



Federal Democratic Republic of Ethiopia
Ministry of Health

National Road Map for Midwifery Education and Service Provision

2016 - 2025



Midwifery Initiative Program

FMOH/UNFPA

December 2015



Federal Ministry of Health in collaboration with UNFPA Ethiopia

National Road Map for Midwifery Education and Service Provision

2016 - 2025

**December 2015
Addis Ababa**



**Federal Democratic Republic of Ethiopia
Ministry of Health**

Federal Ministry of Health in collaboration with UNFPA Ethiopia

Table of Contents

05	Abbreviations and Acronyms
06	Acknowledgments
07	Foreword
08	Executive Summary
10	Background and Context
12	Rationale
12	Literature Review
14	Objectives
14	Methodology
17	Situational analysis of components of the roadmap strategies
17	Pre-service Training
18	In-service Training
18	Availability of Resources
19	Client satisfaction
19	Provider Satisfaction
20	Legislation, Licensure and Accreditation
20	Monitoring and Evaluation
28	Main problems Identified by Document Review and key Informant Interview
28	Limitations and Assumptions for Successful Implementation of the Roadmap
28	Logical Framework of Strategies, Activities and Targets
28	Conclusions
29	Recommendations
37	Roadmap cost 2016- 2025
39	Annexes

Abbreviations and Acronyms

ANC	Antenatal Care
AAU	Addis Ababa University
BEmONC	Basic Emergency Obstetric and Neonatal Care
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CSA	Central Statistical Agency
DHS	Demographic and Health Survey
EMwA	Ethiopian Midwives Association
EFMHACA	Ethiopian Food, Medicine and Healthcare Administration and Control Authority
ESoMY	Ethiopian State of Midwifery
FMHACA	Food, Medicine and Healthcare Administration and Control Authority
FMOE	Federal Ministry of Education
FMOH	Federal Ministry of Health
GoE	Government of Ethiopia
HC	Health Center
HDI	Human Development Index
HRH	Human Resource for Health
HRIS	Human Resources Information System
HERQA	Higher Education Relevance and Quality Agency
HSDP	Health Sector Development Program
ICM	International Confederation of Midwives
IST	In-service Training
MCH	Maternal and Child Health
MMR	Maternal Mortality Ratio
MNH	Maternal and Newborn Health
OSCE	Objective Structured Clinical Examination
PNC	Postnatal Care
RHB	Regional Health Bureau
SBA	Skilled Birth Attendant
SoWMy	State of World Midwifery
SRMNH	Sexual Reproductive Maternal Newborn Health
TVET	Technical and Vocational Education and Training
UNPD	United Nations Population Division
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WoHO	Woreda (district) Health Office

Acknowledgments

The development of this document was a collaborative effort with the contribution of many organizations and individuals who volunteered their valuable time. Their knowledge and insights were essential and contributed towards developing a clear vision for the future of midwifery in the Ethiopia.

Appreciation also goes to consultants Professor Mesganaw Afework and Dr. Alemayehu Desalegne for the development of the roadmap and Dr. Wondimagegn Yeshanehe, Sr. Azeb Ademasu and Sr. Aregash Worku of the (FMOH), as well as Dorothy Lazaro, Sr. Aster Berhe and Asamenew Assefa of the UNFPA for their contribution throughout the process. Finally, the MOH would like to specially thank UNFPA for the technical support and financial assistance provided in the preparation and printing of this roadmap.

Foreword

Ethiopia has made a considerable progress in achieving the MDG health goals. It has already achieved the MDG target for reducing under-five mortality. Progress has also been made in achieving the maternal health goal (MDG 5). However, the Ethiopian maternal newborn health indicators remain a concern in view of national and international targets.

The Federal Ministry of Health of Ethiopia has placed maternal and newborn health as a priority. As such, the Ministry launched the Accelerated Midwifery training programme to address shortage of midwives in the country and to increase access to reproductive health services, as a result, the number of Midwives have increased dramatically from 1275 in 2008 to 8100 in 2014. However, still the number of midwives and the quality of service provision remains to be a challenge for the country.

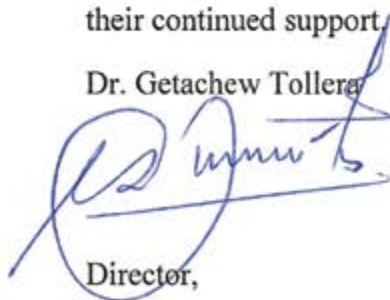
A review of the available literature indicated gaps in both pre-service and in-service training, the inadequacy of resources to provide quality services, the disparity in deployment areas of midwives and issues related to motivation and licensure. On the other hand, midwives are the key workforce that provide skilled attendance during pregnancy, childbirth and the postnatal period and can provide 87% of the essential care needed for women and newborns. Thus, due attention and immediate actions are necessary to deal with the gaps mentioned above.

The framework of this roadmap draws heavily from the Ministry of Health HSDP IV, HSTP and HRH strategic plan. It is based on the principle that the contribution of every midwife is valued and has a part to play in ensuring the delivery of high quality, safe compassionate and effective care to clients.

The roadmap should be seen as a high level strategy to guide the community of midwifery over the next 10 years. Thus it is believed to provide guidance on programming and priority setting for midwifery education with clearly set cost effective interventions that will lead to increase access and quality of midwifery care in the country. I therefore strongly encourage all stakeholders to work towards successful implementation of this roadmap to contribute to HSTP.

On behalf of the Federal Ministry of Health, I would like to take this opportunity to express my gratitude to all the partners for their contribution in the development of this document and for their continued support.

Dr. Getachew Tollera



Director,

Human Resources Development and Management Directorate
Federal Ministry of Health

Executive Summary

Ethiopia has made a considerable progress in achieving the MDG health goals. It has already achieved the MDG target for reducing under-five mortality. Progress has also been made in achieving the maternal health goal (MDG 5). However, the Ethiopian maternal newborn health indicators remain a concern in view of national and international targets. Ethiopia is one of the ten countries contributing about half of the maternal deaths in the world.

A review of available literature indicated gaps in both pre-service and in-service training, inadequacy of resources to provide quality services, disparity in deployment areas of midwives, and issues related to motivation and licensure. On the other hand, midwives are the key workforce that provide skilled attendance during pregnancy, childbirth and the postnatal period and can provide 87% of the essential care needed for women and newborns. Thus, due attention and immediate actions are necessary to deal with the shortcomings mentioned above. Developing midwifery roadmaps is becoming a global agenda because of the recognized importance of midwifery interventions in reducing maternal and newborn morbidity and mortality.

The objectives of the Roadmap are to

- Estimate the required number with level mix of midwives at all tier of service delivery during each strategic plan period (HSDP V and onwards)
- Provide visual image to policy makers on desired future state of midwifery education in order to take appropriate actions
- Guide all concerned stakeholders to the right course in the advancement of midwifery education and services
- Keep focused and move in efficient and cost-effective manner
- Estimate cost of activities for resource mobilization on the course of attaining the desired goals
- Recommend actions to improve quality of midwifery services

The preparation of this Midwifery Roadmap employed desk review of relevant documents, which included midwifery related national studies by different organisations, relevant national reports, standards and policies as well as international standards by ICM and WHO in relation to midwifery education and practice. These include policy and strategy documents, guidelines, reports and publications by the FMOH, UNFPA, WHO, ICM, EMwA, Jhpiego, other government sectors and development partners.

In addition key informant interviews were conducted with relevant staff of FMOH, EMwA, Jhpiego and other organization to fill information gap.

A conceptual framework that included four domains that determine whether a health system and its health workforce are providing effective coverage, i.e. whether women are obtaining the care they want and need in relation to SRMNH services was developed. These four domains are availability, accessibility, acceptability and quality.

These four domains were used to identify the major strategies of the roadmap. The strategies are:

- Improve pre service and in-service training,
- Improve client and health worker satisfaction,
- Legislation, Regulation and Licensing,
- Improve availability of human resources, infrastructure, equipment and supplies, and effective and efficient referral system and
- Effective and efficient monitoring and evaluation

Different ways of estimating and projecting midwifery workforce requirements were considered in developing the roadmap. Of these two, the number of deliveries conducted by a midwife in a year considering attrition rates and projections based on the guidelines of EFMHACA on staffing of different levels of health facilities by midwives were employed.

The total estimated number of midwives in 2014 was 9,457 showing a significant increase from the past years. However, this is much lower than the number of midwives that are expected compared to what is needed to deliver midwifery services based on the above methods of calculating requirements which is 18,000-20,000 midwives.

Similarly, the number of midwifery training institutions (more than 49 in 2014) and trainees in midwifery has substantially increased, even though not meeting the standard requirements yet. Midwifery training curricula have improved in recent years and teaching-learning approaches are well designed in some aspects. However, it was noted that students do not spend enough time on practical training, and lacked essential competencies. The student to tutor ratio is high and classrooms and training sites are overcrowded.

Client satisfaction was found to be affected by attitude and approaches of health care providers, privacy, cost of services and preference for female providers.

The main motivating factor to work as a midwife appears to be liking the profession. Other motivating factors include task shifting to carry out services that were earlier conducted by general medical practitioners and gynecologists such as assisted deliveries and MVA and the institution of MSc training. On the other hand, few opportunities for career development as a midwife, further education, perception that salaries, duty payments and other allowances are low can be demotivating factors.

Database on midwifery education and service has been improving through time. However, comprehensive and up-to-date data on midwifery workforce headcount, percentage time spent on SRMNH, roles, age distribution, retirement age, length of education, enrolments into, attrition and graduation from education, and voluntary attrition from the workforce is not readily available.

