signs of postpartum infection in mothers and					

No.	Clinical skills	Make an X in <u>one</u> of the options below into the corresponding cell and column				
	conduct referral					
23.	Recognize the signs of pre-eclampsia/ eclampsia in pregnant women					
24.	Administer first aid for pre-eclampsia before conducting referral					

Annex 1.5

OBSERVATION CHECKLIST ON THE SKILLS OF VMs

Form code ☐☐☐☐☐☐

Full name of village midwife

.....

Date of observation.....

1. OBSERVATION CHECKLIST ON PRENATAL CHECKUP IN THE LAST THREE MONTHS OF PREGNANCY USING THE MODEL

Situation:

Ms. Hoang Thi Ha is 30 years old and this is her 3rd pregnancy. In the first two pregnancies, she had natural home delivery, and her mother-in-law assisted the delivery. This time, she is 7 months pregnant and has not had any prenatal checkup. You are a newly trained village midwife and will conduct a prenatal checkup for Ms. Ha when she and her family agree

Tools:

Half-body model of pregnant women in the last 3 months of pregnancy; fetal heartbeat can be heard; wooden stethoscope; measuring tape; blood pressure gauge, thermometer, stopwatch

No.	STEPS OF PRENATAL CHECKUP	Enough, correctly (2 points)	Not enough/ not correctly (1 point)	Wrong/ did not perform (0 point)
1	Ask for internal medicine and surgery, obstetric and gynaecological history, pregnancy progression, medication use			
2	Ask for the first day of the last menstrual period, estimate the expected date of delivery; calculate gestational age			
3 3.1	Full-body checkup: - Measure the pulse rate, temperature, and blood pressure			
3.2	- Conduct full-body visual assessment to recognise abnormalities if any (difficulty in breathing, cyanosis or blue skin/ pale mucosa, etc.)			
3.3	- Ask for height, weight, and evaluate weight gain			
4 4.1	Obstetric checkup: - Observe the shape of the uterus and describe abnormalities if any			

4.2	- Perform abdominal palpation to determine fetal position			
4.3	- Measure the fundal height and abdominal girth			
4.4	- Listen to the fetal heartbeat			
5	Provide appropriate explanation and guidance			
	Total score	**20**		

Observer
(Sign and write full name)

2. CHECKLIST ON FIRST AID FOR POSTPARTUM HEMORRHAGE CAUSED BY UTERINE ATONY

Form code ☐☐☐☐☐☐

Situation:

A pregnant women named M stays at home after natural delivery. The newborn is about 4 kg, the perineal layer is not torn. The placenta is automatically removed after 30 minutes, the placental membrane is sufficient. After 5 minutes, there is a lot of bright red bleeding with blood clots. You are the midwife, what should you do right away when you know that she is having postnatal hemorrhage caused by uterine atony?

Tools:

Half-body model of a pregnant woman with uterus after delivery. Petrol; gloves; sphygmomanometer; stopwatch

No.	Steps	Enough, correctly (2 points)	Not enough/ not correctly (1 point)	Wrong/ did not perform (0 point)
1	Perform uterine massage to facilitate its contraction			
2	Instruct the pregnant woman to perform uterine massage for herself or ask for support from a family member			
3	Evaluate pulse rate and blood pressure			
4	Contact CHF for help			
5	Assess outcomes (the observer to provide			

	details of the situation) Handle appropriately if the bleeding stops (speak)			
6	If the bleeding persists Conduct uterine compression with both hands outside (can perform)			
7	Conduct uterine compression with one hand inside and one hand outside (speak)			
8	Ask the family to prepare for the referral			
	Total score	**16**		

Observer
(Sign and write full name)

Annex 1.6

IN-DEPTH INTERVIEW GUIDELINE - at national level

Objective:

1. Collect information about the process of training, using VMs: is it conducted in accordance with the policy? Is the roadmap suitable? Is it still necessary now?
2. The suitability between training, remuneration and functions of VMs?
3. Evaluate the model's results, feasibility, and sustainability
4. The role and participation of the interviewed individual and unit?
5. Recommendations to improve or change the training and use of VMs?

