



Examining the Availability, Quality, and Accessibility of Reproductive, Maternal and Newborn Health Services in Ar Raqqa and Deir-ez-Zor

FINAL REPORT

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Acronyms

ANC	Antenatal care
BEmONC	Basic emergency obstetric and neonatal care
CBM	Community-based midwife
CBP	Community-based provider
CEmONC	Comprehensive emergency obstetric and neonatal care
EHSP	Essential health services package
FP	Family planning
GBV	Gender-based violence
HCF	Health care facility
HERNES	Health Recovery in North East Syria
(I)NGO	(International) non-governmental organisation
ISIS	Islamic State of Iraq and Syria
KI	Key informant
KII	Key Informant Interview
MoH	Ministry of Health
NC	Neonatal care
NES	North East Syria
OBGYN	Obstetrician-gynaecologist
cPHC	Comprehensive primary health clinic
PHC	Primary health clinic
PNC	Post-natal care
RMNH	Reproductive, maternal, and newborn health
SBA	Skilled birth attendance
WHO	World Health Organisation

Glossary of Terms

Continuum of Care: The Reproductive Maternal and Newborn Health (RMNH) continuum of care includes care for the mother and child during and after pregnancy and birth (including complications). The continuum of care is organised into key intervention packages or “bundles of care” that must be in place and accessible to reduce maternal and newborn mortality and morbidity. These packages include antenatal care (ANC), skilled birth attendance (SBA) and newborn care (NC), basic/comprehensive emergency obstetric and neonatal care (BEmONC/CEmONC), post-natal care (PNC) and family planning (FP).¹

Community-based provider: Someone who provides RMNH care in a community outside of a health care facility. In this study, the term refers to midwives, obstetricians-gynaecologists, nurses, or traditional birth attendants.

Community-based midwife: Midwives who provide RMNH care in a community outside of a health care facility.

Certified midwife: Someone who has completed an accredited midwifery program of two or more years and meets the basic midwifery competencies according to Syrian national standards. Certified midwives practice both in health care facilities and in the community.

Midwife in training: Midwives in training are expected to have completed at least 6 months of a formal program and are continuing their education.

Traditional midwives: In the Syrian context and this report, the term ‘traditional midwives’ is used to refer to midwives who have received most or all of their training by assisting and learning from other (accredited) midwives in the community, and do not generally practice in health care facilities.

Traditional birth attendant: Traditional birth attendants are women from the community who attend births. Traditional Birth Attendants have not generally received formal clinical training and are not considered ‘skilled birth attendants’.²

Health care facility: Health care facilities include primary health care clinics (PHC), comprehensive primary health clinics (cPHC), and hospitals.

Emergency obstetric and neonatal care (EmONC) signal function: Signal functions are the internationally unified and agreed upon collective minimum set of interventions required to provide EmONC.³ There are seven signal functions that compromise BEmONC and an additional two that, in addition to the seven, compromise CEmONC. International health actors recommend that for every 500,000 people, there are at least four health care facilities that provide BEmONC and at least one additional health care facility that provides CEmONC.

¹ The Partnership for Maternal, Newborn & Child Health. A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNH). Geneva, Switzerland: PMNHCH 2011. Available at: https://www.who.int/pmnch/topics/part_publications/essential_interventions_18_01_2012.pdf?ua=1.

² World Health Organisation. Making pregnancy safer the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO. Geneva: World health organization (WHO). Department of reproductive health and research (RHR); 2004. Available at: http://www.who.int/maternal_child_adolescent/documents/9241591692/en/index.html.

³ WHO, UNFPA, UNICEF, and Averting Maternal Death and Disability. AMDD. Monitoring Emergency Obstetric Care: A Handbook. Geneva, Switzerland: WHO 2009. Available at: http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf

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Executive Summary

Preliminary evidence from Expertise France's Health Recovery in North East Syria (HERNES) project previously suggested there are significant gaps in the availability of reproductive, maternal, and newborn health (RMNH) services in health care facilities (HCFs). In response to these gaps, this study aims to consolidate and improve information available on RMNH care provision to establish a better understanding of who provides different aspects of care, and at what level. As such, the objective of this study is to further assess the availability, quality, and accessibility of RMNH services at both the facility and community level in Ar Raqqa and Deir-ez-Zor Governorates in order to support effective RMNH programming.

The study used a mixed-methods approach that included: a desk review, 19 key informant (KI) interviews with a range of stakeholders at the community, HCF, (I)NGO and governmental levels, 12 facility assessment surveys, 22 community- and facility-based health care provider surveys, and 61 exit interviews with women receiving care at health care facilities. Community-based health care providers were identified using scoping interviews with women in the two governorates covered by this study. The 12 HCFs assessed, which included 5 PHCs, 2 cPHCs, and 5 hospitals, were selected based on the possibility of conducting site visits. Efforts were also made to ensure a balance of primary and secondary level facilities and facilities in urban and rural locations of Ar Raqqa and Deir-ez-Zor.

The RMNH continuum of care, including care for the mother and child through pregnancy, birth (including emergency services), and postnatal care, was used as a conceptual framework to explore the availability, quality and accessibility of different RMNH care packages.

Availability, Access, and Use of Health Care Facilities and Community Based Providers

- In preparation for the study, preliminary research indicated there were an estimated 45 public HCFs across Ar Raqqa and Deir-ez-Zor confirmed to provide RMNH services that could potentially be included in the study. The Sphere Handbook for Humanitarian Charter and Minimum Standards in Humanitarian Response recommends that there be at least one hospital per 250,000 people and at least one PHC per 10,000 people.⁴ Similarly, international standards stipulate a minimum of one HCF able to provide Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) and four able to provide Basic Emergency Obstetric and Neonatal Care (BEmONC) per 500,000 people.⁵
- This study confirms there are significant gaps in the availability, accessibility and quality of RMNH services in both governorates. Limited availability and access barriers are more pronounced in Deir-ez-Zor. Key factors behind these dynamics include: 1) the lack of human resources, which is closely associated with the lack of pre-service and in-service training, problems with the retention of appointed staff and the displacement or death of many of Syria's existing medical professionals; 2) weak health infrastructure and an unreliable supply chain for medical equipment and supplies; and 3) limited number of humanitarian health actors and donors investing in these areas, especially in Deir-ez-Zor.
- In Deir-ez-Zor, 71% of women interviewed reported that the RMNH service they needed was only available in the private sector and 61% reported having significant difficulty accessing emergency services. Women reported facing cost and access to transportation barriers. In general, women reported that access to and availability of RMNH services was better in Ar Raqqa than Deir-ez-Zor.
- Both governorates have a weak, and mostly absent, referral mechanism for RMNH services. This appears to reflect the overall weakness in the health system in these two governorates as well as coordination gaps among health providers.

⁴ Sphere standards do not provide specific guidelines on whether these should be PHCs or cPHCs. The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, fourth edition. Geneva, Switzerland: Sphere Association 2018. Available at: www.spherestandards.org/handbook

⁵ WHO, UNFPA, UNICEF, and Averting Maternal Death and Disability. AMDD. Monitoring Emergency Obstetric Care: A Handbook. Geneva, Switzerland: WHO 2009. Available at: http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf

- Almost all women surveyed for this study reported that there are community-based providers (CBPs) active in their communities. Midwives, including certified midwives and traditional midwives, were reported as the most common CBPs, although some also reported that obstetrician-gynaecologists (OBGYNs), general doctors, and nurses provide RMNH care at the community level. Certified midwives were frequently reported to be active in both governorates. Traditional midwives were much more common in Deir-ez-Zor, where a majority of women (73%) said there were traditional midwives active in their community compared to a limited share of women (10%) in Ar Raqqa. Close to half, or 42%, of women from Deir-ez-Zor also said there are traditional birth attendants (TBAs) providing services in their community, compared to only 3% in Ar Raqqa. However, KIs suggested that the number of births where only TBAs are present is limited.
- Most women interviewed at HCFs reported that they also seek RMNH care from CBPs, suggesting that women commonly rely on a range of different health care providers for pregnancy-related care. Patterns of CBP care use differed by governorate, with 80% of women in Ar Raqqa stating they have sought care from CBPs compared to 58% in Deir-ez-Zor. In Ar Raqqa, most women seeking CBP care say they do so only when they are unable to access health care facilities. As women for the study were interviewed at HCFs due to data collection limitations linked to COVID-19, further research is needed to understand the experiences of women who may not visit HCFs for care.
- Access to different RMNH care providers varied between the two governorates. More women in Deir-ez-Zor said community-based care was easier to access (45%) than HCF care (29%). In Ar Raqqa, the reverse was true, with the majority of women (60%) stating HCFs were easier to access. Those who reported easier access to CBPs cited not having to arrange for transportation and ease of making appointments as major factors in accessibility.
- Reported access challenges to HCFs appear significantly more prevalent in Deir-ez-Zor than Ar Raqqa. Almost all women surveyed in the former reporting access barriers to HCFs, compared to less than half of those surveyed in the latter. In Deir-ez-Zor, 81% of women interviewed said that transportation had been a challenge in the last year and 71% said that they had required a service that was not available to them in a public HCF. In emergency cases, 62% of women surveyed in Deir-ez-Zor said it was hard to access RMNH care at HCFs. None of the women surveyed in Ar Raqqa said this was the case.

Financial Barriers to RMNH Care

- Most women (77%) surveyed in exit interviews reported paying for RMNH care, most commonly for medicines, examination (including ultrasound) and laboratory tests.
- When services are unavailable in a public HCF, interviews also confirmed that some women seek care in private clinics. KIs reported that while private clinics offer more specialised services, they are also costly and therefore difficult to access. In exit interviews, 43% of women surveyed (61% in Deir-ez-Zor and 23% in Ar Raqqa) reported paying for private medical treatment in the past year. This indicates that it is likely that women often opt to seek private treatment despite the cost if public health care is not available. The higher rate of seeking private care in Deir-ez-Zor may reflect the overall lower availability of public services.
- KIs indicated that some women who cannot access public or private treatment may go directly to pharmacies for consultations and medicine without seeing a health care provider. As pharmacies are often not regulated or staffed by trained and certified pharmacists, especially in Deir-ez-Zor, these women may not be receiving quality advice.

Perceived Quality of Services

- Overall, more women reported that they trusted and were satisfied with care provided at HCFs. Most women surveyed (56%) reported being very satisfied with the quality of care received at HCFs, compared to 13% of women using CBPs.
- Exit interviews suggested that further improvements can be made with regard to the provision of respectful maternity care. In particular, 60% and 51% of women reported that providers in facilities and CBPs respectively explained exam steps as they were occurring. In addition, more women reported feeling that CBPs listened carefully to their symptoms (78%) compared to providers in HCFs (65%).

Human Resources

- Due to conflict-related displacement and poor staff retention, KIs identified the lack of qualified health care providers across cadres (OBGYNs, surgeons, anaesthetists, nurses, midwives, and laboratory technicians) as major barriers to quality of services in HCFs.
- KIs reported that the low number of qualified health care workers, higher salaries in private clinics, and salary competition among public HCFs has created significant challenges for staff retention and hiring. KIs managing health programmes also reported that in Deir-ez-Zor, falsification of certificates by candidates applying for health care positions is not uncommon. KIs also suggested that training programs can be difficult to implement effectively due to lack of qualified, available trainers, and an inability to retain trained medical staff within the public health system.
- The assessment also identified mismatches between staff skills and service provision in HCFs. For example, one PHC that does provide skilled birth attendance reported having two OBGYNs on staff, while one cPHC that does offer skilled birth attendance had no OBGYNs.
- Surveys found that level of training among CBPs does not necessarily match what would be expected based on the provider's self-identification. For example, two providers surveyed who identified themselves as 'certified midwives' were found to have completed no formal training on all assessed key midwifery skills. Conversely, the two midwives that self-identified as traditional midwives had training on most or all skills assessed.
- Ultimately, the data confirmed that level of training is a better indicator of number of skills and services offered than self-identified type of midwife/stated qualifications. Among all classes of midwives, those without training reported providing fewer services along all steps of the RMNH continuum of care. This could have implications and adverse outcomes for those seeking care from someone who identifies themselves as a certified midwife but in fact has no formal training.

Other Challenges

- While lack of qualified staff was most commonly noted as the major challenge to RMNH care, KIs also indicated that the currency crisis and the closure of the border have negatively impacted the supply chain for medicine and equipment.
- KIs also cited the lack of proper nutrition for mothers and children, as well as lack of education among the population as key challenges to providing RMNC care and ensuring maternal and newborn health.

Services along the Continuum of Care

Antenatal and Postnatal Care

- Although new World Health Organisation guidelines for ANC recommend visits or 'contacts', half of the providers surveyed – or 6 out of 11 CBPs and 5 out of 11 HCF-based midwives – recommended fewer than 8 ANC contacts. The wide range in the recommended number of ANC contacts among surveyed providers also suggests a lack of standard protocols in Ar Raqqa and Deir-ez-Zor as well as a lack of awareness of the new international guidelines.