The following recommendations are made to achieve the goals of the roadmap

1. Increase the number of midwifery trainees to meet the requirements for staffing of different levels of health facilities and expected duties of midwives in the coming 10 years
2. Improve the quality of pre-service training by maintaining a reasonable tutor-student ratio of 1 to 20, improving training facilities, improving the knowledge and skills of midwifery teachers and availing the necessary training equipment and supplies
3. Strengthen in-service training by providing training for practicing midwives on identified gaps including BEmONC, some elements of CEmONC, communication with MNH clients, providing youth friendly MNH services, leadership and management.
4. Institute trainee tracking mechanisms
5. Staff health facilities and midwifery training institutes according to standards
6. Avail the necessary equipment, supplies, guidelines, standards and protocol in health facilities
7. Implement the “Minimum Benefit Package” free services at all levels
8. Assess adequacy of the prevailing salary, allowance and other incentives and take appropriate actions
9. Strengthen measures to improve the career structure of midwives
10. Conduct regular supervision and feedback at all levels of the health system based on FMOH guidelines
11. Regularly update database on midwifery workforce on headcount, percentage time spent on SRMNH, roles, age distribution, gender, retirement age, length of education, enrolments into, attrition and graduation from education, and voluntary attrition from the workforce

Background and Context

Progress has been made in the delivery of maternal and newborn health services, and improvement has been documented in maternal and newborn health globally. However, there is a large gap among countries and regions in the delivery of maternal and newborn health services and outcomes¹.

Ethiopia is an ancient African country with over 80 ethnic groups with rich cultural heritage. It is a developing country with an estimated annual per capita income of USD 810 (PPP). The population is growing at an annual rate of 2.6% and reached 73.9 million in 2007. The 2014 projected population was 89.2 million, with about 74.5 million living and working in rural areas².

Since 1994, the country introduced a federal government structure composed of nine regional states: Tigray, Afar, Amhara, Oromia, Somali, Benishangul-Gumuz, Southern Nations and Nationalities and Peoples Region (SNNPR), Gambella and Harari and two City Administrations: Addis Ababa and Dire Dawa. The National Regional States and city administrations are further sub-divided into approximately 801 Woredas (districts), which are the basic decentralized administrative units representing 125,000 to 150,000 people governed by an administrative council composed of elected members. Health care provision in Ethiopia is predominately public and it is through this decentralized structure that national health initiatives are implemented³.

In some indicators such as child mortality, the country has made considerable improvements and has already achieved the MDG target for reducing under-five mortality. Nevertheless, the Ethiopian health indicators remained a concern in view of national and international targets. Ethiopia is one of the four countries that contributed about 42% the maternal deaths worldwide following India, Nigeria, and Democratic Republic of Congo². Maternal health service utilization (ANC, Skilled Birth Attendance and PNC) remain low.

However, recent data sources showed that Ethiopia is on track to achieve MDG 5, a target of reducing MMR by 75% from the baseline of 1990. The new data, published in 'Trends in maternal mortality estimates 1990 to 2013', from Maternal Mortality Estimation Inter-agency Group that includes World Health Organisation (WHO), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), The World Bank Group, and The United Nations Population Division (UNPD) indicates that Ethiopia has had an average annual M decline of 5% from 1990 to 2013⁴. A Closer look at the rate of decline for various years shows that the average annual MMR decline is faster in recent years (-11% between 2005 to 2013 as compared to 3.5% between 1990 to 1995). With the current average annual MMR decline of 11%, the MMR is expected to be 356 by 2014 and 292 by 2015.

The MNH Roadmap for Ethiopia (2011 – 2015) identified shortage of skilled midwives, weak referral system at health centre levels, lack of or inadequate availability of BEmONC and CEmONC equipment, and under financing of the service as major supply side constraints that hindered progress. It indicated that limited human resources especially midwives including high turnover hamper efforts to provide adequate services, especially in rural areas⁴.

Similarly, the HSDP IV Annual Performance Report for the year 2013-2014 reported the main challenges to be shortage of human resources in terms of numbers, capacity, and professional skills; gaps in midwives, doctors and anesthetists for provision of BEmONC and CEmONC services; absence of 24 hours a day and 7 days a week service in many health facilities, especially in health centers (HCs); and low skilled care at birth⁵.

1 WHO. Trends in maternal mortality 1990-2013. Available at <http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2013/en>

2 Federal Ministry of Health. Human Resources for Health Strategic Plan (2009 -2025). 2014

3 Federal Ministry of Health. Human Resources for Health Strategic Plan (2009 -2025). 2014

4 Federal Ministry of Health. Roadmap for Accelerating the Reduction of Maternal and Newborn Morbidity and Mortality in Ethiopia. July 2012

5 Federal Ministry of Health. HSDP IV Annual Performance Report . 2013/2014.

The Government of Ethiopia is addressing the shortage of health care workers by rapidly scaling up the number of institutions that offer training for healthcare professionals including midwives. Universities offer four-year training programs for both midwives that lead to a Bachelor of Science degree. Regional Health Science Colleges (RHSCs) offer Technical and Vocational Education and Training (TVET) programs in midwifery offering a three-year program for students entering directly from high school that leads to a Level IV Diploma and a one-year accelerated program for nurses with at least two years of work experience that leads to a Level V Diploma. The curricula for all of these programs at both universities and RHSCs, combine theoretical education in the classroom with practical training in skills labs on campus and at clinical practice sites located at health facilities in the community. According to HSDP IV, there were 1,379 midwives in 2008 with a midwife to population ratio of 1:57000. It was reported that among the midwives, 90%, 8.8%, 0.2% were Diploma, Bsc Degree, and MSc Degree holders respectively, in 2012. The male to female ratio was 1:5. However, male midwives were more qualified than their female counter parts as most of them have Bachelor's Degree^{6,7}.

The State of Ethiopia's Midwifery (2012) reported that Ethiopia had 46 midwifery training institutions located in all the regions except in Gambella. According to this report there were 38 government and 8 private institutions providing midwifery training⁸. Twenty seven institutions provided Diploma level training and 17 institutions provided degree level training while one institution provided both degree and diploma level training. Midwifery public teaching institutions have increased from 23 in 2009 to around 49 in 2014⁹.

The FMOH is developing an HRH strategy for the period 2009- 2025¹⁰. A draft for comments has been circulated. This midwifery roadmap uses data from the HRH strategy draft document while also possibly contributing for the finalization of the Strategy. The projection for the number of midwives according to the HRH draft is 14,229 in the year 2025.

Other documents that served as inputs for the preparation of this roadmap are the draft HSTP, MNH roadmap, the revised draft health policy and the draft visioning Ethiopia's Path towards universal health coverage through primary health care.

Rationale

Several reports document shortage of human resources as key factors for not achieving health goals and the poor health status of the population of Ethiopia. The FMOH documents indicate midwives are among the cadres of health workers that are in the highest shortage^{11, 12}. A review of available literature also indicated gaps in both pre-service and in-service training, inadequacy of resources to provide quality services, disparity in deployment areas of midwives and issues related to motivation and licensure¹³. On the other hand, midwives are the key work force that provide skilled attendance during pregnancy, childbirth and the postnatal period and can provide 87% of the essential care needed for women and newborns¹⁴. Thus, due attention and immediate actions are necessary to deal with the shortcomings mentioned above.

A strategic roadmap will guide policy makers, implementers and development partners to understand the prevailing situation and visualise desired state of the future; therefore the FMOH decided to develop a Midwifery Quality Education and Services' Roadmap which will help policy makers determine the right actions to be taken that support the organisations' mission and achieve long-term objectives. The Strategic Roadmap will also allow policy makers, managers and employees to be on the same page knowing how each role and task fits into the process toward accomplishing the goal.

6 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012

7 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012

8 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012.

9

10 Federal Ministry of Health. Human Resources for Health. Strategic Plan. 2015-2025

11 Federal Ministry of Health. Roadmap for Accelerating the Reduction of Maternal and Newborn Morbidity and Mortality in Ethiopia. July 2012

12 Federal Ministry of Health. HSDP IV Annual Performance Report . 2013/2014.

13 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012.

14 UNFPA, ICM, WHO. The State of World's Midwifery 2014. A Universal Pathway. A Woman's Right to Health. Available at: <http://www.unfpa.org/sowmy>

Several actions were undertaken by the GoE to improve MNCH. A comprehensive assessment of Reproductive Health Needs in Ethiopia was conducted back in 1999. This assessment laid the foundation for the development and implementation of the National Reproductive Health Strategy (2006-2015). The National RH Strategy builds on a number of notable initiatives undertaken to serve the health needs of all Ethiopians. Among these are the 1993-Health Policy, which was followed by formulation of a comprehensive Health Sector Development Program (HSDP) in 1998, and the Health Extension Program (HEP) in 2003. The National Reproductive Health Strategy identified six priority areas including the social and cultural determinants of women's reproductive health, maternal and newborn health, fertility and family planning, HIV/AIDS, RH of young people and reproductive organs' cancers¹⁵.

In 2008, the FMOH conducted a national Emergency Obstetric and Neonatal Care (EmONC) assessment to provide data on achievement of the Millennium Development Goals (MDGs) 4& 5 and to guide policy, planning and prioritization to strengthen the health system using EmONC as a point of entry¹⁶. The results of this assessment provided valuable inputs for the design of HSDP IV and the revision of the National RH Strategy.