Interviewer:

Interviewee:

Place of work: Position:

Time of starting the interview:

Time of completing the interview:

CONTENTS

The interviewer will meet the interviewee, collect his/her administrative information, state the objectives, ask for permission to record the conversation, and conduct the interview with the following contents:

1. When did you participate/ study about the training program on the use of VMs? In your opinion, is the policy of training and using VMs appropriate with the implementing localities? In the policies and guidance on village midwifery services, are there any points that are inconsistent or contradictory with other policies?
2. What are the main responsibilities of the unit in the operation of village midwifery? Coordinate with which units? In your opinion, do these investments satisfy the needs/ facilitate the implementation in localities?
   - Satisfy what needs?
   - What need to improve?
   - Is the coordination overlapping / contradictory?
3. What activities do you participate in or know most about? What advantages do these activities have? Are there any difficulties that you need support?
4. If you think that training and using VMs are beneficial for the implementation sites, will it still be appropriate at present or in the future? Why/ Why not?
5. Are the functions of VMs under Decision …… appropriate? Are there any points that need to supplement/ remove?

- With these functions, have the training, supervision and support met the requirements? Are there any points that need to supplement?
- With the current work of VMs, the monthly allowance is very small: What is your opinion about this situation? How can it be resolved?
- The role, position and title of VMs in the health system?

6. How do you comment on some operation models of village midwifery?
   - Successful?
   - Not really successful? Why?
   - Unnecessary
7. Is it necessary to maintain and upscale village midwifery?
   - In some areas: what are the criteria?
   - Need policy, advocacy and support from the central government?
   - Decision-making level?
8. Do you have any suggestions to make village midwifery really necessary for the implementation area?
   - Training?
   - Support policies?
   - Remuneration?
   - Title?

Annex 1.7

IN-DEPTH INTERVIEW GUIDELINE - for village midwifery champions

The objectives:

6. Evaluation of on the performance, feasibility, sustainability of village midwifery model in some areas
7. Roles and involvement of support partners
8. Recommendations to improve or change the training and use of VMs

Interviewer:

Interviewee:

Place of work: Title:

Time of starting the interview:

Time of completing the interview:

CONTENTS

The interviewer will meet the interviewee, collect his/her administrative information, state the objectives, ask for permission to record the conversation, and conduct the interview with the following contents:

9. Since when has your organization been involved in supporting village midwifery in Viet Nam? and specifically in which localities? Why does your organization decide to support this activity? In your opinion, is the policy of training and using VMs appropriate with the implementing locality?
10. What is the main support of your organization in village midwifery (training, equipment, supervision, etc.)? Why does your organization choose to support that field? In your opinion, do these investments satisfy the needs / facilitate local implementation?
    - Satisfy what needs?
    - Does the support overlap/ conflict with activities/ projects being implemented in the locality?
11. How would you assess the effectiveness of your organization's support? (Are there any reports, assessments?) What achievements have been made thanks to the support? Are there any difficulties or things that need to improve?
12. How do you think about the village midwifery model in Viet Nam? Compare with other countries, are there any similarities and differences? Advantages and disadvantages of Viet Nam?

13. The Government of Viet Nam still has a policy of continuing village midwifery in disadvantaged areas. What is your opinion about this policy?
    - Support, why? Which model should be followed? What matters need to improve?
    - Unnecessary, Reason? Is there any alternative solution?
14. If your organization supports village midwifery, does your organization have any plan to support some localities? If yes, what are criteria for site selection? Is there a need for cooperation and coordination from other partners and the MOH? Recommendations on a number of feasible and effective options.
15. In order to continue village midwifery in mountainous and EM areas, in your opinion, what is the most important issue that needs to be addressed (salary/ monthly allowance, ensuring working conditions (vehicles, medical equipment, etc.)?