- For ANC, the study identified 24 basic essential components that are expected to be included in a routine ANC visit, prioritised for relevance and contextual appropriateness. HCFs were found to provide more comprehensive ANC services than CBPs. On average, HCFs offered 18.8 (76%) of these practices, while community-based midwives offered 14.8 (62%). However, both HCFs and CBP have gaps that prevent them from providing all of the essential components of ANC. Specific components that are most frequently not provided include: the use of a gestational age calendar; providing tetanus vaccination; asking about gender-based violence (GBV); measuring the weight and height for mothers; measuring the fundal height of uterus; and screening for syphilis infection.
- International standards vary but generally recommend a minimum of two to four PNC visits after birth, with the first taking place on day three. However, the provider survey showed that none of the CBPs recommended more than three visits and only one HCF-based midwife recommended four or more. The remaining responses ranged from recommending one to three visits beginning 2-10 days after birth. As with ANC, this suggests that providers lack awareness of recommended protocols, and that practices are not standardised among RMNH providers in Ar Raqqa and Deir-ez-Zor
- Like with ANC, HCFs were found to provide more comprehensive PNC services than CBPs. On average, HCFs offered 21.6 (83%) of the 26 practices and components the study identified as essential in a routine PNC visit, while CBPs offered 16.6 (64%). However, the study revealed important gaps in PNC among both providers. Specific gaps in care for the mother included: Asking about GBV, conducting a breast exam, assessing fundal height of the uterus, and checking urine for protein and glucose. Gaps in assessing the newborn included: height measurement, vaccination, and recording child data on a child card which could be given to parents.
- Lack of equipment likely plays a role in limiting ANC and PNC services. Almost all providers reported lacking both a gestational age calendar wheel and tape measure. Lack of equipment was more pronounced among CBPs, who also reported a lack of laboratory equipment to conduct haemoglobin, blood sugar, and urine tests. CBPs also lack basic equipment such as child and adult weight and height scales and stethoscopes.
- While HCFs reported that they offered most of the assessed ANC and PNC essential components and practices, many women surveyed in exit interviews indicated that, in their experience, some were not provided. For instance, less than half of women reported receiving an ultrasound, blood or urine test, tetanus shot, being weighed, or being counselled on family planning or breast feeding during their most recent ANC visit at either an HCF or with a CBP. While almost all HCFs reported taking the mother's temperature, blood pressure, and advising on breastfeeding during PNC visits, less than half of women recalled receiving these services. This suggests that while CBPs or HCFs are often aware of essential ANC and PNC clinical practices, they may be unable to do so in practice due to capacity gaps (for instance, due to a lack of equipment or supplies).

Skilled Birth Attendance

- All hospitals, comprehensive primary health clinics (cPHCs) and community-based midwives assessed reported offering skilled birth attendance (SBA) services as expected. Across 14 SBA components assessed in this study, the HCFs provided an average of 10.9 (78%) of essential components, while community-based midwives offered 9.9 (71%). The two key differences between HCFs and community care were: 1) height and weight measurements for the newborn, with HCFs having significantly better practices in this area; and 2) allowing a companion of choice to attend birth, with CBPs providing more flexibility to allow for this option. Key gaps for both levels of care include: failure to use a partograph to monitor birth, failure to monitor foetal heart rate, failure to support and practice skin to skin contact with the mother after birth, inability to measure newborn height, and vaccinate the newborn baby.
- Although these gaps are essential components including for early identification of women who need referral and preventing perinatal mortality and morbidity, KIs reported that uncomplicated births at the community or HCF level are usually performed without significant issues or challenges.
- Community-based midwives reported that in the case of emergency, they refer women to hospitals, private clinics, or primary health clinics (PHCs). However, the lack of a clear referral mechanism,

including the lack of service mapping and field coordination, raises safety and efficacy concerns about these referrals. KIs also indicated that lack of early identification of complications, and transportation delays (due to distance or lack of vehicle) can delay access to emergency services.

- While community-based midwives reporting ‘monitoring the birth process’ as common practice, they lacked key tools for doing so. For example, although 8 out of 11 CBPs indicated they could use a partograph to monitor birth progress, none of them reported having a partograph available to them. Additionally, only 4 out of 11 reported having a device to monitor the foetal heartbeat.
- Community-based midwives had low levels of training in basic neonatal care, including potentially life saving elements such as timely provision of resuscitation, infection prevention, thermal care, and cord care. Equipment is also a limitation for neonatal care provided by community-based midwives. Only 6 out of 11 CBPs interviewed reported having a newborn bag and mask available for resuscitation and only 2 of 11 had a heating table or corner for the baby to help the baby regulate temperature if required.

Emergency Obstetric and Neonatal Care

- Signal functions are the widely accepted international standard considered essential to providing adequate Emergency Obstetric and Neonatal Care (EmONC). There are seven signal functions that compromise the BEmONC care package and an additional two for CEmONC capability. Although all hospitals should be able to provide all nine signal functions, only one out of five did so. Some of the key gaps included: Three hospitals visited were unable to provide assisted delivery with forceps or vacuum; one designated CEmONC hospital was unable to provide caesarean sections; not all hospitals were unable to provide uterotonics to prevent postpartum haemorrhage or remove retained products of conception via manual vacuum aspiration.
- Neither of the two cPHCs could provide BEmONC, with both providing only four of the seven signal functions.
- Only one HCF was found to have adequate CEmONC capacity, and no other HCFs met the requirements to be designated as a BEmONC provider. Although this study did not assess all HCFs, this indicates that the standard of having four BEmONC facilities and one additional CEmONC facility per 500,000 people is likely to be met in Ar Raqqa or Deir-ez-Zor.
- Key barriers to meeting EmONC signal functions included the lack of trained staff, lack of equipment, and undertraining. For example, one cPHC reported having OBGYN-level staff, but that they only had OBGYN-level capacity for four out of seven of the BEmONC signal functions. Only one hospital had forceps and three out of five had a vacuum extractor for assisted vaginal birth.

Family Planning

- All surveyed hospitals, cPHCs, PHC and community-based midwives reported offering FP services. However, in exit interviews less than half (40%) of women recalled receiving FP counselling during PNC appointments. More investigation is needed to confirm if this indicates a significant gap or instead reflective of a lack of interest in FP/contraception.
- Among women who did receive family planning counselling, 71% of reported being provided with contraception (if desired). Intrauterine devices (IUDs) were the most common form of contraception followed by oestrogen-progesterone oral contraception pills.
- Encouraging proper spacing between births was reported as common practice by 69% of HCFs and 53% of community-based midwives. However, KIs reported that they had treated women facing complications who had not been informed of proper birth spacing during previous pregnancies, including complicated deliveries and post-abortion care, suggesting this could be a meaningful gap in FP services.

Key Recommendations

Findings from this study point to priority cross-cutting recommendations for health actors, including:

- Review and customise the Essential Health Service Package for northern Syria, which was initially developed by the health cluster in Gaziantep. This process should include reviewing RMNH interventions that should be provided at each level of care in consultation with all health providers in the region.
- Conduct a comprehensive mapping exercise for RMNH facilities and services across NES. This should also enable a better understanding of the availability of RMNH care per capita and inform a clearer understanding where the number of HCFs fall below Sphere Standards. The mapping should also be followed by field coordination at least at the governorate level to establish a referral mechanism for RMNH cases between the various levels of care. This will also help in addressing priority gaps and planning for resource allocation.
- Strengthen infrastructure for the provision of RMNH by expanding the number of HCFs able to provide SBA and EmONC. This will require first identifying which HCFs are in place and which specific areas of support are required (for instance, which EmONC signal functions need to be supported and what is required to make this happen).
- Consider options to provide further support to improve work environments in response to human resources challenges, including through in-service training and supportive supervision (such as peer-to-peer supervision). The design of RMNH projects should include a focus on both competency-based in-service and pre-service training (in particular for midwifery) and support focusing on the key gaps that are highlighted throughout this study.
- Review accreditation and review processes in place and consider models of integration of accredited CBP with HCF providers and network to facilitate improved service delivery and referral for women with RMNH health needs.
- Address gaps in different continuum of care packages by: 1) enhancing the monitoring of clinical practices within each package; 2) providing lacking equipment; and 3) providing targeted clinical trainings for current staff. For emergency obstetric care, actors should review the current availability of emergency obstetric services in the relevant levels of care and coordinate with private providers to establish referral arrangements where no public options exist.
- Engage local communities in the design phase of RMNH projects, including needs assessment, identification of location for support to HCF, package of services, and code of conduct for staff. Available RMNH services should be clearly communicated with targeted communities through community health workers and other channels.
- Review and improve the supply chain in relation to RMNH essential equipment, consumables, and supplies. This includes developing relevant procurement strategies, storages and warehouses, distribution practices, and consumption tracking.
- Coordinate with the local health authorities to identify allocation strategies that can ensure the best use of available resources to provide the widest possible coverage.

1 Introduction

1.1 Background and Context

Over the past nine years, the conflict in Syria has taken a significant toll on the country's health system. In North East Syria (NES), existing data indicates that the availability of and access to essential health services has become severely limited. In a 2018 Annual Report on the state of public health centres across Syria, the World Health Organization (WHO) found that only 1 out of 278 were fully functioning in Ar Raqqa, Deir-ez-Zor, and Al-Hasakeh. More than half (173 out of 278) were not functioning at all.⁶

Like other aspects of health care in NES, the availability, quality, and accessibility of reproductive, maternal, and newborn health (RMNH) services have been adversely affected throughout years of conflict. Expertise France's RMNH Situation Analysis, which looks at the availability and quality of RMNH services in NES with particular focus on HERNES-supported health care facilities (HCFs), highlighted significant needs in RMNH care that are likely only to be partially met by current support to HCFs.⁷ This confirms findings in Integrity collected for the Health Recovery in North East Syria (HERNES) programme Baseline Report, which indicated that while reproductive health remains one of the key health needs in NES, available services fall short of meeting high levels of demand for maternal and neonatal health care.

Evidence also suggests that, due to years of conflict, the role of community-based health actors providing RMNH services has increased. Before 2011, RMNH care in Syria—including in NES—was largely facility based. Most RMNH services were provided by OBGYNs and certified midwives and most births were overseen by trained health professionals,⁸ with only a limited number of births conducted at the community level by certified midwives registered with and monitored by the Government of Syria's Ministry of Health (MoH). In response to access barriers and the limited availability of facility-based RMNH care, available information suggests that there is an increasing reliance on community-based RMNH providers, with potential negative implications for the quality of care mothers and newborns receive due to gaps in training and equipment. However, evidence remains anecdotal, and there is little information available on the provision, quality, and accessibility of community-based care.

1.2 Study Objectives

In response to these evidence gaps, this study aims to consolidate and improve information available on RMNH care provision to establish a better understanding of who provides different aspects of care, and at what level. Its main objective is to assess the availability, quality, and accessibility of RMNH services at both facility level and community level in Ar Raqqa and Deir-ez-Zor governorates to provide Expertise France and other health actors working in NES with new insights and opportunities for programming in maternal and newborn health care.

The specific objectives of this study are to:

- Examine the availability of RMNH services, including their modalities of provision, and understand key gaps in service provision;
- Examine the accessibility and perceived quality of RMNH services; and
- Explore aspects of RMNH provided by community-based providers.

⁶ WHO, HeRAMS Annual Report: Public Health Centres in the Syrian Arab Republic, January–December 2018.

⁷ Nynke van der Broek, Situation Analysis, International Indicators and Standards for Maternal and Newborn Health (MNH) and Health Services, and Recommendations for Programme, Expertise France: October 2020.

⁸ UNFPA, Syrian Arab Republic Country Implementation Profile, 2020. Figures from 2009.

Accordingly, the research seeks to address three main questions in the two study locations:

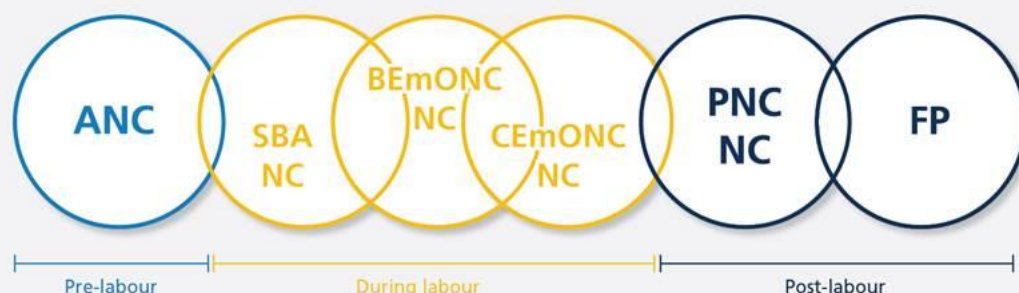
1. What is the availability and content of the different RMNH care packages provided at HCF level? Is the supporting framework in place with regards to capacity, equipment, medication, and consumables?
2. What is the accessibility and quality of these services as perceived by women who have accessed services at HCF level?
3. How are community-based RMNH services provided? What services are provided at the community level, and by whom?