Midwifery is a key element of Sexual, Reproductive, Maternal and Newborn Health (SRMNH) care and is defined as “the health services and health workforce needed to support and care for women and newborns, including sexual and reproductive health and especially pregnancy, labor and postnatal care”¹⁷.

Midwives provided they are well educated and supported, possess the competencies across the reproductive, maternal and newborn health continuum and are both a connector across and a driving force behind that continuum. On the other hand, inefficiencies can occur when midwives and other health cadres are not given the chance to practice to their full competence¹⁸.

Universal coverage of midwifery interventions for maternal and newborn health, excluding family planning for the countries with the lowest HDI, 61% of all maternal, fetal, and neonatal deaths could be prevented. Including Family planning would prevent a total of 83% of all maternal deaths, stillbirths, and neonatal deaths¹⁹.

The importance of service by a midwife in low resource countries is also highlighted by a model which predicted compared with present baseline estimates and over 15 years a 10% increase in coverage (every 5 years) of interventions (including family planning) would lead to a 27% drop in maternal mortality. A 25% increase from available baseline estimates would lead to a 50% reduction of maternal mortality and 95% coverage would prevent 82% of maternal deaths. The effect on reductions of stillbirths and newborn infant deaths would similarly be high²⁰.

Concerning the midwifery work force required WHO set a benchmark of attendance of 175 births per midwife per year for workforce planning and projections²¹. However, a study in 14 African countries reported that the average number of births per year per midwife is 42 and it was suggested that the WHO benchmark of 175 needs to be refined to allow for greater sensitivity in sub-national settings and contexts so that future guidance can propose a range of estimates that meet women's needs for quality maternal and newborn care services throughout pre-pregnancy, pregnancy, birth, and post-partum and postnatal care²².

15 FMOH. National Reproductive Health Strategy. 2006-2015.

16 FMOH, UNICEF, UNFPA, WHO, AMDD. National Baseline Assessment for Emergency Obstetric and Newborn Care. 2008

17 UNFPA, ICM, WHO. The State of World's Midwifery 2014. A Universal Pathway. A Woman's Right to Health. Available at: <http://www.unfpa.org/sowmy>

18 Hoope-Bender P, Luc de Bernis, Campbell J, Downe S, Fauveau V, Fogstad H et al Improvement of maternal and newborn health through midwifery Lancet 2014; 384: 1226–35 [http://dx.doi.org/10.1016/S0140-6736\(14\)60930-2](http://dx.doi.org/10.1016/S0140-6736(14)60930-2)

19 Caroline S E Homer, Ingrid K Friberg, Marcos Augusto Bastos Dias et al The projected effect of scaling up midwifery www.thelancet.com. Lancet 2014; 384: 1146–57.

20 Renfrew MJ, McFadden A, Bastos MH, Campbel J, Channon AA, Cheung NF, et al. Lancet 2014; 384: 1129–45 . <http://dx.doi.org/10.1016/>

21 WHO. Make every mother and child count. The World Health Report 2005. Geneva: World Health Organization, 2005

22 Hoope-Bender P, Luc de Bernis, Campbell J, Downe S, Fauveau V, Fogstad H et al Improvement of maternal and newborn health through midwifery Lancet 2014; 384: 1226–35 [http://dx.doi.org/10.1016/S0140-6736\(14\)60930-2](http://dx.doi.org/10.1016/S0140-6736(14)60930-2)

As indicated in the HSTP, an issue of concern in maternal and newborn health care is the continuum of care and low effective coverage (quality ANC4, SBA, PNC, fully immunized)²³ and midwives can play a key role in minimizing the gap.

A study conducted in 2015 identified a range of factors that negatively influence midwives retention and motivation especially in public facilities that include limited educational opportunities to advance their career in midwifery at Bachelor's and Master's Degree level, poor incentive package (low salary, duty hour pay and risk allowance), risk of contamination attending labor and delivery services, stressful nature of the work and high workload²⁴.

Roadmaps in health related fields have been prepared and implemented to accelerate reduction of maternal and newborn morbidity and mortality, ensure improved coordination of interventions and delivery of services across the continuum of care and guide implementation across operational levels of the system so that policy drawn at national level will be carried out at the district and community levels.

Recognizing the lack of progress on MDG 5 and the high rates of maternal and newborn mortality and morbidity in Africa over the last two decades, WHO/AFRO recommended that countries develop a national roadmap for accelerating the attainment of the Millennium Development Goals (MDGs) related to maternal and newborn health. Following that, a number of MNH Roadmaps have been produced by African countries²⁵.

Developing midwifery roadmaps is becoming a global agenda because of the recognized importance of midwifery interventions in reducing maternal and newborn morbidity and mortality. Midwifery roadmaps have been developed in several countries²⁶²⁷ or their importance recognized²⁸. A study in India reported that with the increasing focus on reduction of maternal mortality, strengthening midwifery services both in number and quality is the essential missing step on the roadmap to maternal health and the need for an urgent comprehensive midwifery roadmap in order to have consistent and competent quality maternal care²¹.

In South Sudan, a roadmap was developed for Community Midwifery with the objective of improving access of mothers to skilled attendance during labor and delivery²⁹.

In Ethiopia, roadmaps have been developed to improve access and quality of services in different areas, an example is the Accelerated Access to HIV/AIDS Prevention Care and Treatment in Ethiopia Roadmap. This first roadmap for 2004-2006 created a managerial focus centered on the rollout of ART while stressing the importance of embedding ART into a comprehensive HIV/AIDS treatment and care approach. The second roadmap for the period 2007-2008/10 provided a detailed planning horizon for the next two years and projected targets until 2010³⁰.

The Ethiopian Maternal and Newborn Health Road Map has been developed in response to the current high maternal and neonatal mortality rates in Ethiopia and to the Global and Regional calls for each country to develop a country-specific roadmap. The MNH Roadmap sets specific objectives that include increased skilled attendance during pregnancy, childbirth and postnatal period and scale up the provision and utilization of quality basic and comprehensive emergency obstetric and neonatal care.

Although, specific assessments have not been done regarding the effects of developing and implementation of roadmaps in Ethiopia, improvements have been noted in achieving the targets set by the roadmaps.

23 Federal Ministry of Health. Health Sector Transformation Plan 2015/16 -2019/20

24 FMOH and UNFPA Ethiopia. Acceptability of male midwives in Ethiopia: Findings of a National Study. March 2015

25 Luc de Bernis, Yaron Wolman. African MNH Road maps Assessment Report – July 2009

26 International Confederation of Midwives. UNFPA and ICM invest in midwives and others with midwifery skills to accelerate progress towards MDG 5. September 2010 Update.

27 Ministry of Health, South Sudan, Evans GA, Lema ME. Road Map for Community Midwifery in Southern Sudan. 2010

28 Chhugani, M. Midwifery in India and its Roadmap. Journal of Asian Midwives. 2014;1(1):34-40.

29 Ministry of Health, South Sudan, Evans GA, Lema ME. Road Map for Community Midwifery in Southern Sudan. 2010

30 Ministry of Health HAPCO Accelerated Access to HIV/AIDS Prevention Care and Treatment in Ethiopia. Road Map 2007/2008 - 10

Objectives

The objectives of the Midwifery Roadmap are to:

- Estimate the required number with level mix of midwives at all tiers of service delivery during each strategic plan period (HSTP V and onwards);
- Provide visual image to policy makers on desired future state of midwifery education in order to take appropriate actions;
- Guide all concerned stakeholders' to the right course in the advancement of midwifery education and services;
- Keep focused and moving in efficient and cost-effective manner ;
- Estimate cost of activities for resource mobilisation on the course of attaining the desired goals and
- Recommend actions to improve quality of midwifery services.

Methodology

The preparation of this Midwifery Roadmap employed desk review of relevant documents which include midwifery related national studies by different organisations, relevant national reports, standards and policies as well as international standards by ICM and WHO in relation to midwifery education and practice. These include policy and strategy documents, guidelines, reports and publications by the FMOH, UNFPA, WHO, ICM, EMwA, Jhpigo, government sectors and other development partners.

In addition, key informant interviews were conducted with relevant staff of FMOH, EMwA, MOE and other organization to fill information gap.

The desk review and interviews were conducted by a consultant who had frequent consultations with the core team from FMOH and UNFPA to update them on the process and discuss on issues that need consensus and triangulating information from different sources including from key informant interviews. The core team reviewed and approved the final submission.

Four domains that determine whether a health system and its health workforce are providing effective coverage, i.e. whether women are obtaining the care they want and need in relation to SRMNH services were considered in developing the roadmap. These four domains are availability, accessibility, acceptability and quality. The definitions of these domains are shown in Annex 1.

The four domains were used to identify the major strategies of the Roadmap. The strategies are

- Improve pre-service and in-service training;
- Improve client and health worker satisfaction;
- Legislation, regulation and licensing;
- Improve availability of human resources, infrastructure, equipment and supplies, and effective and efficient referral system and
- Effective and efficient monitoring and evaluation

The conceptual framework shown below (Figure 1) presents the strategies as they relate to midwifery education and service quality that lead to utilization of MNH services keeping in mind improved MNH as the impact to be achieved.