Annex 1.8

IN-DEPTH INTERVIEW GUIDELINE - at provincial level

The objectives:

1. Collect information on the process of VM implementation and usage: appropriate for the province? Does the area still have the demand at present? Is it still necessary to continue this model?
2. What are the capacities and contributions of VMs in maternity and newborn care? Other roles?
3. Evaluation on the results, feasibility, and sustainability of the model: Advantages and disadvantages?
4. Recommendations to implement the village midwifery model?

Interviewer:

Interviewee:

Place of work: Position:

Time of starting the interview:

Time of completing the interview:

CONTENTS

The interviewer will meet the interviewee, collect his/her administrative information, state the objectives, ask for permission to record the conversation, and conduct the interview with the following contents:

1. Since when did your province start to implement the village midwifery model? Is it necessary? Is it suitable? Does it need to be sustained at present? Expand or End?
2. How many villages/ communes/ districts are currently using VMs? Training under which model? Who is the sponsor?
    - Evaluation of capacity?
    - Dedication to work?
    - Contribution?
    - Did anyone quit: The reason?
3. What policies and support from the DOH to village midwifery services? Is it enough? Is it appropriate? What is needed but not yet done?
4. Does the government (Provincial People's Committee) support the training on the use of VMs? If yes, how? Is there any policy or support?
5. If you think that training and using VMs is beneficial to the implementation areas, is it still be appropriate at present or in the future? Why/ Why not?

- What can be specifically contributed?
- Are there any good examples of VMs' contribution in risk recognition? Birth attendance when needed? Saving the lives of mothers and newborns in the community? etc.

6. Are the functions of VMs under Decision… appropriate? In your opinion, what can VMs not do and what additional work can they do? Compared with regulations on functions and tasks?
7. If the locality needs to have village midwifery services, the main support for this activity should be from which level? Can the province manage itself? What are the specific supports at all levels?
8. How do you think about village midwifery services in your locality?
    - Successful?
    - Not really successful? Why?
    - Unnecessary
9. Is it necessary to sustain and upscale village midwifery services in your province?
    - In some areas: what are the criteria?
    - Does your province need policy, advocacy and support and from which sources?
    - Decision-making level?
10. Do you have any suggestions to make village midwifery services really necessary for the implementation area?
    - Training?
    - Support policies? Health Insurance?
    - Remuneration?
    - Title?

Annex 1.9

GROUP DISCUSSION GUIDE FOR DISTRICT AND COMMUNE OFFICERS

The objectives:

1. Collect information on the process of VM implementation and usage: appropriate for the district? Does the area still have the demand at present? Is it still necessary to continue this model?
2. What are the capacities and contributions of VMs in maternity and newborn care? Other roles?
3. Evaluation on the results, feasibility, and sustainability of the model: Advantages and disadvantages?
4. Recommendations to implement the VM model?

Interviewer:

Interviewee:

	Full name	Age	Sex	Occupation	Place of work

Time of starting the interview:

Time of completing the interview:

CONTENTS

The interviewer will meet the interviewee, collect his/her administrative information, state the objectives, ask for permission to record the conversation, and conduct the interview with the following contents:

1. Since when did your district start to implement the village midwifery model? Is it necessary? Is it suitable? Does it need to be sustained at present? Expand or End?