1.3 Conceptual Framework

The study uses the continuum of care for mothers and newborns framework⁹ outlined in Expertise France's RMNH Expert Situation Analysis Report to analyse the needs, availability, quality, and accessibility of RMNH services at both facility and community levels in Ar Raqqa and Deir-ez-Zor. As shown in Figure 1 below, this includes antenatal care (ANC), skilled birth attendance (SBA), basic and comprehensive emergency obstetric and neonatal care (B/CEmONC), post-natal care (PNC) and family planning (FP).

For each step or care package within the continuum of care, the assessment included questions about the specific services provided, staff/provider training and capacity, and availability of equipment and medicine. The specific components of each package assessed were selected by the Integrity technical lead and EF RMNH Expert to represent essential basic packages of services that are most relevant and appropriate to the context of Ar Raqqa and Deir-ez-Zor. These lists drew on existing recommendations and frameworks developed by WHO, UNFPA, and other consortium efforts on developing international indicators for RMNH.

Figure 1: Diagram of the continuum of care framework



















These RMNH services are usually provided by different levels of primary and secondary health care. The study uses the Essential Health Service Package (EHSP) developed by the Health Cluster for the cross-border health response in northern Syria to identify the RMNH services at each level.¹⁰ The EHSP emphasises the role of primary health clinics (PHCs) in providing Reproductive Health package services with the need for an active referral system to refer cases between different health care levels. The table on the following page summarises which continuum of care services are expected to be available at the three health care levels included in this study: basic PHC, comprehensive PHC (cPHC), and hospital or secondary care level

⁹ van den Broek, Situation Analysis, October 2020.

¹⁰ The cost of an essential health service package for northern Syria, The Health Cluster Turkey Hub, June 2017.

Table 1: RMNH services expected at each level of facility-based care

Level of care	ANC	SBA	NC	BEmONC	CEmONC	PNC	FP
Hospital (Secondary Care)							
cPHC							
PHC							

2 Methodology

The protocols for this study including background, aims, and methodology were developed in discussion with the NES Health Working Group and shared with all partners for review and comment. The assessment tools were developed by the Integrity Technical Lead and Expertise France CEmONC expert based on international guidelines and standards for the RMNH continuum of care.¹¹ Ultimately, the study utilised a mixed-methods approach, drawing information from desk review, remote qualitative interviews, and on-site data collection in HCFs.

Desk review: In coordination with the NES Health Working Group, the desk review examined existing resources, documents, NGO reports, 4W tools, local health policies, and local media sources. The main aims were to identify key stakeholders, identify and decide on a representative selection of RMNH HCFs in Ar Raqqa and Deir-ez-Zor governorates to be included in the survey, and help inform, plan, and facilitate data collection.

Key informant interviews: Integrity conducted 19 KI interviews with a wide range of stakeholders from the community, HCF, governmental, and (I)NGO levels. Most interviews were conducted remotely, via phone or video call. KIs included HCF managers, health programme coordinators, medical advisers, and local health committee members.

KIs were identified through the desk review, referrals made during data collection, and introductions made in the NES Health Working Group. Final selection was based on the goals of reaching stakeholders involved in multiple levels of the RMNH environment in NES and ensuring coverage of both Ar Raqqa and Deir-ez-Zor governorates, including both urban and rural considerations, as well as availability of the KIs themselves.

Interview topics focused on the overall RMNH environment in NES. KIs were asked to describe the current conditions, most pressing needs, and most significant challenges for availability, access, and quality of RMNH services. Key themes were identified and findings from these interviews have been included throughout this report to provide context to the quantitative results and draw attention to relevant elements not possible to cover in depth as part of the quantitative surveys.

Health care facility observational visits: The field team visited 12 HCFs, 6 in Ar Raqqa and 6 in Deir-ez-Zor, including five hospitals, two cPHCs, and five PHCs. The selection of HCFs took place as follows:

- Integrity field researchers conducted an initial scoping exercise with KIs to estimate the total number of public HCFs in areas of Ar Raqqa and Deir-ez-Zor providing RMNH services that are under the control of the Syrian Democratic Forces. This exercise suggested there are approximately 45 HCFs in Ar Raqqa

¹¹ van den Broek, October 2020.

and Deir-ez-Zor. As KIs often provided conflicting or overlapping information and researchers were not able to access a comprehensive mapping of HCFs in these areas, it was not possible to confirm the precise number of HCFs within the scope of this study.¹²

- Out of the estimated 45 HCFs in Ar Raqqa and Deir-ez-Zor, Integrity field researchers were able to confirm the location and names of 30 HCFs (24 in Ar Raqqa and 6 in Deir-ez-Zor) providing RMNH services that were possible locations for assessments. While all PHCs should in principle offer some elements of RMNH care, this is not necessarily the case in practice as some are not fully functional.
- The final selection and sampling of 12 HCFs (6 in Ar Raqqa and 6 in Deir-ez-Zor) was opportunistic and purposeful based on: 1) feasibility of access during the data collection period, including due to permissions, security considerations, and COVID-19 movement restrictions; 2) location (balance throughout and between governorates); 3) level of care provided (assessing both PHCs and hospitals); 4) diversity of organisations' support (to ensure that assessed facilities were not all supported under the same health programmes or by the same organisation); and 5) time and resource constraints. While only a selection of HCFs were assessed, data from KIs about cross-cutting challenges corroborate findings at the level of individual HCFs and suggest these are likely to be similar at other HCFs in the areas assessed.

Table 2: Health care facilities assessed in Ar Raqqa governorate

District	Sub-district	Type
Ar Raqqa	Ar Raqqa	Hospital
Ar Raqqa	Ar Raqqa	Hospital
Ar Raqqa	Ar Raqqa	cPHC
Karama	Karama	PHC
Ath-Thawrah	Jurneyyeh	PHC
Ar Raqqa	Ar Raqqa	PHC

Table 3: Health care facilities assessed in Deir-ez-Zor governorate

District	Sub-district	Type
Deir-ez-Zor	Basira	Hospital
Deir-ez-Zor	Basira	Hospital
Deir-ez-Zor	Kisreh	Hospital
Abu Kamal	Hajin	cPHC
Abu Kamal	Hajin	PHC
Deir-ez-Zor	Kisreh	PHC

Data collected through visits to each of the 12 HCFs was completed using three different tools:

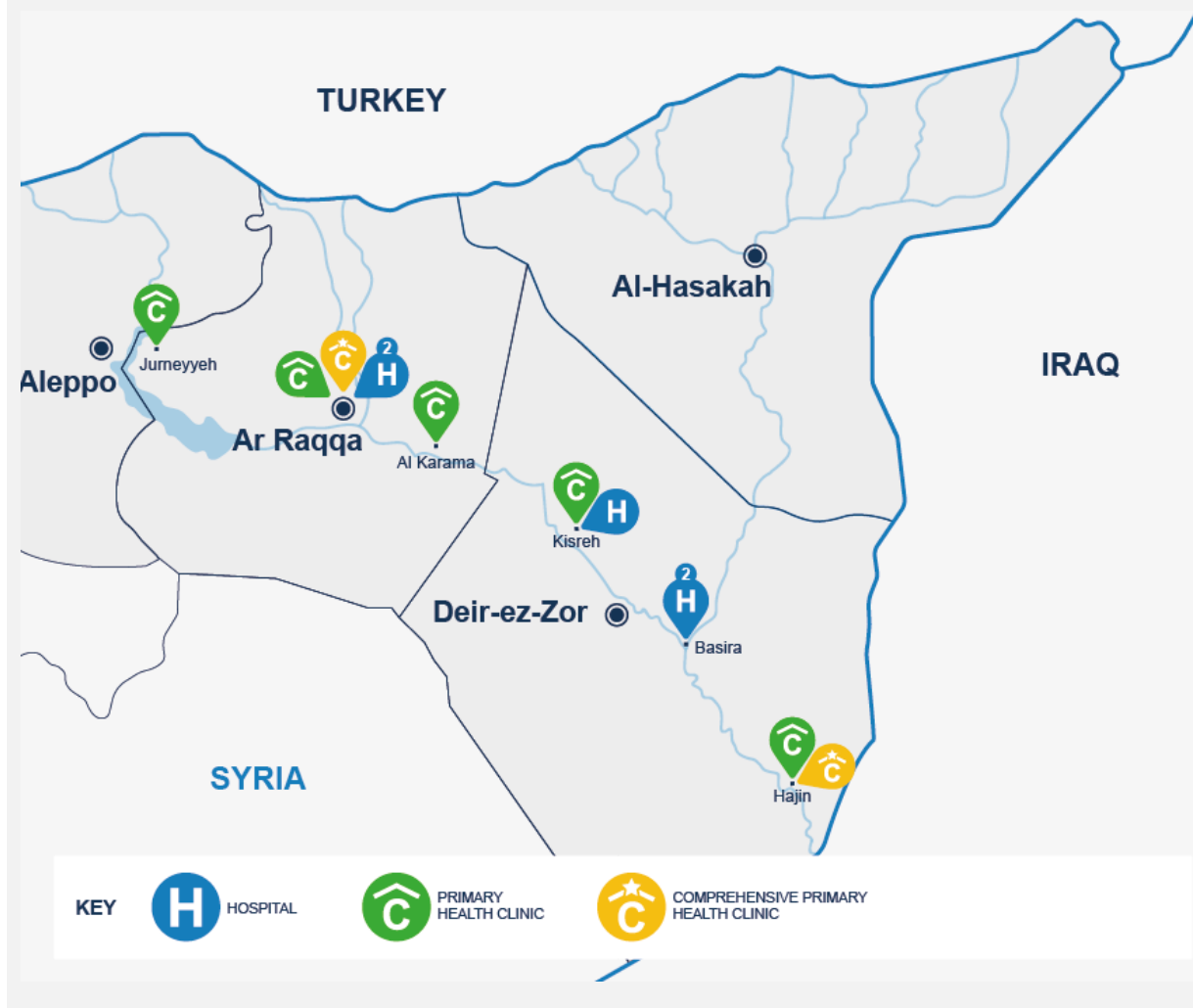
1. **Healthcare Facility Assessment:** An assessment of the services provided by the HCF and the quality of the services provided was conducted with facility management and relevant practitioners. The survey covered staffing, equipment, medication, and details of RMNH capacities and procedures provided at the

¹² Researchers received a number of different lists and information about HCFs. However, we could not deconflict the information provided to clearly identify the number and types of different HCFs. For instance, some only provided lists of HCFs receiving support from humanitarian actors. Others only listed public facilities without clarifying if these covered NGO-supported clinics, or did not specify whether HCFs were functional. Ultimately, this indicates that further mapping is required to pinpoint the number of facilities providing RMNH.

HCF for each of the key components of the continuum of care including: ANC, PNC, family planning, SBA, BEmONC, and CEmONC.

2. **Patient Exit Interviews:** At each HCF, the field team conducted five exit interviews with women who had recently received RMNH treatment. These surveys focused on the women's perceptions of and experience with RMNH care received, both in facilities and with CBPs. Women were identified at the facilities during the on-site visits. In total, 61 exit interviews were conducted—five at each assessed HCF with six being conducted at one HCF in Deir-ez-Zor, resulting in 30 surveys from Ar Raqqa and 31 from Deir-ez-Zor. The women interviewed were from over 20 different villages. Four were between 14 and 17 years old and 57 were 18 to 45 years old.
3. **Provider survey (health care facility–based midwives):** The field team aimed to survey a midwife on staff at each HCF visited. Structured questionnaires were used to conduct interviews focused on level of training, capacity to provide different procedures, and evaluation of standard practices along for care bundles. These surveys used the same tool as the CBP surveys (next page) to allow for comparison between facility- and community-based staff regarding the ability to provide components of care. Eleven interviews were conducted, as one PHC in Deir-ez-Zor was not included due to time constraints.

Figure 2: Map of 12 health care facilities visited



1.1.1 Provider surveys (Community-Based Midwives)

The field team conducted 11 surveys with CBPs providing RMNH care outside of facilities. CBPs were identified through 11 scoping interviews with older women in the community who provided context and contact information for local CBPs. Midwives were found to be the most common form of CBP, and, accordingly, all CBPs interviewed identified as community-based midwives (CBMs) with different levels of training. Snowball sampling was also used to identify CBPs in each region and ensure inclusion of those who identified as certified midwives or midwives in training as well as 'traditional' midwives. Five interviews were conducted in Ar Raqqa and six in Deir-ez-Zor. Eight CBMs interviewed reported having formal training in midwifery while three did not. Interviews conducted with CBMs focused on the services they provide along the RMNH continuum of care as well as their level of training.