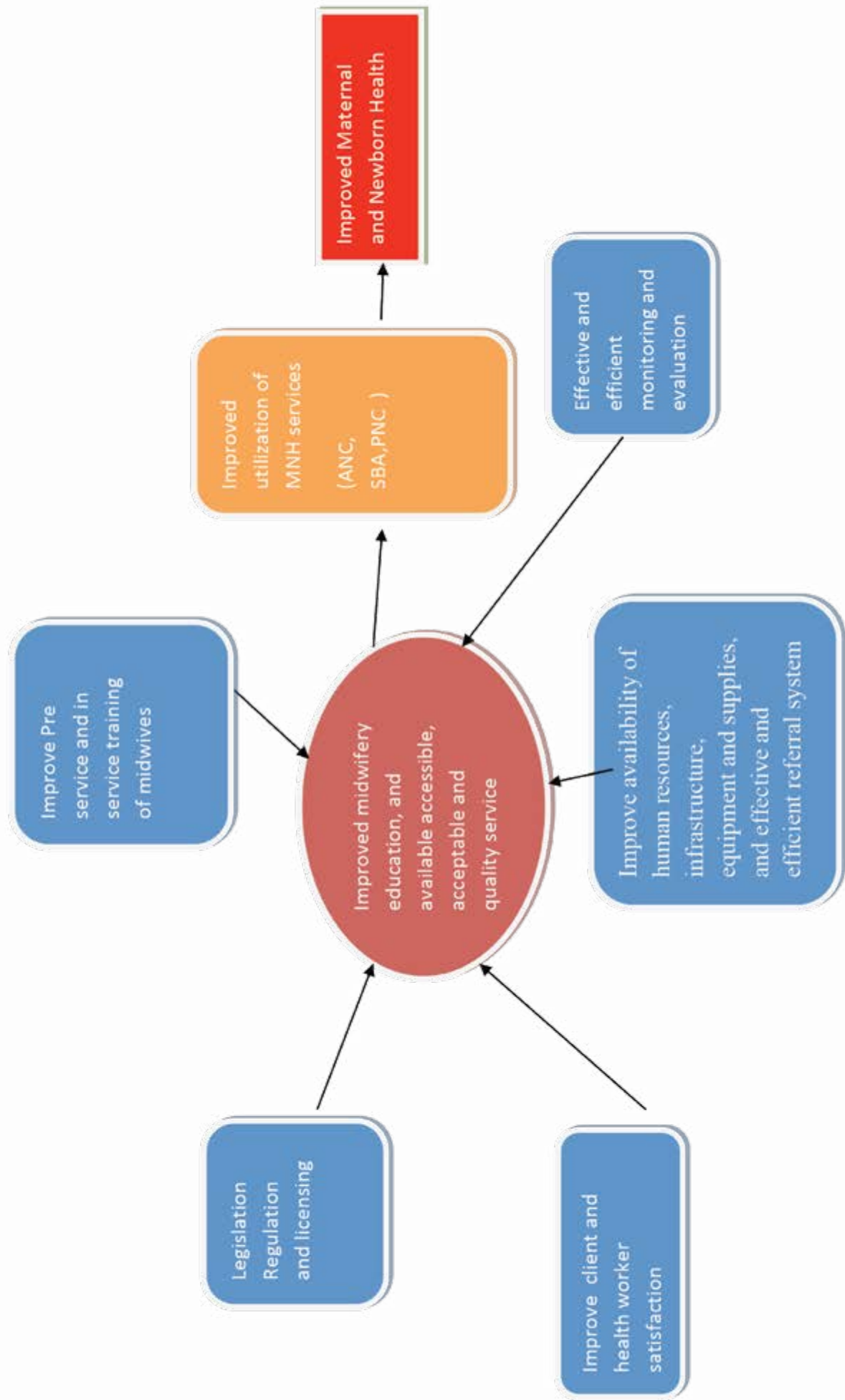


Figure 1: Conceptual framework for quality midwifery education and service in Ethiopia

A comprehensive checklist based on the above strategies was developed to assess the status of midwifery education and services and make future projections and cost estimates. The checklist was prepared by the consultant and appraised by the core team of experts from the FMOH and UNFPA.

A data collection template with questions on the different domains by source of information was used to collect and process data (Annex 2).

Different ways of estimating and projecting midwifery workforce requirements were considered in developing the roadmap.

The first is based on the number of deliveries to be conducted by a midwife in a year. As indicated earlier, the WHO productivity benchmark is 175 deliveries per year per midwife, which is much higher than what prevails in Sub Saharan Africa³¹ and may not be consistent with the scope of work the midwives are expected to carry out in a given context. One hundred fifty deliveries per midwife were considered in this roadmap.

CSA estimated that there will be more than 100 million people in Ethiopia in 2020 and a little over 111 million in 2025. FMOH uses 3.362% to estimate the number of pregnancies (births) per year. Thus, there will be 3,389,871 and 3,753,774 births by the year 2020 and 2025 respectively. Assuming a midwife conducts 150 deliveries per year, a total of 22,599 and 25,025 midwives will be needed in 2020 and 2025 respectively.

The second option is to make projections based on the guidelines of EFMHAC on staffing of different levels of health facilities by midwives^{32 33} (Annex 4). Given the number of health facilities by level, the number of midwives required to staff the health facilities will be calculated. Thirdly, the Federal Ministry of Health Human Resources for Health Strategic draft plans to have 14,299 midwives by 2025³⁴.

This roadmap presents scenarios mainly based on options one and two since the HRH Strategy documents are in draft stage and assume a lower number of midwives compared to what is required to staff the projected number of health facilities and the number of required midwives based on the number of projected births. Other issues that need to be considered in projecting midwifery workforce requirements include training, enrollment, and graduation, percentage of time spent on MNH services, age distribution, roles and attrition. The roadmap considered these criteria based on availability of data and key informant opinions.

Key informant interviews (trainers and experts) documents indicate that attrition from education is less than 4%.³⁵ Moreover, SoWMY 2014 reported Ethiopia's attrition rate from education to be 4%. A recent study on job satisfaction and retention reported midwifery attrition rate is 4%³⁶. The roadmap considered a scenario with 4% attrition from education and 4% after deployment, Main activities were costed by health economics experts by referring to relevant FMOH documents and other relevant literature that provided data on unit costs and other relevant parameters.

31 Hoope-Bender P, Luc de Bernis, Campbell J, Downe S, Fauveau V, Fogstad H et al Improvement of maternal and newborn health through midwifery Lancet 2014; 384: 1226–35 [http://dx.doi.org/10.1016/S0140-6736\(14\)60930-2](http://dx.doi.org/10.1016/S0140-6736(14)60930-2)

32 EFMHACA. Ethiopian Standards for primary for primary clinic, specialty clinic ,health center, specialty center , primary hospital, general hospital, specialized hospitals requirements

33 FMOH . Health Sector Transformation Plan. 2015/16 - 2019/20 (Draft)

34 FMOH. Human Resource for Health Strategic Plan 2009-2025.

35 UNFPA. The State of the World's Midwifery. 2014

36 FMOH, Jhpoego, msh. Job satisfaction and factors affecting health worker retention in Ethiopia's public health sector, Technical Report Revised Draft. May 2015

Situational analysis of components of the roadmap strategies

A summary of the situational analysis on key components of the roadmap strategies and source of information is presented in Table 1.

Pre-service Training

In 2012, there were 7767 midwife trainees of which were 5488 female and 2279 were male (2:1). 5,739 (73.9%) were trained at Diploma level, while 1840 (23.7%), and 188 (2.4%) were trained of BSc and MSc levels respectively ³⁷.

The latest midwifery curriculum revision by midwifery training institutions was undertaken in 2012 and 2013 where modularization has been applied and competency based training is given more emphasis.

A recent assessment by Jhpiego reported that the curricula and teaching-learning approach are well designed in some aspects. Midwifery students scored over 60% on four critical skills in the Objective Structured Clinical Examination (OSCE) however, it was noted that students do not spend enough time on practical training and lacked essential competencies. On average, graduating students scored 52% on the midwifery OSCE. The importance of assuring the competence of graduates for improving quality of care or health outcomes was underscored. Generally, a small proportion of the midwifery students (32%) attend the required number of deliveries, most spend too little time in skill labs and practical sites, there are few qualified trainers, especially preceptors and skill lab assistants are also in short supply ³⁸.

From the review of documents and key informant interviews, a specific plan on the number of midwives to be trained of different levels (Diploma, BSc degree, MSc.) was not found. However, available documents indicate that the number of midwives with degrees is expected to outnumber those of diploma graduates in the coming years.

In May 2014 a “Midwifery Higher Education Quality Standard Guideline” was produced by experts from the FMOH, EMwA, AAU, Jhpiego and HERQA. Some of the objectives of the guideline are to ensure the employment of midwives who are competent and who, by providing quality care, promote positive health outcomes in the populations they serve and provide the framework for designing, implementing and evaluating the ongoing quality of a midwifery education. The Higher Education Relevance and Quality Agency’s standard for Student - teacher ratio in midwifery training is 20:1³⁹.

Several gaps were identified by a task analysis study including high occurrence of “tasks with high criticality” response rate of “low frequency”, and unusually high responses for “unable to perform” needing attention. These include diagnose and manage abortion (post abortion care), identify injuries of pelvic muscles, detect cancer of reproductive organs, and diagnose and manage ectopic pregnancy.

Thus, the need to ensure that expected tasks match standard pre-service training, taking into consideration high priority areas was emphasized. These tasks should be compared to current curriculum content, and if not within the curriculum, attention should be given to revising the curricula ⁴⁰.

Quality of midwifery training is reported to be compromised due to a high student to tutor ratio, overcrowded class rooms and practical attachment sites and absence of mentors/preceptors and instructors to guide the students in the practical area ⁴¹.

37 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia’s Midwifery. 2012.