2. How many villages/ communes/ districts are currently using VMs? Training under which model? Who is the sponsor?
   - Evaluation of capacity?
   - Dedication to work?
   - Contribution?
   - Did anyone quit: The reason?
3. What are the roles of the district in monitoring and supporting village midwifery services? Is there any regulation document? Is it suitable for its functions and tasks?
4. How do you cooperate with each other in monitoring and supporting VMs' work? Are there advantages? difficulties? Are there regular meetings?
5. How does the DOH support you in village midwifery services? Is it enough? Is it appropriate? What is needed but not done yet?
6. Does the government (Provincial People's Committee) support the training on the use of VMs? If yes, how? Is there any policy or support?
7. If you think that training and using VMs is beneficial to the implementation areas, is it still appropriate at present or in the future? Why/ Why not?
   - What can be specifically contributed?
   - Are there any good examples of VMs' contribution in risk recognition? Birth attendance when needed? Saving the lives of mothers and newborns in the community? etc.
8. Are the functions of VMs under Decision… appropriate? In your opinion, what can VMs not do and what additional work can they do? Compared with regulations on functions and tasks?
9. If the locality needs to have village midwifery services, the main support for this activity should be from which level? Can the province manage itself? What are the specific supports at all levels?
10. How do you think about village midwifery services in your locality?
    - Successful?
    - Not really successful? Why?
    - Unnecessary
11. Is it necessary to sustain and upscale village midwifery services in your district?
    - In some areas: what are the criteria?
    - Does your district need policy, advocacy and support and from which sources?
    - Decision-making level?
12. Do you have any suggestions to make village midwifery services really necessary for the implementation area?

- Training?
- Support policies?
- Remuneration?
- Title?

Annex 1.10

GROUP DISCUSSION GUIDE FOR VMs

The objectives:

1. Describe the current status of village midwifery services
2. Evaluate the sustainability of village midwifery services
3. Identify some factors related to village midwifery services: The supporting and hindering factors?
4. Collect suggestions to better support village midwifery services.

Interviewer:

Interviewee:

No.	Full name	Age	Occupation before becoming a VM	Village/ commune under your charge

Time of starting the interview: *Time of completing the interview:*

CONTENTS

The interviewer will meet the interviewees, collect their administrative information, state the objectives, ask for permission to record the conversation, and conduct the interview with the following contents:

1. When did you start to work as VMs? Who have worked for the longest period of time? the shortest?
2. Why did you choose to become VMs? Do you love this job? Why? Does anyone support you to do this work?
3. How long have you been trained? What is the training content? Do you sometimes receive further training? When was the last training session? What was the training content? Have you been provided training on EENC yet?
4. In your opinion, is the training time enough? Is it suitable for the work you do? Do you have any further suggestions about the training program? (time, content, training method, etc.)
5. Besides working as VMs, do you do any other work?
6. What do you specifically do? Why do you know the work you have to do? Has anyone given you assignment?
7. On average, each month, you are able to perform:
   - Prenatal checkup / mobilization for prenatal checkup/ vaccination:
   - Household visit:
   - Counselling ……
8. What regime are you eligible for? (salary, allowance, insurance, etc.). In your opinion, are these regimes appropriate? Do you have any suggestions? If there is nothing that needs to improve, will you continue with this work?
9. Up to now, is there anyone who has received training but then quits the job? If yes, how many people? Do you know the reason?
10. How do you assess the VMs's and your contributions in maternity and newborn care in your village? Is it respected by the community? Can you tell us some specific cases where you have contributed to the protection of health and timely emergency aid for mothers and newborns?
11. In your opinion, is it still necessary to have VMs to continue working in your commune? If yes, is there anything that needs to improve? Yourself? the community? CHF? District Health Centre? the authorities?
12. What suggestions do you have to better perform this work?

ANNEX 2

MOH'S CIRCULAR 07/2013/TT-BYT ON THE STANDARDS, FUNCTIONS, AND TASKS OF VILLAGE HEALTH WORKERS

MINISTRY OF HEALTH	**THE SOCIALIST REPUBLIC OF VIETNAM** **Independence - Freedom - Happiness**
No.: 07/2013/TT-BYT	*Hanoi, 08 March 2013*

CIRCULAR
On the standards, functions and tasks of village health workers

Pursuant to the Government's Decree No. 63/2012/ND-CP dated 31 August 2012 defining the functions, tasks, powers and organizational structure of the MOH;

Pursuant to the Prime Minister's Decision No. 153/2006/QD-TTg dated 30 June 2006 approving the master plan on development of Vietnam's health system for the 2010 period and a vision to 2020;

Pursuant to the Prime Minister's Decision No. 75/2009/QD-TTg dated 11 May 2009 prescribing the allowance regime for village health workers;

At the request of Director of Personnel and Organization Department, Director of Department of Maternity and Child Health, MOH;

The Minister of Health promulgates the Circular prescribing the standards, functions and tasks of village health workers.