Table 4: Provider surveys completed with community- and health care facility-based midwives

Place of practice	Self-reported level of practice	Ar Raqqa	Deir-ez-Zor
Health Care Facility	Midwife	5	6
Community-Based	Certified Midwife	5	2
Community-Based	Midwife in Training	0	2
Community-Based	Traditional Midwife	0	2

1.2 Limitations

Similar to all research in conflict settings, this study faced several challenges that should be considered when interpreting data and using findings. Key limitations on findings include:

- **Scarcity of desk review sources:** The desk review found only limited documents and datasets related to RMNH in NES and was unable to find routine health data to inform analysis related to quality of care. The scarcity of data and the weakness of health information systems are major gaps across NES.
- **Challenges conducting surveys due to COVID-19.** The inability to conduct community-based surveys due to COVID-19-related limitations meant the study could not assess women's experience at the household level. Although these surveys would have provided more information on community-based care, this was partially mitigated by conducting further KI interviews with women in the various targeted communities.
- **Sampling limitations.** While the HCF surveys covered major public facilities as identified by KIs, the assessment's coverage of all HCFs providing RMNH care in Ar Raqqa and Deir-ez-Zor is not comprehensive. However, the sample is expected to broadly capture the situation among RMNH providers since all KIs reported that other hospitals, cPHCs, and PHCs in the region have similar capacities to those assessed. Similarly, exit interviews were only conducted with women in or recently served by HCFs. While the majority of those interviewed expressed that they receive care both from CBPs and HCFs, the experiences and perspectives of women who might exclusively utilise community providers for their RMNH care are not represented.
- **Limited access to traditional birth attendants.** 23% of women indicated that traditional birth attendants are active in their community. However, as traditional birth attendants are generally women in the community without medical training, they were reluctant to identify themselves for this assessment and we were unable to interview women meeting this designation. Data from KIs suggests that the prevalence of births solely attended by traditional birth attendants is limited.
- **Limited analysis of private care options.** While seeking specialised care via private treatment was a dynamic reported in exit interviews and mentioned by KIs, this assessment does not cover services offered by private clinics and practitioners.

3 Findings: Key Informant Interviews

Even before the conflict, health infrastructure and resources in Ar Raqqa and Deir-ez-Zor governorates were weak compared to other governorates in Syria. Both governorates, which are largely rural and sparsely populated, suffered from limited local resources and were deprioritised by the MoH. With the start of the conflict, the health system in these governorates was further disrupted. The withdrawal of the MoH, the emergence of extremist armed groups, the large-scale degradation of health infrastructure through a lack of maintenance and fighting, and the fleeing of health workers since 2011 has left the health system in these two governorates weak and under resourced. Humanitarian health actors have also faced significant challenges supporting the health system in these areas, first due to the presence of ISIS and now through the expiration of the United Nations Security Council resolution allowing the delivery of cross-border aid in NES.

KI interviews revealed significant challenges in RMNH provision in Ar Raqqa and Deir-ez-Zor. A number of major themes were echoed in numerous interviews: lack of human resources, financial barriers to access to care, supply chain disruptions, need for HCF infrastructure renovations, emergence of 'parallel health systems' including private care and CBPs such as pharmacists, and the need to address underlying determinants of health including nutrition in women and children. In particular, the lack of a blood bank was mentioned as a key gap in RMNH health care provision. In addition, KIs frequently mentioned the limited number of humanitarian health actors and donors investing in these areas, especially in Deir-ez-Zor, as a challenge to RMNH care provision.

First, the **lack of well-trained and highly experienced healthcare personnel** at all levels for all cadres of practitioners (from nurses and midwives to specialized physicians) was cited as the main barrier to provision of RMNH care in Ar Raqqa and Deir-ez-Zor by the majority of KI. KIs reported that the area has not recovered from the significant 'brain drain' of qualified professionals from the area. Those that do remain often opt to work in private practice where they are able to make higher salaries than those offered in public healthcare facilities. One KI reported that the lack is so pronounced that even those hoping to organize training programs for new healthcare staff struggle to find someone qualified who is available and willing to lead the training programs. KIs reported that the problem is particularly acute in Deir-ez-Zor where it was noted that it is not uncommon for people to apply to healthcare positions such as nurse or midwife with falsified qualifications. One program manager indicated having to take significant time conducting thorough background checks on applicants to avoid hiring unqualified staff.

Faced with the lack of qualified healthcare workers, healthcare facility managers also reported difficulties in retaining staff, who are constantly seeking better opportunities and higher salaries in other positions. This was noted to also create difficulties with continuation of treatment in patients, consistency in ensuring quality and adherence to facility protocols. This dynamic also complicates the development of training programs, as those with new skills may go on to seek private sector employment or travel outside of the region for better opportunities.

Beyond human resource constraints, KIs also cited **financial challenges as a major barrier to accessing RMNH care** for many women. Inability to afford or secure transportation to a HCF limits women's access to services, especially in rural areas. One informant indicated that women may have to travel as far as 80 kilometres to reach a health care facility. Further, inability to afford medicine or the perception that treatment will cause additional costs can deter women from seeking regular antenatal and post-natal care. For those who need treatment beyond 'routine' services the barriers are even more significant, as most specialised care is only available in private clinics and at a high cost to the patient. While outpatient services, such as ANC, PNC, and family planning, as well as skilled birth attendance and caesarean sections, are thought to be available in public maternity hospitals (secondary care), inpatient paediatric services, and neonatal intensive care, as well as advanced surgical interventions such as laparotomy, were highlighted by KIs as lacking in the public health system.

KIs reported that economic conditions have also been a contributing factor. Rising costs due to the currency crisis, border closures, and other **disruptions to the supply chain** have hindered the ability to purchase and repair equipment and restock supplies and medicines. Many HCFs suffer from **infrastructure damage** sustained during the conflict that has yet to be repaired, including to buildings, equipment, and transportation and utility infrastructure.

Given these conditions, KIs reported that they were aware that some women forgo much needed treatment. Alternatively, some opt to skip the visit to a health care provider and instead seek medication and advice directly from pharmacists. However, due to a lack of regulation, many pharmacists have little or no formal medical training but rather set up businesses based only on their ability to source medication and coordinate supply chain logistics.

KIs also identified **underlying health determinants** that lead to poor RMNH outcomes. Poor nutrition and the need for infant and young children feeding programmes, as well as the need for nutritional support to pregnant women and new mothers, were the most commonly cited. Additionally, lack of education among patients and the community about best RMNH practices for pregnancy and infancy as well as when to seek medical treatment and what to expect from providers was cited as a challenge.

Finally, the **lack of a regional blood bank**, with one reported to be available only in the national hospital in Ar Raqqa City, was noted as a barrier to care, wherein patients requiring transfusions have to receive immediate donations from matching family or community members or be referred to other facilities.

4 Findings: Health Care Facilities and Community-Based Providers

4.1 Health Care Facilities

4.1.1 Overview of health care facilities

There are a variety of actors who run HCFs that provide RMNH services in Ar Raqqa and Deir-ez-Zor:

- **The Self Administration of Northern and Eastern Syria and local authorities.** These actors run the main hospitals in NES, including the national hospital in Ar Raqqa City. They also run a few dispensaries which can be classified as PHC units (less than basic PHCs). HCFs run by this type of actor are public and provide their services free of charge.
- **(I)NGOs:** These organisations run different types of HCFs that provide a range of RMNH services free of charge.
- **Private providers.** Private sector actors run private hospitals, private clinics, or CBPs who provide home services.

This study focuses on the services provided by public HCFs which are supported by (I)NGOs and/or local governance and provide care to patients for free. While this study included an on-site assessment of 12 HCFs, field researchers estimated that there are approximately 45 public HCFs across Ar Raqqa and Deir-ez-Zor. Deir-ez-Zor, which is more rural and sparsely populated, has notably less PHCs than Ar Raqqa, which contributes to access challenges covered in more detail below. The Sphere Handbook for Humanitarian Charter and Minimum Standards in Humanitarian Response recommends that there be at least one hospital per 250,000 people and at least one HCF per 10,000 people.¹³ Estimates provided by KIs on the number of HCFs suggest that both Ar Raqqa and Deir-ez-Zor meet these standards for hospitals, but fall short for PHC coverage. Although estimates should be treated with caution as highlighted in the methodology section, they suggest that

¹³ Sphere Handbook, fourth edition.

Deir-ez-Zor should have five times as many PHCs to meet these standards, while the number of PHCs in Ar Raqqa would have to double.

Table 5: Population and estimated numbers of health care facilities in Ar Raqqa and Deir-ez-Zor

Governorate	District	Population	Estimated Number of hospitals	Hospitals per capita	Estimated Number of PHCs	PHCs per capita
Ar Raqqa	Ar Raqqa	322,390	3	1.4 per 250,000	29	0.5 per 10,000
	Ath-Thawrah	127,659				
	Tell Abiad	89,934				
Deir-ez-Zor	Abu Kamal	115,631	4	1.9 per 250,000	9	0.2 per 10,000
	Al Mayadin	79,344				
	Deir-ez-Zor	323,296				

Outside of public HCFs, care is also available in private facilities, including private hospitals and clinics. Patients in these facilities pay for treatment, and KIs indicated that costs are often very high, making private treatment inaccessible to many, especially the most vulnerable. Out of 61 women surveyed in HCF exit interviews, 39 out of 61 (64%) indicated that there are private clinics operating in their community and 26 out of 61 (43%) reported having paid for private treatment in the past year.

4.1.2 Services provided

All HCFs reported providing the RMNH services expected based on their designation (PHC, cPHC, or hospital), except one cPHC in Ar Raqqa governorate that reported not providing full BEmONC care. The availability of each RMNH care package provided at the HCFs is examined more closely in Section.

Table 6: Availability of continuum of care services by type of health care facility

Type of HCF	# of HCFs surveyed	ANC	SBA	NC	BEmONC	CEmONC	PNC	FP
Hospital	5	5	5	5	5	5	5	5
cPHC	2	2	2	2	1	NA	2	2
PHC	5	5	NA	NA	NA	NA	5	5

4.1.3 Human resources

Almost all informants interviewed in both governorates identified the lack of qualified staff, from nurses and midwives to specialised physicians, as a major barrier to the provision of quality RMNH services. HCF and health programme managers reported facing significant difficulties in hiring and retaining doctors, nurses, and midwives due to displacement of qualified health professionals and lack of newly and adequately trained graduates.

Table 7: Number of HCFs with at least one member of each cadre on staff

Type of HCF	# of HCFs surveyed	OBGYN	Midwife	Nurse ¹⁴	Paediatrician	Lab tech	Anaesthetist
Hospital	5	5	5	5	5	4	3

¹⁴ Staff interviewed at HCFs were asked about the number of nurses at the facility focused on RMNH care.

cPHC	2	1	2	2	2	2	NA
PHC	5	3	5	3	5	4	NA

Findings from facility-based visits confirmed several gaps in minimum levels of required medical personnel. Two hospitals reported having no anaesthetists on staff and one hospital and one PHC were without any lab techs. One cPHC reported no OBGYN on staff.

Survey results showed some evidence of mismatch between staff skills and the level of HCF and services designated to be provided. For example, one PHC reported having two OBGYNs on staff but was not able to accept women for birth. Additionally, when asked about RMNH skills for different staff cadres in HCFs, some PHCs (which do not accept women for birth) have OBGYNs and/or midwives on staff with the ability to provide SBA and perform some elements of BEmONC, covering up to six out of seven signal functions.

4.2 Community-Based Providers

4.2.1 Definitions and availability

Outside of public HCFs or private clinics, women can seek services from CBPs who provide services either in the patient's home or from small home offices. In exit interviews, 74% of women reported that certified midwives (i.e. those who say they have completed formal training in midwifery) operate as CBPs in their community.

Women additionally reported that there are also midwives without formal training certificates who provide care in the community. These providers include traditional birth attendants who are women who attend births, assist, and learn from more experienced traditional midwives who also have little or no formal training.¹⁵ The presence of both traditional birth attendants and traditional midwives was reported as much more common in Deir-ez-Zor than in Ar Raqqa. While 71% of women in Deir-ez-Zor reported that there was a traditional midwife providing RMNH services in their home community, only 10% of women in Ar Raqqa reported the same. Nearly half, or 42%, of women from Deir-ez-Zor reported active traditional birth attendants in their community compared to only 3% in Ar Raqqa.

A minority (one-fifth) of women overall also reported that nurses provide community-based care in their communities, who may or may not have additional RMNH-specific training.

Table 8: Types of community-based RMNH providers women report are active

Who provides RMNH services in your community outside of HCFs? Data: Exit Interviews with women at HCFs	Ar Raqqa (n=30)	Deir-ez-Zor (n=31)	Total
Gynaecologists or general doctors in private clinics	58%	68%	64%
Certified midwives	77%	68%	74%
Nurses	16%	26%	21%
Traditional birth attendants	3%	42%	23%
Traditional midwives by training	10%	71%	41%
Other	10%	0%	5%

¹⁵ As noted in the glossary, this term is used in Syria to refer to midwives who are not registered and monitored by the MoH. In this research, two traditional midwives reported having accessed formal training.