38 Jhpiego Competency of graduating midwifery and anesthesia students. Technical Report 2014

39 Higher Education Relevance and Quality Agency. National Accreditation and Quality Improvement Standards for Midwifery Degree Program First Edition, July 2014

40 FMOH, Jhpiego, EmWA. Ethiopian Association of Anaesthesists. Ethiopia Task Analysis study Report. Midwives, Anaesthesists and Rural Health Workers. August 2014

41 Federal Ministry of Health, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia’s Midwifery. 2012

In-service Training

Generally, in-service-training (IST) needs are identified during supportive supervision. The findings from supportive supervision and service reports are used for planning and addressing the problem identified. They are expected to be used in the annual plans of the FMOH and RHBs. Nonetheless, how well or to what extent this is practiced has to be assessed.

On average ISTs are conducted about twice a year for midwives and other cadres that deliver maternal health services. The main area of training is BEmONC. However, it was difficult to know the exact number of midwives who have had IST because of the absence of comprehensive up-to-date database. Some midwives may be trained on the same topic repeatedly since different organizations may conduct or organize the same type of training⁴². There were incidents where staff who are not involved in midwifery care at all were trained. Thus the appropriateness and effectiveness of the ISTs may be questionable in some circumstances.

An important step in addressing these challenges is standardizing in-service training that ensures the quality of the trainings while institutionalizing them thus also ensuring the sustainability of in-service trainings in the country. To this effect, the FMOH has prepared a National In-service Training Directive and National In-service Training Implementation Guide for the Health Sector. The guide developed in 2014 includes mechanism for follow up of performance of midwives after in-service training.

In addition, in-service education training should be reviewed and cross-referenced to areas of low capability. In-service education should include refresher trainings for rarely performed tasks, such as management/leadership strengthening trainings, equipment operating trainings, and standard patient/community treatment trainings⁴³.

Availability of Resources

In 2012, Ethiopia had 4,725 midwives of which 1,558 (33%) were trained through the accelerated midwifery training program. This was a substantial increase in the number of midwives from 1,275 recorded by the Emergency Obstetric and Neonatal Care assessment in 2008. The 2012 ratio of midwife to population was 1: 17, 980 which was much higher than the WHO recommended ratio of 1 midwife for a population of 5,000. In the same year, the ratio of male to female midwives was approximately one to five. However, the number of males with degrees was higher than females.

The total estimated number of midwives in 2014 based on EMwA report of 2012 and training institutions' database, considering attrition was 9,457⁴⁴ showing a significant increase from the past years. However, this is much lower than the number of midwives that are expected compared to what is needed to deliver midwifery services, based on the above methods of calculating requirements (18,000-20,000 midwives).

According to EFMHACA, the number of midwives that should staff a health center, primary hospital and general hospital are 3, 4 and 14, respectively.

A facility scale up plan for the year 2025⁴⁵ indicates the number of midwives (shown in Table 1) required by type of facility and this was used to project the number of midwives that is expected to staff the facilities in the country.

A constraint that was raised by the ESoMY 2012 report was lack of quality improvement tools and follow-up mechanism of practicing midwives in order to improve the quality of care being provided to mothers in maternity units and improve skilled attendance at birth⁴⁶.

42 Jhpiego Key Informant interview

43 FMOH, Jhpiego, EmWA. Ethiopian Association of Anaesthesists. Ethiopia Task Analysis study Report. Midwives, Anaesthesists and Rural Health Workers. August 2014.

44 FMOH. HRH Directorate Estimation

45 FMOH HSTP Draft Version 2, February 2015

46 FMOH, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012.

Limitations have been observed regarding the MNH referral system. Ensuring that referred patients reach the referral facility and get the necessary services is doubtful in many circumstances. According to the MNH roadmap weak referral system was one of the factors accounting for maternal morbidity and mortality⁴⁷, whereas strengthening referral system and feedback is one of the means to achieve the key strategic initiatives.⁴⁸ Sometimes inefficient and ineffective referrals are made when midwives are not confident, do not have the necessary knowledge and skills, or the necessary equipment and supplies are not available⁴⁹. Getting feedback for referred patients was a constraint in the referral system⁵⁰.

Client satisfaction

A number of issues may affect client satisfaction with the services including inability to pay for services and related expenses. Although government guidelines indicate free maternal and child health services in public facilities, there are difficulties in implementing these guidelines. The guidelines may not be applied for some components of the services such as surgical procedures and certain drugs. In addition, clients may need to buy drugs and other supplies that are not available in the health facility where they are being treated, making obtaining the necessary treatment difficult. Some government hospitals do not (did not provide until recently) free delivery service.

Reports indicate that improper handling of clients by staff, lack of privacy, and the imposed baby delivery position in health facilities can be factors that hinder clients from visiting health facilities for Maternal and Newborn health services. Lack of awareness about the importance of delivery in health facilities, and about having ANC when there are no visible problems, may be another reason for not visiting health facilities. Traditional maternal and child health care practices in modern health facilities, particularly not allowing relatives and partners in to the room is yet another reason that discourages visiting health facilities for such services⁵¹.

A study by FMOH and UNFPA on Acceptability of Midwives in Ethiopia reported about half of women in a national study in 2015 preferred to be attended by female midwives during labor and delivery. Women from rural areas, pastoralist communities and Muslim Women were more likely to prefer female providers (midwives) than their counterparts. Acceptability of male midwives varies among the different regions. Women in Somali, Oromia and Afar were more likely to prefer a female provider during labor and delivery. Most women identified culture values and social norms as a factor that influence women's attitude towards male midwives⁵².

The reason for female preference may be related to religious beliefs. For a Muslim woman, believing that no man other than her husband should touch her body might prohibit her from seeking maternal health care, if the provider is male⁵³.

It was suggested that health facilities should ensure that both male and female midwives are available for labor and delivery services during both working and duty hours; apply standardized clients gender preference management protocol that ensure women's preferences for male or female providers; and create a working environment that improve midwives motivation and retention at the MNH care services⁵⁴.

Provider Satisfaction

The main motivating factor to work as a midwife appears liking the profession⁵⁵. Working in rural or hardship areas with the opportunity for earlier transfer to urban centers, and shortening the number of years of obligations to work in the government assigned areas has been considered as a motivating factor to work in rural areas. Other

47 FMOH. Road map for accelerating the reduction of maternal and newborn morbidity and mortality in Ethiopia. 2012-2015. July 2012.

48 FMOH HSTP Draft Version 2, February 2015

49 Jhpiego key informant interviewees

50 FMOH HSTP Draft Version 2, February 2015

51 FMOH, ESOG and L10K. 2009, Maternal and Child Health Integrated Program. Cultural Barriers to Seeking Care in Ethiopia: A Review of the Literature. November 2012.

52 FMOH and UNFPA Ethiopia. Acceptability of male midwives in Ethiopia: Findings of a National Study. March 2015

53 Maternal and Child Health Integrated Program. (MCHIP). Cultural Barriers to Seeking Care in Ethiopia: A Review of the Literature. November 2012

54 FMOH and UNFPA Ethiopia. Acceptability of Male Midwives in Ethiopia: Findings of a National Study. March 2015

55 FMOH, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012

motivating factors include task shifting to carry out services that were earlier conducted by general medical practitioners and gynecologists such as assisted deliveries and MVA, and the institution of MSc training ⁵⁶.

On the other hand, few opportunities for career development for midwife and further education were mentioned as factors for changing job. In addition, lack of equipment and supplies in the health facilities were considered demotivating factors. Another demotivating factor was that some midwives were assigned to tasks that do not fit their training and expertise. This is particularly true in some training hospitals where they may not have a chance to conduct normal and instrumental deliveries, and their roles are restricted to preparing materials for delivery care ⁵⁷. The perception that salaries, duty payments and other allowances are low can be a demotivating factor ⁵⁸, ⁵⁹.

A recent study indicated that the overall satisfaction rate for midwives was 64%. About 79% of the midwives disagreed with the statement “My salary package is fair”, while 94% felt that the community values their work ⁶⁰.

Legislation, Licensure and accreditation

Thirty two percent of the midwives were practicing without license in 2012. In addition, midwives are required to renew the license after 5 years of practice, but it was not clear whether licenses were renewed as per the guideline ⁶¹.

HSTP identified missing elements in the regulatory landscape, whereas comprehensive, effective, efficient and fair HRH regulation ensures public protection and improves quality of health care. The need to have standard licensing, qualification or exit exam for health professionals graduating from university programs is underscored⁶².

Strengthening the licensure and accreditation process is a key mechanism to develop and retain high quality health professionals. EFMHACA has developed Scope of Practice to regulate the practice of health professionals, including midwives and this is expected to improve quality and utilization of services ⁶³.

Monitoring and Evaluation

Database on midwifery education and service has been improving through time. However, comprehensive and up-to-date data on midwifery workforce headcount, percentage time spent on SRMNH, roles, age distribution, retirement age, duration of education, enrolments into, attrition and graduation from education, and voluntary attrition from the workforce is not readily available ⁶⁴. A general limitation is that human resources information system (HRIS) is not fully functional to support HR planning and development, supportive supervision, performance monitoring and improvement ⁶⁵.

Supervision is generally done jointly by a team and has been improving. However, it may not include core competency assessment using relevant indicators ⁶⁶.