Article 1. Scope and subject of application

1. This Circular provides for standards, functions and tasks of health workers in villages, hamlets (hereinafter referred to as villages).

2. Village health workers include:

a) Village health workers who perform primary care (hereinafter referred to as village health workers);

b) Village health workers who conduct maternity and child care (hereinafter referred to as village midwives (VMs)) in villages where many EM people live and where the custom of not attending prenatal checkup, pregnancy management and delivery at medical examination and treatment facilities, or in areas with particularly

disadvantaged socio-economic conditions, large area, disadvantaged and poor connectivity, limited access to medical examination and treatment facilities (hereinafter referred to as villages with difficulties in maternity and child care).

3. Health workers in residential groups shall apply standards, functions and tasks in accordance with this Circular.

4. This Circular does not apply to collaborators in health programmes.

Article 2. Standards of village health workers

1. Regarding professional qualifications and training:

a) Village health workers conducting primary care: Have medical expertise from elementary or higher level, or have completed a training course for 3 months or more under the MOH's training programme framework for village health workers;

b) VMs: Have completed the training course for 6 months or more according to the MOH's training programme framework for VMs.

2. Live and work stably in the village; voluntarily participate to work as village health workers or VMs.

3. Have a sense of responsibility, enthusiasm to participate in social activities, be able to mobilize the community and be trusted by the community.

4. Be physically fit to perform the prescribed tasks.

Article 3. Functions of village health workers

1. Village health workers conducting primary care have the function of participating in primary care in villages.

2. VMs have the functions of participating in maternity and child care in villages.

Article 4. Tasks of village health workers

1. Tasks of village health workers conducting primary care:

a) Communication and education about health in the community:

- Communicate and disseminate knowledge on health protection, environmental sanitation and food safety;

- Provide guidance on some primary care measures; epidemic prevention and control in the community;

- Communicate and educate people on HIV/AIDS prevention and control;

- Mobilize, provide information, counselling on population work - family planning.

b) Participation in professional medical activities in the community:

- Recognise, participate in monitoring and report on epidemic diseases, infectious diseases, non-communicable diseases, social diseases, and food-borne diseases in villages;

- Participate in monitoring the quality of water used for drinking and living; sanitation works in households, public places in villages;

- Participate in the implementation of movements on hygiene and disease prevention, food safety, community health improvement, and healthy cultural village development.

c) Maternity and child care and family planning:

- Communicate and encourage pregnant women to go to CHFs to register for pregnancy management, prenatal checkup, and to medical examination and treatment facilities for delivery; manage unexpected deliveries for pregnant women who cannot make it to medical examination and treatment facilities in time;

- Guide and monitor in-home postnatal and newborn care for the first 6 weeks after delivery;

- Provide guidance on a number of simple measures to monitor and take care of children's health, and to prevent and control malnutrition in children under 5;

- Provide guidance on the implementation of family planning, provide and guide the use of condoms and oral contraceptive pills according to the MOH's regulations.

d) First aid and care for common diseases:

- Provide first aid in case of emergencies and accidents;

- Provide care of some common diseases in the community;

- Participate in providing guidance on in-home care for the elderly, people with disabilities, people with social diseases and non-communicable diseases.

dd) Participate in the implementation of health programmes in villages.

e) Mobilize and guide people in cultivating and using traditional herbal medicines at home to prevent and treat a number of common diseases and conditions.

g) Participate in periodical meetings with commune, ward, township health facilities (hereinafter referred to as CHFs); participate in professional training, retraining and fostering courses organized by higher-level health agencies to improve capacity.

h) Manage and effectively use village medical bags.

i) Promptly and fully record and report according to the instructions of CHFs.