KI interviews indicated that many CBPs who may be considered or identified as certified midwives are in fact lacking key training and often have not completed a full and adequate midwifery programme. This is corroborated by interviewed with CBPs conducted for this study as highlighted in Section 4.2.3 below.

4.2.2 Community-based providers surveyed

The field team interviewed 11 CBMs, 5 in Ar Raqqa and 6 in Deir-ez-Zor. Interviews included seven midwives who self-identified as certified midwives (defined as graduating from formal programmes), two as midwives in training (defined as completing at least six months of a programme), and two who identified as traditional midwives. As noted in the limitations section, it was not possible to interview traditional birth attendants as these individuals are not clearly identified as health care providers within communities.

Table 9: Locations of surveyed community-based midwives (n=11)

Governorate	District	Sub-district	Self-reported level	Formal training
Ar Raqqa	Ar Raqqa	Ar Raqqa	Certified midwife	Yes
Ar Raqqa	Ar Raqqa	Ar Raqqa	Certified midwife	Yes
Ar Raqqa	Ar Raqqa	Ar Raqqa	Certified midwife	Yes
Ar Raqqa	Karama	Karama	Certified midwife	Yes
Ar Raqqa	Ath-Thawrah	Jurneyyeh	Certified midwife	No
Deir-ez-Zor	Abu Kamal	Hajin	Certified midwife	Yes
Deir-ez-Zor	Abu Kamal	Hajin	Certified midwife	Yes
Deir-ez-Zor	Deir-ez-Zor	Kisreh	Traditional midwife	Yes
Deir-ez-Zor	Deir-ez-Zor	Kisreh	Traditional midwife	Yes
Deir-ez-Zor	Deir-ez-Zor	Kisreh	Midwife in training	No
Deir-ez-Zor	Deir-ez-Zor	Kisreh	Midwife in training	No

4.2.3 Training

Despite their self-identified level of training, two CBMs who identified as certified midwives and one as a midwife in training reported no formal training. Conversely, the two CBMs that identified as traditional midwives reported formal training in most or all of the assessed topics. This mismatch between stated type of midwife/level of qualification and actual training was widely noted in KI interviews. Informants reported that, due to lack of regulations and enforcing bodies, as well as poor standardisation and oversight of practices, qualifications are often misrepresented and can be difficult to verify.

As shown in these results, self-identification as a 'certified midwife' does not necessarily correlate with level of formal training. Additionally, the CBMs who self-identified as 'traditional midwives' showed a higher level of training than some of those who identified as certified. Accordingly, this report looks at the differences in service quality between the three CBPs who reported no training and the remaining eight, as well as between governorates.

The remaining eight CBMs all reported having been trained on most of 12 key topics assessed as shown below. However, only two CBMs surveyed reported receiving training within the past 12 months, while the rest were all trained more than a year ago. This reflects a lack of availability of continuous and up to date in-service training. One CBM reported not having any training on breastfeeding, two are missing training on resuscitation of a newborn with a bag and mask, and four reported having no training on basic neonatal care.

In addition to CBMs, 11 staff members of HCFs who self-identified as midwives were also surveyed about their training, one at each facility assessed with the exception of a PHC in Karama sub-district, Ar Raqqa. Integrity conducted the survey with the available midwife in each facility during the observational visit. While five HCF-based midwives reported having been trained in all 12 topics, one of the respondents, a self-identified midwife, had only ever received formal training in one topic. The remaining 5 respondents had been trained in between 7 to 11 of the skills. Only 3 of the 11 surveyed indicated having training in at least one of these topics in the past 12 months.

While the majority of midwives surveyed reported training on most of the assessed skills, KI interviews indicated that a lack of experience and training is a significant barrier to quality care. Overall, KIs indicated that CBPs who are practicing outside the oversight of HCFs while lacking formal midwifery education, particularly in proper use of medication and pharmacology, can lead to complications in RMNH care.

Table 10: Training completed by community-based and facility-based midwives

Have you received training on the following topic? Data: Community and HCF-based provider surveys	CBMs trained (n=11)	Facility-based midwives trained (n=11)
Dealing with postpartum haemorrhage	8	9
Danger signs during pregnancy	8	10
Family planning	8	11
Treating and controlling infection	8	9
Post-abortion care	8	7
Pre-eclampsia and eclampsia	8	8
Prolonged and obstructed deliveries	8	7
Providing im antibiotics	8	8
Breastfeeding (early and exclusive)	7	10
Resuscitation of the newborn with a bag and mask	6	9
Basic neonatal care	4	9

4.2.4 Services provided

All CBMs surveyed reported providing ANC, birth, PNC, and family planning services. Additionally, 9 out of 11 reported providing post-abortion care. None of the CBMs offer emergency obstetric and neonatal care (EmONC) services, instead they refer patients to hospitals, private clinics, or PHCs for further treatment. While two of 11 said they refer patients to PHCs, it is important to note that PHCs do no, and are not expected, to provide EmONC services.

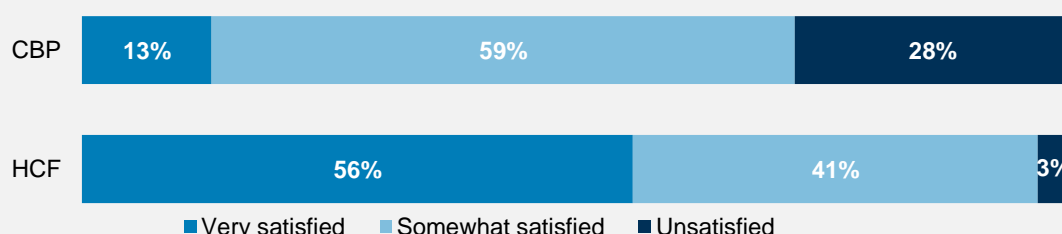
5 Availability, Access, and Utilisation of Health Care Facilities and Community-Based Providers

5.1 Use and Perceived Quality of Providers

More than two-thirds of women surveyed in exit interviews at the assessed HCFs reported that they also seek treatment from CBPs, indicating that the latter are a frequently used source of RMNH services in both Ar Raqqa and Deir-ez-Zor. Most of these women indicated that they only seek these services when they cannot access RMNH health facilities. In general, more women reported higher levels of satisfaction with care received in HCFs than provided by CBPs. Women in Ar Raqqa tended to be very satisfied with RMNH care in HCFs (83%) and

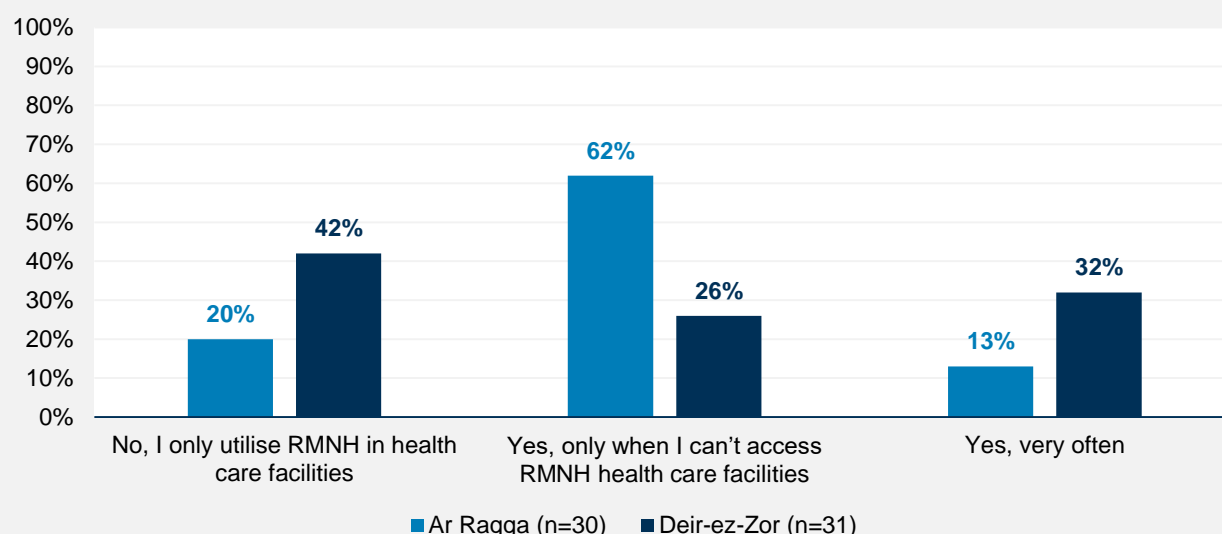
somewhat satisfied with care provided by CBPs (77%). No women in Ar Raqqa reported being dissatisfied with HCF care, while 23% were dissatisfied with CBP care. Women Deir-ez-Zor, were more likely to be somewhat satisfied HCFs (65%) and were largely split on their opinions on CBP care: 26% reported being very satisfied, 42% somewhat satisfied, and 32% dissatisfied.

Figure 3: In general, how satisfied are you with the RMNH care provided? (Data: Exit Interviews n=61)



One-quarter of respondents from Deir-ez-Zor reported using CBPs very often compared to 13% of women surveyed in Ar Raqqa. Interestingly, however, 42% of women interviewed at health facilities in Deir-ez-Zor reported that they never use CBPs compared to 20% of women in Ar Raqqa. However, as interviews took place at HCFs, it is likely that these respondents live close or otherwise have relatively good access to HCFs. Responses likely differ in areas where HCFs are less available.

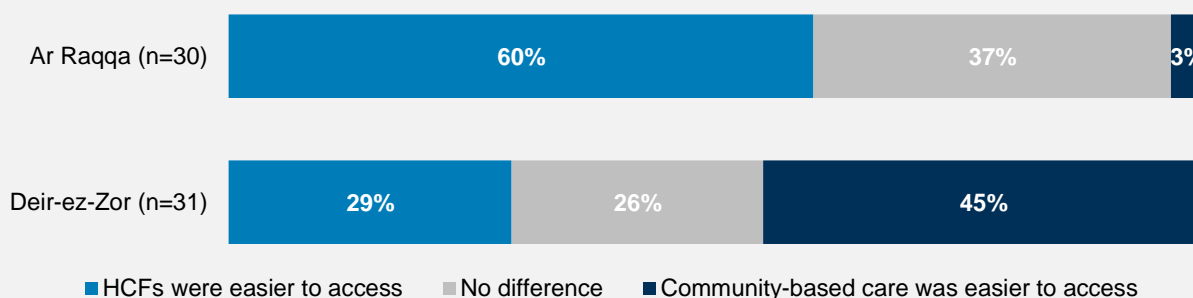
Figure 3: Do you utilise RMNH services provided by a community-based provider? (Data: Exit Interviews)



5.2 Access and Availability

When directly comparing access to HCFs versus CBPs, 97% of women from Ar Raqqa indicated that HCFs are easier to access than community care or reported no difference in access, while this was 55% for women in Deir-ez-Zor.

Figure 4: Over the past 12 months, which has been easier to access? (Data: Exit Interviews)

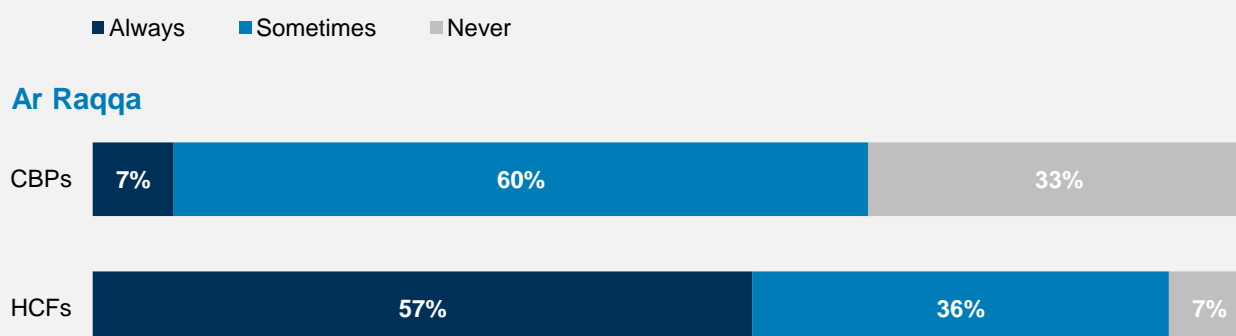


Not having to arrange for transportation was the top factor cited by almost all (93%) of those who reported having easier access to CBPs. This is supported by KI interviews, which reported that women in rural areas, which includes much of Deir-ez-Zor, are more likely to utilise CBPs for routine services in order to avoid having to secure transportation to a facility. Additionally, women who reported finding access to CBPs easier cited ease of getting an appointment (80%) as well as the large number of providers in their area (60%). Only 7% of women favouring access to CBPs reported that being able to find a provider they trusted was a factor in deciding where to access care.