56 Key Informant Interview, EMwA

57 Key Informant Interview, Jhpiego

58 Key Informant Interview, Jhpiego

59 FMOH and UNFPA Ethiopia. Acceptability of Male Midwives in Ethiopia: Findings of a National Study. March 2015

60 FMOH, Jhpoeogo, msh. Job satisfaction and factors affecting health worker retention in Ethiopia's public health sector, Technical Report Revised Draft. May 2015

61 FMOH, UNFPA, Ethiopian Midwives Association, Sida. The State of Ethiopia's Midwifery. 2012

62 FMOH HSTP Draft Version 2, February 2015

63 EFMHACA Scope of Practice for Health Professionals in Ethiopia. December, 2014

64 Jhpiego and EMwA key informant interview

65 FMOH HSTP Draft Version 2, February 2015

66 Jhpiego and EMwA key informant interview

<p>Quality of midwifery training</p>	<p>Key informant interviewee (EMwA, Jhpiego)</p> <p>ESoMY 2012</p> <p>Higher Education Relevance and Quality Agency's standard National Accreditation and Quality Improvement for Midwifery Degree Program</p>	<p>Some fresh graduates do not appear to have the competencies, although formal core competencies assessment has not been done recently.</p> <p>Quality of training needs to improve.</p> <p>Shortage of mentors/ preceptors and instructors</p> <p>The tutor/student ratio is very high and the classrooms and practical sites are overcrowded.</p> <p>This may compromise quality of midwifery care.</p> <p>Implement a ratio of academic staff to students of 1:20 for classroom teaching and a ratio of academic staff to students of 1:5 for practical teaching</p>
<p>Currently practicing midwives who have had a in service training</p>	<p>Jhpiego Key Informant interviewees</p> <p>(EFY 2006 HSDP IV Report)</p>	<p>Trainings are conducted by different organizations. It is difficult to know exact number midwives who have in-service training</p> <p>A total of 1,492 health professionals have been trained in BEmONC in EFY 2006 (2013).</p>
<p>Frequency of ISTs</p>	<p>Jhpiego key informant interviewee</p>	<p>An average of twice per year</p>
<p>Major topics of ISTs</p>	<p>Jhpiego and EMwA Key informant interviewees</p>	<p>BEmONC</p>
<p>Duration of ISTs</p>	<p>Jhpiego and EMwA Key informant interviewees</p>	<p>BEMONC- 3 weeks</p>

Planning ISTs	Jhpiego and EMwA Key informant interviewees	Needs are identified based on supportive supervision findings and service delivery reports. Then the trainings are expected to be incorporated in the annual plan of FMOH and RHBs.
Appropriateness and effectiveness of ISTs	Jhpiego Key Informant interviewees	Some ISTs are skill based and hence appropriate Evaluation for appropriateness and effectiveness is not usual. Some staff are trained several times on the same area of training. There were incidents where staff who are not involved in midwifery care were trained
Mechanism for follow up of performance of midwives after in-service training	National IST Guide 2014	The National IST guidelines include post training follow up, mentoring and supportive supervision.
Improve availability human resources, infrastructure, equipment and supplies and the referral system		
Number and adequacy of midwives by level of training (Diploma, BSc and MSc level)	ESoMY 2012 HRH directorate	In 2012, Ethiopia had 4,725 midwives of which 1,558 (33%) were trained through the accelerated midwifery training program. The number of midwives recorded in 2008 by the emergency obstetric and neonatal care assessment was 1,275 showing a 3.7 times increase Distribution of midwives by level of training in 2012: 91% diploma, 8.8% BSc degree, 0.2% Masters The total estimated number of practicing midwives in 2014 was 9,457

The gender mix of diploma, BSc and MSc level midwives that are currently working in the country	ESoMY 2012	In 2012, the ratio of male to female midwives is approximately one to five. The number of males with degrees was higher than females.
Age group distribution of diploma, BSc and MSc level midwives that are currently working in the country	EMwA Key Informant Interviewees	Up to date figures are not available EMwA is updating a database
Distribution of midwives by regions,	ESoMY 2012 HRH directorate 2014	Highest in Oromiya, lowest in Afar and Benishagul In 2014, the highest number of midwives was found in Oromia, which has the highest population. The Afar Region has very low number of midwives (total of 75)
Number of graduates that leave their profession in a year, (i.e. attrition)	FMOH, Jhpiego, MSH. Job satisfaction and health worker retention Technical Report Revised Draft (May 2015). EMwA	About 4%
Ethiopia's status on meeting the standard on midwife to population / midwife to birth ratio	HRH Directorate	A total of about 9,457 midwives in 2014 Estimated number of midwives needed is around 18000 – 200000
The standard on midwife to health facility ratio for Ethiopia	FMHACA HSTP	Health center – 3 Primary hospital -4 General hospital – 13 Specialized hospital -24
Facility scale up by 2025	Human Resource for Health Strategy, 2014	Public Specialized hospital -20 General hospital -122 Primary hospital -796

		<p>Private General hospital -83 MCH hospitals -11 Higher clinic -531 Specialized clinic - 114</p>
Availability of equipment and supplies	Jhpiego Report	Lab reagent, equipment in short supply and National protocols were lacking
Effectiveness and efficiency of the referral system	<p>FMOH MNH roadmap</p> <p>Jhpiego key informant interviewees</p> <p>HSTP</p>	<p>Weak referral system is one of the factors contributing to maternal morbidity and mortality.</p> <p>Unnecessary referrals may be observed when midwives are not confident, do not have the necessary knowledge and skills or the necessary equipments and supplies are not available.</p> <p>Strengthening referral and feedback system is one of the means to achieve the key strategic initiatives</p>
Improve client and health worker satisfaction		
Client satisfaction		
Availability of guideline for free MNH services and its application	Jhpiego and EMwA Key Informant interviewees	Guidelines for free maternal and child health may not be applied in some cases Payments may be required for surgical procedures and drugs.
Attitude and approach of health workers	FMoH, ESOG and L10K. Report from National Scoping Exercise and National Workshop to Increase Demand, Accesses and Use of Community Maternal and Neonatal Health services 2009	Some government hospitals do not (did not provide until recently) free delivery services. Improper reception and attitude of providers and other staffs, including support staff , health facility is hindrance to health service utilization
Privacy and convenience	FMOH and UNFPA Ethiopia. Acceptability of	The privacy that a home delivery provides, being in the presence of relatives, and/or delivering in a supported sitting position is a

Preference for female providers	<p>male midwives in Ethiopia: March 2015</p> <p>Maternal and Child Health Integrated Program (MCHIP) Cultural Barriers to Seeking Care in Ethiopia: A Review of the Literature (November 2012).</p>	<p>major reason not to deliver in health facilities.</p> <p>About half of women preferred to be attended by female midwives during labor and delivery. Women from rural pastoralist communities and Muslim Women were more likely to prefer female providers (midwives) than their male counterparts</p> <p>The reason for female preference may be related to religious beliefs related to not touching a female body by no male other than the husband.</p>
<p>Provider Satisfaction</p> <p>Motivating factors for working as a midwife</p> <p>Mechanisms that motivate midwives to work in rural areas</p>	<p>(ESoMY 2012)</p> <p>EMwA key informant interviewees</p>	<p>Liking the job/training outweighs all other incentives that midwives receive. Client relationship is the second most satisfying factor. 70 percent of the midwives are satisfied with the type of work they do.</p> <p>The MSc scale up and task shifting are motivating factors for midwives in general.</p>
Demotivating factors for working as a midwife	<p>ESoMY 2012</p> <p>EMwA key informant interviewees</p> <p>FMOH Jhpiego and MSH. Technical Report 2014</p>	<p>Poor working conditions, poor supervision, lack of opportunities for career development</p> <p>Those working in NGOs cited better salaries as a driving force for midwife professionals to change their working organizations. Opportunities for education and for transfers are driving forces for change of employment and for job satisfaction.</p> <p>Lack of equipment and supplies in the health facilities and lack of access or limited access to information</p> <p>Low salary duty and other allowances</p>
Legislation, regulation and licensing		
Regulations regarding the job descriptions of midwives and standards	<p>EFMHACA</p> <p>National Scope of</p>	<p>There is Scope of Practice for all health providers including midwives.</p>

for midwifery training services practice and their applications	Practice Standards for Midwifery practice HSDP IV 2006 EC (2014) Report	There is also a document on standards of midwifery practice. To ensure the quality of the accelerated training program, the Midwifery Education Standard was developed in collaboration with key stakeholders
Percentage of midwives licensed Effectiveness of the licensing process	ESoMY 2012 Jhpiego key informant interview	Thirty two percent of midwives in Ethiopia were practicing without licensure. The midwives are required to renew the license after 5 years of practice. No follow-up to ensure that this is done. Currently, most if not all are practically licensed. There is a plan to give licensing examination to midwives as of June 2015).
Accreditation of training programs and institutions	FMHACA Directive on Continuing Professional Development for Health Professionals 2013 FMOH 20 years Health Sector vision HSTP V	EFMHACA issued a Directive on Continuing Professional Development for Health Professionals In 2013 Strengthening the accreditation process is considered a key mechanism to develop and retain high quality health professionals and protect the public from unqualified professionals.
Effective and efficient monitoring and evaluation		
Collection and utilization midwifery work force data	Jhpiego and EMwA key informant interviewees HSTP V	EMwA collects data on the profiles of midwives. Not all the details may be included. EMwA is planning to update the database Human resources information system (HRIS) is not fully functional to support HR planning and development, supportive supervision, performance monitoring and improvement.