2. Tasks of VMs:

a) Communication and advocacy on maternity and child care:

- Provide counselling on reproductive health and family planning for women of reproductive age, malnutrition prevention for children under 5;

- Communicate and encourage pregnant women to go to CHFs to register for pregnancy management, prenatal checkup, and to medical examination and treatment facilities for delivery, administer tetanus vaccination for mothers and full vaccination for children within the vaccination age;

- Instruct pregnant women on taking care of themselves during pregnancy, after delivery, breast-feeding, and how to feed babies properly.

b) Provision of maternity care during pregnancy:

- Manage pregnancy, recognise high-risk pregnancies and promptly refer them to medical examination and treatment facilities;

- Assist natural deliveries with cusp-of-fetal-head presentation for pregnant women who cannot make it to medical examination and treatment establishment in time or do not come to medical examination and treatment establishment for delivery;

- Administer first aid in case of complications occurring during home delivery and promptly transport the mother to medical examination and treatment facilities.

c) Periodically conduct maternity and newborn care after home delivery:

d) Guide the implementation of family planning, supply and instruct the use of condoms and oral contraceptive pills according to the MOH’s regulations;

dd) Coordinate and participate in the implementation of health programmes in villages;

e) Participate in periodical meetings with CHFs; participate in professional training, retraining and fostering courses organized by higher-level health agencies to improve capacity;

g) Manage and effectively use village midwifery bags;

h) Promptly and fully record and report according to the instructions of CHFs.

Article 5. Allowance, means and methods of working

1. Allowance for village health workers shall comply with the State's current regulations and additional monthly allowance (if any) from other lawful funding sources specified by competent authorities.

2. Each village health worker is equipped with medical equipment and tools per the list set by the MOH.

3. Village health workers work under the part-time regime in villages. Village health workers are responsible for proactively arranging time to perform their tasks as prescribed in this Circular.

Article 6. Work relationship

1. Village health workers are under the direct management, professional and technical guidance of CHFs.

2. Village health workers are under the management and supervision of activities of commune-level People's Committees, heads of villages.

3. Village health workers have a coordinating relationship with mass organizations and unions in villages.

4. Village health workers work together to perform the assigned tasks.

Article 7. Entry into force

1. This Circular takes effect from 1 May 2013.

2. To annul Circular No. 39/2010/TT-BYT dated 10 September 2010 of the MOH defining standards, functions and tasks of village health workers from the date this Circular takes effect.

Article 8. Organization of implementation

1. The People's Committees of the provinces and centrally-affiliated cities shall direct the DOHs to organize the implementation of this Circular in their respective localities.

2. Based on the local characteristics and actual situation, the DOH of provinces or centrally-affiliated cities shall:

a) Assume the prime responsibility for, and coordinate with relevant agencies in, submitting to the People's Committees of provinces and centrally-affiliated cities for consideration and decision on:

- The number, selection process, management unit, allowance payment for village health workers, on the basis of the provisions of law;

- A village which is included in the list of villages still facing difficulties in maternity and child care should be arranged with a village midwife;

- In cases where a village is arranged with 01 village health worker conducting primary care and 01 village midwife, the provincial People's Committee shall decide the village health worker conducting primary care may not be required to perform the task specified at Point c, Clause 1, Article 4 of this Circular based on local actual needs and performance of the village health worker and midwife.

b) Develop and implement plans for training and continuous training for village health workers as prescribed in Clause 1 Article 2 of this Circular;

c) Direct and guide the integration of activities of village health workers with health programme collaborators in order to improve the performance of village health workers;

d) Continue to employ people who are working as village health workers, VMs but do not meet the qualification specified in Clause 1, Article 2 of this Circular (if any) to stabilize the village health network, and formulate and implement a standardized training plan on professional qualification for these people within 12 months from the effective date of this Circular.

In the course of implementation, if any problem arises or there are difficulties, agencies, organizations and individuals shall promptly report to the MOH for consideration and settlement according to their competence./.

THE MINISTER
(Signed)
Nguyen Thi Kim Tien