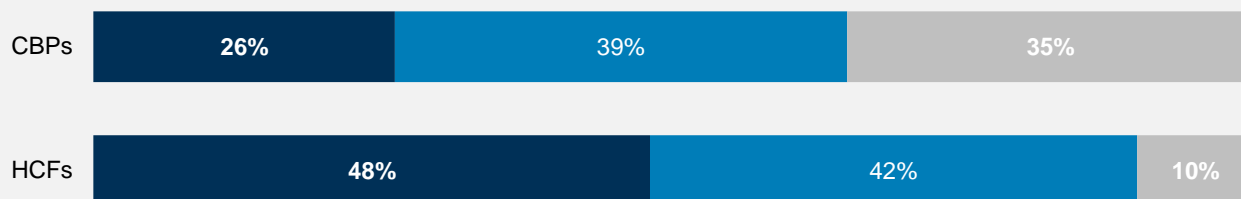
Conversely, those who found HCFs easier to access cited being able to find care they trust (96%) and availability of the specific services they need (67%) as the major reasons for accessing care at a HCF. Within this group, transportation, number of providers, and ease of making appointments were less important factors, cited by less than 20% of respondents.

While women in Deir-ez-Zor reported that CBPs were easier to access in general, they, along with women in Ar Raqqa, reported that access to HCFs had been more reliable over the past year. This difference was most pronounced in Ar Raqqa, where only 7% of women said they could always access care from CBPs compared to 57% of women saying they could always access HCFs. Across both governorates, approximately one-third of women reported 'never' being able to access CBPs in the past 12 months compared to only 8% who reported never being able to access a HCF.

Figure 5: In the last 12 months, how often have you been able to access services from the following provider when you need them? (Data: Exit Interviews, n=61)

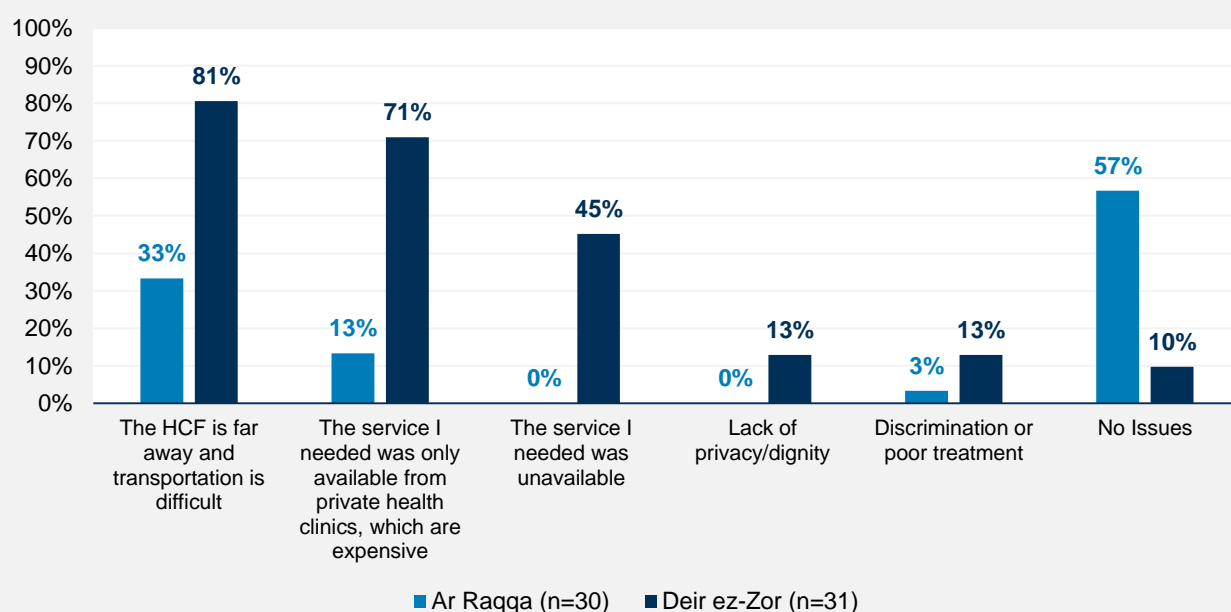


Deir-ez-Zor



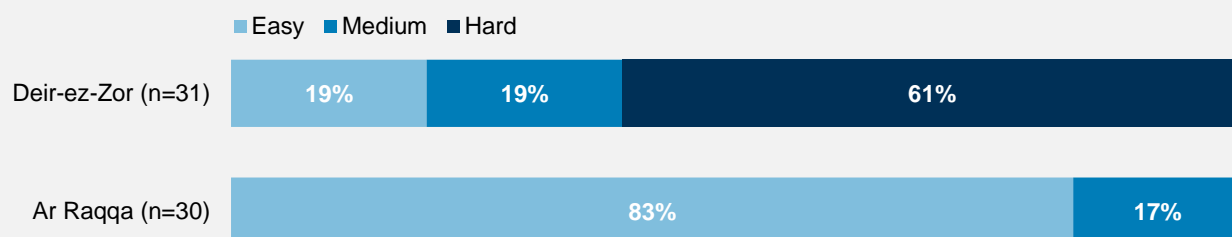
When exploring the biggest challenges to accessing care at a HCF, transportation was again the most commonly cited barrier. Again, respondents reported better access to HCFs in Ar Raqqa, with 90% of respondents in Deir-ez-Zor reporting at least one barrier to accessing HCFs compared to only 43% of those surveyed in Ar Raqqa. Though availability of services appeared to be a draw for some choosing to access HCFs over CBPs, lack of availability of specific services in public HCFs was also cited as a challenge. This was especially pronounced in Deir-ez-Zor, where 71% of women in the exit survey reported that a RMNH service they needed was only available at private clinics.

Figure 6: What are the main challenges/barriers you have faced in accessing RMNH services from Health Care Facilities in the past 12 months? (Data: Exit Interviews)



There was a significant difference between the governorates regarding ease of access to emergency services in HCFs. While no women surveyed in Ar Raqqa reported that it was 'hard' to access emergency services at a HCF, the majority of women interviewed at HCFs in Deir-ez-Zor (61%) reported difficulties. KI interviews and exploration of the barriers to access suggest that there are likely two explanations. First, due to rural spread in Deir-ez-Zor, women likely must plan for transportation in advance, which is more difficult to do in emergency situations. Second, emergency and advanced specialised care is less available in Deir-ez-Zor, inhibiting access and adding to transportation time and costs.

Figure 7: Over the past 12 months, how difficult has it been to access HCFs for emergency services? (Data: Exit Interviews)

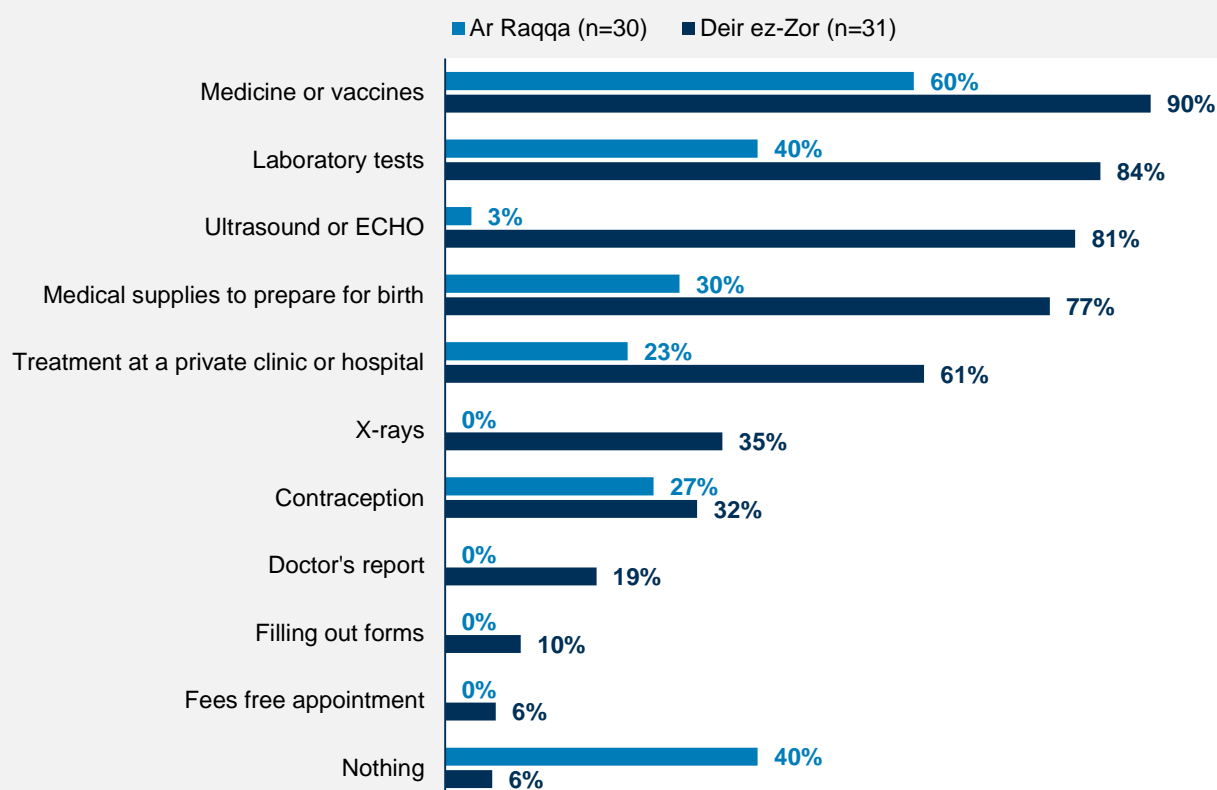


5.2.1 Financial barriers

While appointments and basic treatments are free at all public HCFs, 77% of women surveyed in exit interviews who accessed care from HCFs reported having previously paid for medical care. Only 3% of those surveyed reported having paid for an appointment in a (free) public HCF (all of whom were in Deir-ez-Zor). However, paying for laboratory tests was common (62%), and 18% reported paying for X-rays. In Deir-ez-Zor, 81% of women reported paying for an ultrasound/ECHO compared to 3% in Ar Raqqa. Overall, three-quarters of women had spent money on medicine or vaccines, and more than half (54%) on medical supplies to prepare for birth (supplies which women need to bring with them to give birth in a HCF, which might include medicines not available in the facility).

While paying for care was common overall, it was more common in Deir-ez-Zor, where 94% of women reported having had to pay for care compared to 60% in Ar Raqqa. Further, in Deir-ez-Zor, 61% of women reported paying for private treatment compared to 23% of those surveyed in Ar Raqqa.

Figure 8: Over the last 12 months, what services have you paid for directly?



6 Results: Availability of Care Packages within the Continuum of Care

- Across the continuum of care, findings confirmed preliminary assumptions that more RMNH services are available in HCFs than from CBPs.
- Outpatient services, such as antenatal care (ANC) and postnatal care (PNC), were found to be more available than those requiring hospitalisation, including caesarean sections and other surgical interventions.
- The study revealed significant gaps in the availability of full signal functions of emergency obstetric and neonatal care (EmONC) services. These gaps were more pronounced in Deir-ez-Zor. Some facilities stated they provide EmONC interventions but were not providing all signal functions, raising questions about how EmONC services are mapped and coordinated in these governorates.

6.1 Antenatal Care

All HCFs and CBMs surveyed reported offering ANC services, as shown below.

Availability of antenatal care services

Type of provider	# Surveyed	Offering ANC Services
Hospital	5	5
cPHC	2	2
PHC	5	5
Trained Midwife	8	8
Untrained Midwife	3	3

Among all providers surveyed, the recommended number of ANC visits ranged from 4 to 12 with an average of 7 recommended by both HCF-based midwives and CBMs beginning in the first or second month of pregnancy. While previous international guidelines recommended a minimum of 4 ANC visits or 'contacts' with health providers, in 2016 this number was raised to a minimum of 8 to improve outcomes for mother and child. In this survey, 6 out of 11 community-based and 5 out of 11 HCF-based midwives recommended fewer than 8 ANC contacts. The wide range of recommended number of ANC contacts suggests lack of standard protocols in Ar Raqqa and Deir-ez-Zor and a lack of awareness of the new international guidelines.

6.1.1 Availability of services

To better understand ANC services being provided, a list of 22 essential components of ANC were assessed. Table 11 lists the 22 components considered and the number of facilities or CBPs reporting that they provide each component.