Main problems identified by document review and key informant interview

1. Poor working conditions, few opportunities for career development, relatively low salary and other incentives, may negatively affect motivation and retention of midwives
2. The student to tutor ratio is high and classrooms and practical sites are overcrowded.
3. The referral and feedback system for MNH care needs to be strengthened.
4. Lack of up to date comprehensive database on midwifery trainees and the midwifery workforce for appropriate planning monitoring and evaluation

Limitations and assumptions for successful implementation of the Roadmap

The main data collection method being desk review, a major limitation was availability of all relevant data and their validity. There are also discrepancies by different data sources. Another limitation is that most references on requirement figures do not show midwifery work force by category (level of education). Some key references include FMOH documents that have not been finalized yet.

Thus, for some issues where current data are unavailable, or there are discrepancies by different data sources, or estimates are too crude, decisions on what to use was made by considering findings from key informant interviews and/or by consensus of the expert core team.

A key assumption for the successful implementation of the Roadmap is the existence and application of an overall effective HRH strategy, appropriate HRH Policy and Legislative Framework, effective overall HRH management, and appropriate human for health resource mix for MNH care.

Because of the above reasons, the implementation of the Roadmap needs to be monitored and its utility assessed, as appropriate, so that necessary adjustments are made.

Logical framework of strategies, activities and targets

For each of the five strategies mentioned above, a number of activities that contribute to the achievement of the strategy were identified. Objectively verifiable indicators that measure the achievement of the strategy were also assigned. The target years are classified into two 2016-2020 and 2021-2025 based on the five year plan cycle that is followed by the FMOH. Summary of the strategies, activities, objectively verifiable indicators and targets are shown in a logical framework in Table 2.

Conclusions

The desk review indicates that there has been substantial progress in midwifery education and provision of services in Ethiopia. Studies that have been conducted in the last 10 years have shown the strengths and limitations in midwifery education and services. The attention given to midwifery education and service is increasing. Standards, guidelines, relevant directives to improve MNH work training and performance have been produced. However, the implementation of these standards, guidelines and directives needs to improve. Moreover, there remain large gaps in the training, deployment, and provision of quality midwifery services which should be achieved by implementing current strategies and plans, and developing new ones as appropriate. This roadmap will fill a gap by providing more specific midwifery related data, training and quality services and actions to be taken to improve the situation and reach targets to improve MNH.

Recommendations

1. Increase the number of midwifery trainees to meet the requirements for staffing levels of different health facilities and expected duties of midwives in the coming 10 years
2. Improve the quality of pre-service training by maintaining a reasonable tutor-student ratio, improving training facilities, improving the knowledge and skills of midwifery teachers and availing the necessary training equipment and supplies. Strengthen BEmONC in pre-service training
3. Strengthen in-service training by providing training for practicing midwives on identified gaps including BEmONC, some elements of CEmONC, communication with MNH clients, providing youth friendly MNH services, leadership and management.
4. Institute trainee tracking mechanisms by having up to date data base
5. Staff health facilities and midwifery training institutes according to standards
6. Avail the necessary equipment, supplies, guidelines, standards and protocol in health facilities
7. Ensure the application of the “Minimum Benefit Package” (free services) at all levels
8. Assess adequacy of the prevailing salary, allowance and other incentives and take appropriate actions.
9. Strengthen measures to improve the career structure of midwives
10. Ensure the conduct of regular supervision and feedback at all levels of the health system based FMOH guidelines.
11. Regularly update database on midwifery workforce on headcount, percentage time spent on SRMNH, roles, age distribution, gender, retirement age, length of education, enrolments into, attrition and

Table 2: Logical framework showing the strategies, key activities, indicators and targets for the years 2016-2025

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved	
Improve pre service and in service training a. Pre service training Based on number of midwives need per number of deliveries targeted ✓ 22,599 by 2020 ✓ 25,025 by 2025 ✓ Expecting 4% attrition during training and 4% attrition after deployment	Train midwives	Number of midwives trained by level	10,983	12,162	FMOE Training Institutions	Partners in MNH	
	Diploma level (45%)		12,204	13,514	FMOH		
	Bsc level (50%)		1,220	1,351	RHB		
	Masters level (5%)						
	Total		24407	27027			
	PhD training cost (50)		20	30			
	Improve gender mix in BSc, Msc training maintaining 2 females 1 male ratio	Male to female ratio	1:2	1:2		FMOE Training institutions (Both public and private)	FMOH
	Enhance the implementation of midwifery education standard	Number of training institutions that fully implement	All by the end of the target year	All		FMOE Training Institutions	FMOH

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
	Improve availability of tutors as per standard	the standard Student to tutor ratio (20:1)	Total number/20 24,407/20= 1,220	27,027/20 = 1,351	FMOE Training institutions	FMOH
	Refresher training for tutors	Number of tutors who have refresher training	1,220	1,351	FMOE Training institutions	FMOH EMwA (professional associations) Other partners like UNFPA, Jhpiego
b. In-service training	Conduct in-service training on priority areas such as BEmNOC, providing friendly MNH services	Number of midwives trained	22,599 midwife will be trained at least once a year	25,025 midwife will be trained at least once a year	FMOH RHB ⁶⁷	MOE Professional associations (EMwA and others) Other partners like UNFPA, Jhpiego Training Institutions
	Institute trainee tracking	Proportion of	70%	100%	FMOH	Professional

⁶⁷ graduation from education, and voluntary attrition from the workforce

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
	mechanism	Institutions that implement trainee tracking mechanism			RHB	associations (EMwA and others) Other partners like UNFPA, Jhpiego Training Institutions
	Improve selection of staff for in-service training to include those who actually need and practice the concerned tasks	Proportion of staff selected who are currently rendering midwifery services	100%	100%	FMOH RHB WoHO Health facilities	Training institutions Professional associations (EMwA and others) Other partners like Jhpiego
	Have list of staff trained and who need training	Number of health facilities and woredas who have lists	All	All	RHB WoHO Health facilities	
	Post training follow up, mentoring and supportive supervision as indicated in the national IST Guideline.					
Improve availability of human resources, infrastructure,	Deploy diploma level (45%) Bsc level (50%)		10,983	12,162	FMOH RHB WoHO	Other partners

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
			Private General hospitals 540 Higher clinics 797 MCH hospitals 132 Total private 1,469 Total 10,563	Private General hospitals 1,079 Higher clinics 1,593 MCH hospitals 264 Total Private 2,936 21,126		
	Improve two way referral system	Number of health facilities with efficient referral system who give and receive feedback	All facilities	All facilities	FMOH RHB WoHO Health facilities	
	Avail the necessary equipment and supplies in health facilities	Number of health facilities that have the necessary equipment as per the standard	All facilities	All facilities	FMOH RHB WoHO	Partners such as UNFPA and Jhpiego

Strategy	Activities	Objectively Verifiable Indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
Improve client and health worker satisfaction						
Improve client satisfaction	<p>Include issues related to factors that affect client satisfaction and provision of client friendly services in IST.</p> <p>Prepare a protocol on client friendly services and monitor its application</p>	<p>Number of midwives trained</p> <p>Number of health facilities that have the protocol and using it</p>	<p>22,599</p> <p>10,563 All health facilities</p>	<p>25,025</p> <p>21126 All health facilities</p>	<p>FMOH</p> <p>FMOH RHB WoHO Health facilities</p>	<p>EMwA</p> <p>Health professional associations</p> <p>EMwA</p> <p>Health professional associations</p> <p>Partners such as UNFPA, Jhpiego</p>
	<p>Apply the Minimum package application "Free services" at all levels</p> <p>Identify and implement culturally appropriate and innovative approaches for delivery care</p>	<p>Number of health facilities that have the protocol for free services and fully applying it</p> <p>Number of health facilities who identify and implement culturally appropriate and innovative</p>	<p>All health facilities</p> <p>All health facilities</p>	<p>All health facilities</p> <p>All health facilities</p>	<p>FMOH RHB WoHO Health facilities</p> <p>RHB WoHO Health facilities</p>	<p>EMwA</p> <p>Health professional associations</p> <p>FMOH</p>

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
	Ensure the standards, guidelines and protocols are applied	Number of health facilities that apply the guidelines	All facilities	All facilities	FMOH RHB WoHO Health facilities	EMwA Other partners such as UNFPA, Jhpiego
	Ensure Scope of Practice Directive is implemented	Number of health facilities that appropriately implement the directive	All facilities	All facilities	FMHACA FMOH RHBS	
	Conduct regular supervision and feedback at all levels based on FMOH guidelines	Number and regularity of supervision conducted	All health facilities	All health facilities	FMOH RHB WoHO	
Effective and efficient monitoring and evaluation	Ensure that issues related to midwifery services and workforce is included in the supervisory checklist and preferably that a midwife supervisor is included in the supervisory team.	Midwifery workforce and service included in the supervisory checklist during all visits			FMOH RHB WoHO	
	Regularly update database on midwifery workforce on headcount, percentage time spent on SRMNH, roles, age distribution, retirement age, length of education,	Database contains all elements and updated every year			FMOH RHB WoHO EMwA	Training institutions Partners UNFPA. Jhpiego others

Strategy	Activities	Objectively Verifiable indicators	Targets 2016-2020	Targets 2021-2025	Who is responsible	Who will be involved
	enrolments into, attrition and graduation from education, and voluntary attrition from the workforce.					

Roadmap cost 2016- 2025

The One Health (<http://www.futuresinstitute.org>) costing tool was used in estimation of human resource production and staffing cost for the period 2016-2020 and 2021-2025 with the required number and qualified midwives. The cost estimation was done based on two scenarios following the targets stated in the logical framework. However, some costs such as infrastructure expansion, ambulances for referral, availing equipment and supplies for MNH services, and provision of “free service” are not included in this exercise, assuming that the required resources will be availed through other programs or are covered in other activities or items. The cost estimates (Table 3) are presented in Ethiopian currency (ETB) and all costs are adjusted for inflation. Unit costs for pre-service and in-service training of midwives at different levels and other inputs for the model were gathered from published research, FMOH documents and gray literature. Assumptions and inputs used for cost estimation are shown in Annex 5.