Table 11: Components of antenatal care provided by health care facilities and community-based providers

● Green: > 75% of providers reported practice ● Yellow: 75-33 of providers reported practice ● Red: < 33% of providers reported practice

ANC Visit Element Data: HCF assessment survey and community-based midwife provider survey	Hospital	cPHC	PHC	CBP
Number Assessed (n)	5	2	5	11
1a. Measure weight and check for oedema	● 3	● 2	● 5	● 6
1b. Measure mother's height	● 2	● 2	● 2	● 3
2a. Determine gestational age	● 5	● 2	● 5	● 11
2b. Use the Gestational Age Calendar (pregnancy wheel) to calculate gestational age and EDD	● 1	● 0	● 1	● 0
2c. Measure fundal height of uterus	● 3	● 2	● 2	● 4
3a. Measure Blood pressure	● 4	● 2	● 5	● 11
3b. Check the urine for protein	● 3	● 2	● 3	● 6
4a. Check the position of the foetus by palpation	● 4	● 2	● 3	● 9
4b. Listen to baby's heartbeat	● 5	● 2	● 5	● 9
5. Conduct Ultrasound	● 4	● 2	● 5	● 7
6b. Conduct blood test for haemoglobin	● 4	● 2	● 4	● 4
6a. Conjunctiva examined to detect anaemia	● 5	● 2	● 5	● 6
6c. Provide iron and folic acid tablets	● 4	● 2	● 5	● 6
7. Conduct blood test for Syphilis	● 2	● 0	● 0	● 0
8. Take the mother's temperature	● 4	● 2	● 5	● 8
9. Provide Tetanus Vaccine for mother	● 2	● 0	● 0	● 2
10a. Discuss danger signs during pregnancy	● 3	● 2	● 5	● 10
10b. Discuss birth plan	● 3	● 2	● 5	● 10
10c. Provide counselling on family planning and birth spacing	● 3	● 2	● 5	● 7
10d. Provide recommendations about breastfeeding	● 4	● 2	● 5	● 7
11. Ask about mother's mental health	● 4	● 2	● 5	● 10
12. Asks about GBV	● 4	● 2	● 3	● 7

As shown in table 11, the following were the most missed elements of ANC as reported by facilities and CBPs

- Using the gestational age wheel to estimate conception and due date, having an accurately estimated due date is critical to monitoring the progress along the stages of the pregnancy and preparing for birth. In absence of the gestational age wheel, it is unclear what method providers are using to make this estimation.

- Tetanus vaccine for mother, recommended by WHO for all pregnant women with no/unknown previous immunisation records to prevent neonatal mortality from tetanus.¹⁶
- Blood test for syphilis, recommended by WHO during the first ANC visit as part of basic ANC package regardless of the prevalence of syphilis in the community. The identification and treatment of congenital syphilis can effectively prevent adverse pregnancy outcomes.¹⁷
- Measuring the fundal height of the uterus. Measuring the fundal height of the uterus may help in assessing foetal growth and risk factors for antenatal morbidity (such as multiple pregnancies, polyhydramnios) when an ultrasound is not available.¹⁸

In exit interviews, less than half of women reported receiving an ultrasound, being weighed, or being counselled on family planning or breast feeding in their most recent ANC visit at either a HCF or with a CBM, despite most providers reporting these elements as common ANC practices. Less than half of women reported having any type of blood or urine test, suggesting that these practices services, which can be crucial to early and accurate identification and treatment of common conditions, are being under-delivered.

Findings also indicate that a lack of equipment is likely a limiting factor, particularly for CBPs, when conducting ANC appointments. As shown in table 12, few CBMs reported having the equipment to conduct blood or urine tests, calculate gestational age, or measure the fundal height of the uterus all of which are essential components of ANC. Notably, no CBMs reported having the capacity to do haemoglobin blood tests.

Most essential equipment for ANC/PNC was available at HCFs with several gaps, especially at PHC level. However, comparing the availability of equipment with the findings on the availability of essential elements of ANC/PNC raises questions on the extent to which equipment is functional and whether staff are adequately trained to use them.

Table 12: Equipment available in the clinic/home for ANC/PNC visits

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Equipment in clinic/home Data: HCF assessment survey and community-based provider survey	Hospital	cPHC	PHC	CBM
Number Assessed (n)	5	2	5	11
Speculum, vaginal	● 5	● 1	● 3	● 5
Thermometer	● 5	● 2	● 5	● 8
Privacy barriers	● 4	● 2	● 5	● 6
Standing light for visualisation	● 1	● 0	● 0	● 1
A tape measure to measure the fundal height of the uterus	● 2	● 1	● 2	● 4
Gestational Age Calendar (pregnancy wheel)	● 1	● 0	● 0	● 0
Blood sugar measuring device	● 4	● 1	● 5	● 1
Haemoglobin measuring device	● 4	● 2	● 4	● 0

¹⁶ WHO recommendation on tetanus toxoid vaccination for pregnant women. 10 March 2018. Accessed December 2020. <https://extranet.who.int/rhl/topics/preconception-pregnancy-childbirth-and-postpartum-care/antenatal-care/who-recommendation-tetanus-toxoid-vaccination-pregnant-women>

¹⁷ WHO Guideline on Syphilis screening and treatment for pregnant women. 2017. Accessed December 2020.

¹⁸ WHO recommendation on symphysis-fundal height measurement. 8 March 2018. Accessed December 2020. <https://extranet.who.int/rhl/topics/preconception-pregnancy-childbirth-and-postpartum-care/antenatal-care/who-recommendation-symphysis-fundal-height-measurement>

Urine test strips	● 4	● 2	● 5	● 5
An examination table	● 5	● 2	● 5	● 11
Electronic weight scale, child	● 4	● 2	● 3	● 3
Electronic weight scale, adult	● 3	● 2	● 4	● 2
Height scale, child	● 2	● 1	● 3	● 1
Height scale, adult	● 3	● 1	● 2	● 0
A mobile ultrasound machine	● 5	● 2	● 5	● 7
Foetal pulse monitor (Doppler or Pinard stethoscope)	● 4	● 2	● 3	● 10
Medical stethoscope, for adults	● 5	● 2	● 5	● 3
Blood pressure monitor, for adults	● 5	● 2	● 5	● 7

There is also some evidence that existing equipment is being underutilised. In HCFs, two PHCs and one hospital reported having urine test strips available but not using them as a standard part of the ANC. Additionally, taking the mother's blood pressure, temperature, and height, and performing an ultrasound were not reported as common ANC practices by a hospital with the equipment to do so.

6.1.2 Services by provider and governorate

ANC scores were also calculated for all providers surveyed. In addition to the 22 services listed above, the scores also included two additional elements: scheduling follow-up appointments and keeping records of visits. HCFs covered more ANC services (averaging 18.3 out of 24, or 76%) compared to CBPs (averaging 14.8 out of 24, or 58%). Among all providers, as might be expected, untrained midwives showed the lowest ANC scores, averaging just 9 out of 24 elements. Trained midwives on average covered 17 elements out of 24. Both HCFs and CBPs in Ar Raqqa reported covering more ANC elements than those in Deir-ez-Zor, suggesting gaps in the availability and quality of services is lower in the latter.

The following services were more likely to be reported as standard practice by HCFs compared to CBPs:

- Blood test for haemoglobin/anaemia (83%; 36%) In the absence of a full blood count, WHO recommends a haemoglobin test for diagnosing anaemia¹⁹ which can cause fatigue, weakness, dizziness, shortness of breath among other symptoms. The WHO estimates that 40% of pregnant women worldwide are anaemic.²⁰
- Providing iron and folic acid tablets (92%; 55%). WHO recommends daily supplementation of iron and folic acid for pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight, and preterm birth. Overall, lack of blood tests, clinical assessment, as well as lack of treatment suggests that anaemia may be under identified and under treated. This might indicate an arbitrary use of iron and folic acid supplementation.
- Ultrasound (92%; 64%)

Exit interviews with women about their ANC experiences also confirmed that community providers were less likely to provide iron and folic acid tablets, conduct blood or urine tests, or take the mother's temperature.

¹⁹ WHO. Recommendation on the method for diagnosing anaemia in pregnancy. 8 March 2018. <https://extranet.who.int/rhl/topics/preconception-pregnancy-childbirth-and-postpartum-care/antenatal-care/who-recommendation-method-diagnosing-anaemia-pregnancy>

²⁰ WHO. Anemia. https://www.who.int/health-topics/anaemia#tab=tab_1

Table 13: Antenatal care scores by type of community-based midwife

Type of CBM	Ar Raqqa	Deir-ez-Zor	Average ANC score (out of 24)
Trained midwife (n=8)	16.75	17.25	17
Untrained midwife (n=3)	13	7	9

Table 14: Antenatal care scores by type of health care facility

Type of HCF	Ar Raqqa	Deir-ez-Zor	Average ANC score (out of 24)
Hospital (n=5)	17.5	16.7	17.0
cPHC (n=2)	21.0	21.0	21.0
PHC (n=5)	19.3	17.5	18.6

Within HCFs, cPHCs reported the highest average number of services (with both cPHCs scoring 21) while hospitals provided the lowest average number (17). This low average is a result of the wide range of scores among the hospitals surveyed which included the two highest scores (both 23) well as the two lowest scores (10 and 12). Both the high- and low-scoring hospitals were split, with one each in Ar Raqqa and Deir-ez-Zor. One possible explanation is that women are more likely to seek routine care such as ANC visits from more easily accessible PHCs and CBPs than directly from hospitals, which keeps these facilities up to date on ANC practices and protocols. KIs also reported that ANC and PNC visits in hospitals can be rushed.

6.2 Care at Birth – Skilled Birth Attendance and Early Neonatal Care

All hospitals, cPHCs, and CBMs reported offering SBA and early NC. All HCFs reported offering birthing services 24 hours a day. As expected, the five PHCs surveyed did not offer SBA or NC services.

Availability of skilled birth attendance and neonatal care in health care facilities and from community-based providers

Type of provider	# surveyed	Offering SBA and NC
Hospital	5	5
cPHC	2	2
PHC	5	0
Trained midwife	8	8
Untrained midwife	3	3

6.2.1 Availability of services

Surveys with CBMs and HCF assessed whether they provide 14 essential components of care during birth (skilled birth attendance). Services included both lifesaving practices as well as key skills for monitoring birth progress and identifying complications, and elements aimed at ensuring the comfort of the mother and baby.

Table 15: Care at birth elements provided by health care facilities and community-based providers

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Care at Birth Elements Data: healthcare facility assessment survey for HCFs, community-based midwife provider survey for CBMs	Hospital	cPHC	CBM
Number Assessed (n)	5	2	11
Allowing companions of choice to be present during birth process	● 0	● 1	● 10
Use a partograph to monitor birth	● 3	● 2	● 8
Inform the mother about progress of labour and birth	● 5	● 2	● 10
Encourage a change of position as desired	● 5	● 2	● 11
Offer medication to relieve pain	● 4	● 2	● 8
Give an injection to stop bleeding at the moment of birth (oxytocic)	● 4	● 2	● 9
Ensure that the baby is dried and wrapped immediately after birth	● 5	● 2	● 11
Giving Vitamin K injection at birth	● 1	● 1	● 3
Give vaccines at birth	● 0	● 0	● 0
Place in skin-to-skin contact with the mother	● 3	● 2	● 8
Encourage breastfeeding within an hour of birth	● 4	● 2	● 9
Ensure identification of the baby	● 5	● 2	● 9
Measure the child's height	● 3	● 1	● 1
Measuring the child's weight	● 5	● 2	● 2
Perform a head to toe exam for baby	● 4	● 2	● 9

Most care at birth services were relatively evenly provided in both settings. Notably, however, facilities were unlikely to allow companions in the birthing room (14%) while this was common practice for CBPs (91%). Regarding care at birth for the baby, CBMs were much less likely to measure the weight and height of the child compared to facilities. While all facilities make efforts to ensure the identity of the child, only 82% of CBMs noted providing this service.

Reporting in exit interviews on their birthing experience in both facilities and with CBPs, less than half of women remembered the provider immediately placing the baby in skin-to-skin contact with the mother, giving the baby an injection, or allowing the mother to drink fluids throughout labour and birth. Reporting on their birthing experience in HCFs, just over half of women said they were asked to breastfeed within an hour of birth, while only 35% reported being asked to do so by CBPs. Surveys with women also suggested that CBPs were more likely to allow companions in the birthing room, however, more than half who delivered in HCFs (66%) also reported being able to have chosen companions.

6.2.2 Equipment and medication

Findings indicate that a lack of equipment is a factor in ability to follow some practices. Notably, while over 70% of CBPs and HCFs reported using a partograph to monitor birth progress as common practice, only 57% of HCFs and none of the CBPs reported having a partograph currently in the birthing room. Overall, as might be expected, CBMs reported less equipment than HCFs, with less than a third of practitioners reporting having baby weighing scales, a heating tables or source for the baby, child stethoscopes, a dedicated light sources or oxygen. Hospitals assessed also had less equipment for the birthing room than cPHCs, although the limited number of cPHCs assessed may mean this finding is not representative.