Table 3: Cost estimation for midwifery roadmaps (pre-service training, in-service training, and cost of midwifery service and workforce): 2016-2025

S.No	Activities		2015-2020	2021-2025	Total	
1	Training of midwives	Total In-service training cost	Midwives Bsc Midwives diploma Midwives Msc Total	5,230,764 10,861,675 792,009 16,884,447	24,816,772 3,222,138 939,602 28,978,512	30,047,536 14,083,813 1,731,610 45,862,959
			Midwives Bsc Midwives diploma Midwives Msc Total	87,256,546 45,619,236 4,562,994 137,438,776	83,985,572 66,706,699 5,413,323 156,105,593	171,242,117 112,325,935 9,976,317 293,544,370
		Phd training cost (50) ⁶⁸		10,000,000	15,000,000	25,000,000
2	Improve availability of midwives	Total cost for salary, benefits and incentives	Midwives Bsc Midwives diploma Midwives Msc Total	43,589,700 90,513,924 7,920,000 142,023,624	381,027,282 39,453,196 17,311,368 437,791,846	424,616,982 129,967,120 25,231,368 579,815,470
3	Improve gender mix (2 female:1 male) ⁶⁹		600,000	150,000	750,000	
4	Enhance the implementation of midwifery education standard		750,000	1,000,000	1,750,000	
5	Improve availability of tutors as per the standard		146,400,000	243,000,000	389,400,000	
6	Refresher training for tutors		15,250,000	20,250,000	35,500,000	
7	Institute trainee tracking mechanism, Have list of staff trained and who need training		1,100,000	1,000,000	2,100,000	
8	Post training follow up, mentoring and supportive supervision as indicated in the national IST Guideline.		500,000	500,000	1,000,000	
9	Improve two way referral system ⁷⁰		500,000	500,000	1,000,000	
10	Avail the necessary equipment and supplies in health facilities		5,000,000	5,000,000	10,000,000	
11	Institute mechanisms for rewarding best performance		2,500,000	2,500,000	5,000,000	
12	Institute mechanisms to improve the carrier structure of midwives and assess prevailing salary, allowance and other incentives		1,000,000	-	1,000,000	
13	Avail the necessary guidelines, protocols, standards in all health facilities providing MNH services		1,500,000	1,500,000	3,000,000	
	Total		481,446,847	913,275,951	1,394,722,799	

Annexes

68 The estimation is half a million birr to produce a Phd graduate, including cost of research

69 The main envisaged activity is advocacy work through the mass media and other outlets to encourage young talented females to join midwifery and complete training successfully. The activity will be mainly needed during the first five years.

70 Improving the referral system is not directly related to midwifery alone. The cost indicated here is for preparation and distribution of referral documents, about 10000 Birr each year. If cost for the referral system has been budgeted elsewhere, it can be removed from this midwifery roadmap costing. Similar arguments can be made for items 10-13.

Annex 1: Definition of key terms

Availability (of health services): Dimension of the right to health that requires functioning public health and healthcare facilities, goods and services, as well as programmes in sufficient quantity.

Availability (of the health workforce): The sufficient supply and stock of health workers, with the relevant competencies and skill mix that correspond with the health needs of the population.

Accessibility (of health services): Dimension of the right to health, which requires that health facilities, goods and services are accessible to everyone within the jurisdiction of the State Party. Accessibility has four overlapping dimensions: non-discrimination; physical accessibility; economic accessibility (affordability) and information accessibility.

Accessibility (of the health workforce): The equitable access to health workers, including in terms of travel time and transport, opening hours and corresponding workforce attendance, whether the infrastructure is disability-friendly, referral mechanisms and the direct and indirect cost of services, both formal and informal.

Acceptability (of health services): Dimension of the right to health, which requires that all health facilities, goods and services must be respectful of medical ethics and culturally appropriate, as well as sensitive to gender and life-cycle requirements.

Acceptability (of the health workforce): The characteristics and ability of the workforce to treat everyone with dignity, create trust and enable or promote demand for services

Quality (of health services): Dimension of the right to health, which requires that health facilities, goods and services must be scientifically and medically appropriate and of good quality.

Quality (of the health workforce): The competencies, skills, knowledge and behaviour of the health worker assessed according to professional norms and as perceived by users.

Annex 2: Data collection form from different sources

Name of Organization

Person(s) contacted

Date

Strategy and questions to be answered	Document obtained from organization	Contact person (Informants view) when necessary and applicable	Suggested other sources of information by the contact person (Informant)
Improve Pre-service and inservice training			
How many have graduated during the last, say five years?			
What was the attrition rate in the last, say five years			
Is there a plan to produce a certain number of Diploma, BSc and MSc level midwives in the coming five years? ten years? If so, what are the numbers?			
Is there a trainee (graduate) tracking mechanism?			
When were the curricula developed for diploma, BSc and MSc level midwives training?			
Is the curriculum based on the ICM			

Midwifery competences?			
Have the curricula been assessed recently? If so, when?			
Is the curriculum implemented as planned?			
Are there any challenges in the implementation of the curriculum			
How many of the currently practicing midwives have had an in-service training?			
How frequently are in-service trainings conducted?			
What are the major topics of in-service training?			
What are the durations of in-service training?			
How are in-service trainings planned?			
Are in-service trainings evaluated for appropriateness and effectiveness?			
Is there a mechanism for follow up of performance of midwives after in-service training?			
Are there plans for midwifery in-service training for the coming five years? t en years? What do the plans include			
How is the situation of training facilities, including practical training and training sites?			

Legislation Regulation and licensing,			
Are there legislations/ regulations governing the pre- service and in service training of midwives?			
What regulations exist regarding the job descriptions of midwives? Standards for midwifery training services practice?			
How are these regulations applied?			
What regulations exist for licensing of midwifery practice? What percentage of midwives is licensed? How effective is the licensing process?			
What regulations exist for accreditation of midwifery training institutions? MNH service providing facilities? How many of the institutions are accredited?			
What are the plans to improve accreditation of institutions?			
Improve client and health worker satisfaction			
What is the place of midwifery as a profession in the health workforce from the perspective of colleagues and the client population?			
Are there “Minimum Benefit Packages” including free services for MNH service clients?			
How are these packages applied?			
Does the training of midwives			

include issues related to respect and care of women with dignity?			
What information exists concerning the preference of women with respect to the gender of the provider and other aspects of service provision in a specific context?			
What are the main motivating and demotivating factors in working as a midwife?			
What mechanisms have been put in place to motivate midwives in the rural areas			
Improve availability human resources, infrastructure, equipment and supplies, and effective and efficient referral system			
How many diploma, BSc and MSc level midwives are currently working in the country?			
What is the gender mix of BSc and MSc level midwives that are currently working in the country?			
What does the age group distribution of diploma, BSc and MSc level midwives that are currently working in the country look like?			
What does the distribution of midwives by regions, urban- rural areas, and public private sector look like?			

Legislation Regulation and licensing,			
Are there legislations/ regulations governing the pre- service and in service training of midwives?			
What regulations exist regarding the job descriptions of midwives? Standards for midwifery training services practice?			
How are these regulations applied?			
What regulations exist for licensing of midwifery practice? What percentage of midwives is licensed? How effective is the licensing process?			
What regulations exist for accreditation of midwifery training institutions? MNH service providing facilities? How many of the institutions are accredited?			
What are the plans to improve accreditation of institutions?			
Improve client and health worker satisfaction			
What is the place of midwifery as a profession in the health workforce from the perspective of colleagues and the client population?			
Are there “Minimum Benefit Packages” including free services for MNH service clients?			
How are these packages applied?			
Does the training of midwives			

include issues related to respect and care of women with dignity?			
What information exists concerning the preference of women with respect to the gender of the provider and other aspects of service provision in a specific context?			
What are the main motivating and demotivating factors in working as a midwife?			
What mechanisms have been put in place to motivate midwives in the rural areas			
Improve availability human resources, infrastructure, equipment and supplies, and effective and efficient referral system			
How many diploma, BSc and MSc level midwives are currently working in the country?			
What is the gender mix of BSc and MSc level midwives that are currently working in the country?			
What does the age group distribution of diploma, BSc and MSc level midwives that are currently working in the country look like?			
What does the distribution of midwives by regions, urban-rural areas, and public private sector look like?			

Annex 5: Assumptions and inputs used for cost estimation

Level of qualification	Current number of midwives	Graduates in recent year(2014/2015)	Annual salary (ETB)	Annual real salary increase (%)	Annual benefit as % of annual salary	Average year of training	Average annual cost per student (ETB)	In-service training cost as % of annual salary	Average Enrollment per year	
									Option 1	Option 1
Midwives Bsc	4619	779	19596	7.5	10	3	7445	12	3306	2572
Midwives diploma	1155	749	37740	13	10	4	8665	12	4286	2858
Midwives Msc	100	30	79200	13	10	2	13000	10	321	286
Monthly remuneration per tutor (2016-2020)										2000ETB
Monthly remuneration per tutor (2021-2025)										3000ETB
Cost of refresher training for a tutor per year (2016-2020)										2500ETB
Cost of refresher training for a tutor per year (2021-2025)										3000ETB



Federal Democratic Republic of Ethiopia
Ministry of Health