Table 16: Equipment available in the birthing room in health care facilities and for community-based midwives

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Equipment available in the birthing room Data: Health care facility assessment survey for HCFs, community-based provider survey	Hospital	cPHC	CBM
Number Assessed (n)	5	2	11
1. Delivery room records book	● 4	● 2	● 8
2. Clinical practice protocol handbook	● 2	● 1	● 2
2a. Soap or hand sanitizer	● 4	● 2	● 11
3. A suitable birthing bed	● 5	● 2	● 11
4. Curtains to maintain privacy	● 5	● 2	● 7
5. Movable light source for patient examination	● 4	● 2	● 3
6. Blood pressure monitor	● 4	● 2	● 5
7. Stethoscope (for adults)	● 4	● 2	● 11
8. Sterile delivery kit	● 3	● 2	● 11
9. Partograph to monitor labour	● 2	● 2	● 0
10. Ultrasound machine	● 5	● 2	● 7
11a. Doppler device to monitor the heartbeat of the foetus	● 3	● 2	● 2
11b. CTG foetal heart rate monitor	● 1	● 2	● 1
11c. Pinard stethoscope to monitor the heartbeat of the foetus	● 4	● 2	● 1
12a. A vacuum extraction device	● 1	● 0	● 0
12b. Obstetric Forceps	● 1	● 0	● 4
13a. Episiotomy kit	● 4	● 2	● 7
13b. Surgical sutures to repair an episiotomy or vaginal tear	● 5	● 2	● 9
14. Heating table or corner for baby	● 5	● 2	● 2
15. Stethoscope (child)	● 4	● 2	● 4
16. Newborn bag and mask	● 5	● 2	● 6
17. Oxygen	● 4	● 2	● 3
18. Baby mucus aspiration	● 5	● 2	● 5
19. Baby scale to measure weight	● 5	● 2	● 2
20. Baby towel	● 4	● 2	● 5
21. Emergency medicine box	● 4	● 2	● 9
22. Hemoglobin measuring device	● 2	● 2	● 0
23. Urine test strips to check protein in urine	● 3	● 2	● 4
24. Reflex hammer	● 0	● 1	● 0

The survey also inquired about the medicines CBMs have available during the births they attend. The study reveals relatively good availability of essential medicines at community-based care (Table 17 below), particularly when compared to cPHCs (Table 18 below).

Table 17: Medicine Available to community-based providers during birth

● Green: > 75% ● Yellow: 75-33% ● Red: < 33%

Medicine Available in Clinic/Home Data: Community-based midwives provider survey	CBP
Number Assessed (n)	11
Intravenous fluids (glucose, saline, etc.)	● 9
Chlorhexidine	● 4
Lidocaine (local anaesthetic)	● 9
Amoxicillin	● 9
Magnesium sulfate (injection)	● 3
Povidone iodine disinfectant	● 9
Diazepam (injection)	● 6
Oxytocin (ampoule)	● 8

With regards to key medications available at HCFs, the study critical gaps in key medicines that should be available in the birthing room at the surveyed facilities. As captured in Table 18 below, this is more significant at cPHCs assessed.

Table 18: Availability of medication in health care facilities during birth

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Medicine in the birthing room Data: HCF assessment survey	Hospital	cPHC
Number Assessed (n)	5	2
Pethidine for maternal pain relief	● 4	● 0
Lignocaine (local anaesthetic)	● 4	● 1
Nitrous oxide for maternal pain relief	● 0	● 0
Magnesium sulfate	● 5	● 0
Calcium gluconate	● 4	● 0
Diazepam	● 5	● 0
Nifedipine	● 1	● 0
Hydralazine	● 4	● 0
Betamethasone	● 2	● 1
Dexamethasone	● 5	● 2
Ergometrine	● 4	● 2
Oxytocin	● 4	● 2

6.2.3 Services by provider and governorate

Among the 14 assessed elements of a basic SBA package, HCFs provided an average of 10.9 compared to CBMs offering an average of 9.9.

While community-based care was the same across governorates, differences were observed, based on the training level of the CBM. While trained midwives covered on average 11.3 out of 14 assessed care at birth

elements, untrained midwives covered only 6 on average. While all trained midwives reported offering injections to stop bleeding at the time of birth, only one out of three untrained midwives reported this service. Further, none of the untrained midwives reported immediately placing the baby in skin-to-skin contact with the mother, checking the height or weight of the baby, or providing vitamin K injections. Only one of three untrained midwives reported confirming the identity of the baby, or performing a head-to-toe exam on the baby after birth.

Table 19: Care at birth scores by type of provider

Type of CBM	Ar Raqqa	Deir-ez-Zor	Average care at birth score (out of 14)
Trained midwife (n=8)	11.3	11.3	11.3
Untrained midwife (n=3)	6	6	6

On average, hospitals reported offering fewer of the assessed elements than cPHCs. None of the hospitals surveyed allowed for there to be additional companions in the birthing room, and only three out of five use a partograph to monitor birth progress. One hospital also did not report giving an injection to stop bleeding immediately following birth.

Table 20: Care at birth scores by type of health care facility

Type of HCF	Ar Raqqa	Deir-ez-Zor	Average Care at Birth: Score (out of 14)
cPHC (n=2)	11	14	12.5
Hospital (n=5)	11	9.7	10.2

6.3 Basic and Comprehensive Emergency Obstetric and Neonatal Care

Access to EmONC is critical for women who experience potentially life threatening complications during pregnancy, birth, or the post-partum period. The capacity to provide the minimum coverage level of EmONC care is commonly measured using the internationally agreed upon criteria of signal functions. There are two levels of EmONC care: Basic and Comprehensive. BEmONC capacity is measured using seven signal functions while CEmONC includes the seven BEmONC signal functions as well as two more for a total of nine.

All hospitals surveyed reported having BEmONC and CEmONC capabilities, while one cPHC reported having BEmOC capabilities

Availability of BEmONC and services by type of health care facility

Type of health care facility	# surveyed	Offering BEmONC
Hospital	5	5
cPHC	2	1
PHC	5	0

Availability of CEmONC services by type of health care facility

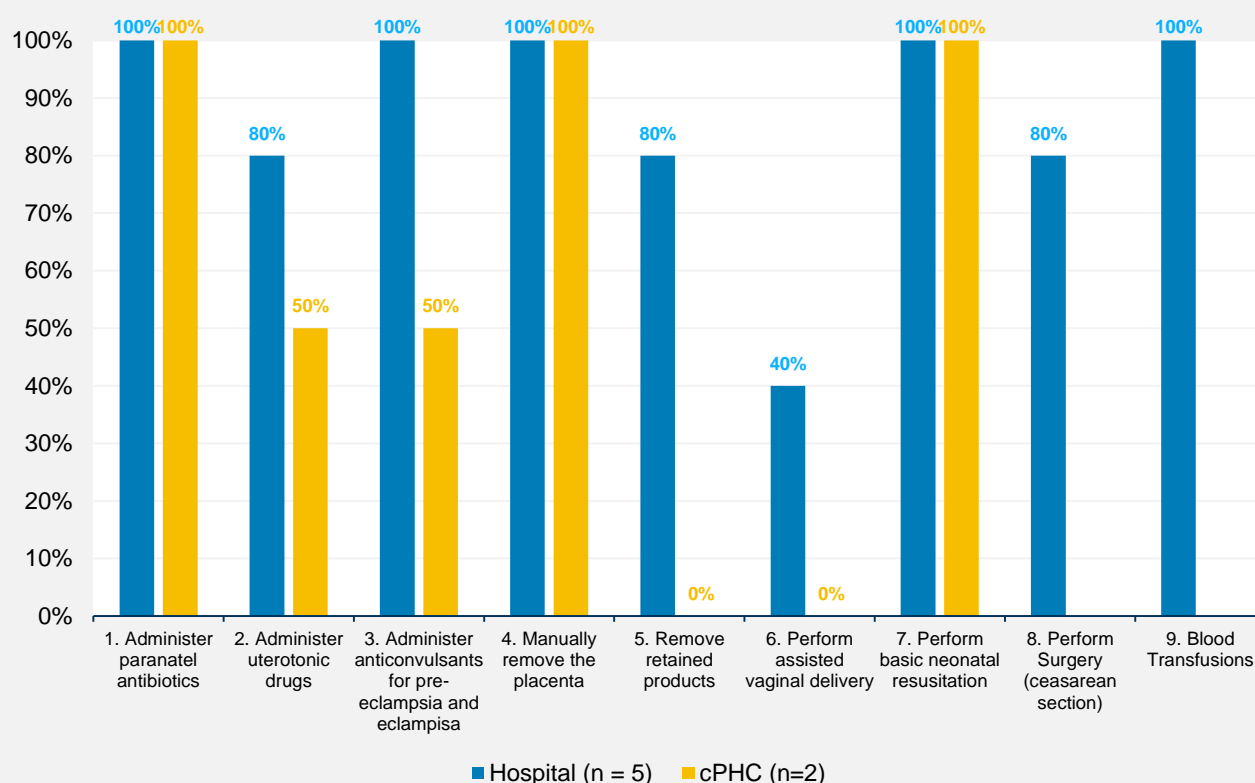
Type of HCF	# surveyed	Offering CEmONC
Hospital	5	5
cPHC	2	0
PHC	5	0

6.3.1 Availability of services

In practice, however, five of the six facilities reporting BEmONC services fail to meet all seven BEmONC signal functions.

According to Health Cluster–suggested RMNH indicators and benchmarks, communities should have more four or more HCFs with BEmONC capacity per 500,000 people and one or more HCFs with CEmONC capacity. With only one hospital in Deir-ez-Zor meeting all nine CEmONC functions, the capacity of the assessed facilities falls short of these standards. While other non-assessed HCFs may fill the gap to meet these standards, if their service provision is similar to the surveyed facilities, it is unlikely that there is adequate EmONC available to adequately cover needs in Ar Raqqa and Deir-ez-Zor.

Figure 9: EmONC Signal Functions



Assisted delivery by either vacuum or forceps is the most commonly lacking BEmONC signal function. This service is performed by only two hospitals and no cPHCs. However, even the basic signal function to prevent postpartum haemorrhage after birth (im/iv oxytocic) was not in place in all hospitals. Neither cPHC was able to perform removal of retained products of conception via manual vacuum aspiration. Although all hospitals can provide blood transfusion, this is likely to be limited by the lack of a central blood bank.

Table 21: EmONC signal functions by type of health care facility

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

EmONC Signal Function	Hospital	cPHC
Number Assessed (n)	5	2
1. Administer parenteral antibiotics (iv or im)	● 5	● 2
2. Administer uterotonic drugs (iv or im)	● 4	● 1

3. Administer parenteral anticonvulsants for pre-eclampsia and eclampsia (magnesium sulphate) (iv or im)	● 5	● 1
4. Manual removal of retained placenta	● 5	● 2
5. Removal of retained products of conception by manual vacuum aspiration ¹ (MVA) or dilatation and curettage (D&C)	● 4	● 0
6. Assisted vaginal delivery by vacuum extraction/ventouse delivery or forceps delivery	● 2	● 0
7. Neonatal resuscitation (with bag and mask)	● 5	● 2
8. Perform surgery (Caesarean Section)	● 4	NA
9. Provide blood transfusion	● 5	NA

6.3.2 Staff capacity and equipment

Shortcomings in EmONC signal functions correlate with shortages of both human and physical resources. All three hospitals which do not perform assisted vaginal delivery lack both the required staff capability as well as the equipment (forceps and/or vacuum). Caesarean section capacity was also limited in one hospital due to lack of staff capacity. In each of the cPHCs, the lack of staff capacity limited the facilities to five of the seven BEmONC signal functions. Conversely, staff capability was not reported as a limitation for the hospital which reported lack of capacity to administer uterotonic drugs or remove retained products, indicating the issue may lie with lack of equipment or protocols.

Table 22: Overall health care facility staff capabilities for EmONC signal function skills

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Overall Skills: All HCF Cadres - OBGYN, Certified Midwives, and Nurses Data: HCF assessment survey	Hospital	cPHC
# of Facilities assessed	5	2
General anaesthesia	● 3	NA
Spinal anaesthesia	● 4	NA
Caesarean section	● 4	NA
Intravenous / intramuscular oxytocic	● 5	● 1
Intravenous / intramuscular antibiotic	● 5	● 2
Intravenous / intramuscular anticonvulsant	● 5	● 1
Manual vacuum aspiration or dilation and curettage	● 5	● 0
Manual removal of a retained placenta	● 5	● 2
Resuscitation of the newborn with a bag and mask	● 5	● 2
Assisted childbirth - vacuum extraction	● 2	● 0
Assisted childbirth - forceps	● 2	● 0
Blood Transfusion	● 5	● 2

When examining the different cadre levels, skills such as anaesthesia, caesarean sections, and manual vacuum aspirations/dilation and curettage were lacking in at least one of five hospitals at the OBYGN level. Deficits were notable at the cPHC level, where only one facility reported having OBGYN staff, which nonetheless only had the capacity to perform three of the signal function skills. While in some HCFs certified midwives mitigate

some of these gaps (for example, by providing manual vacuum aspiration or dilation and curettage services at one hospital where it is not available from an OBGYN), significant skill shortages remain. The survey also substantiated that nurses at the assessed HCFs do not generally have RMNH-specific skills related to SBA.

Table 23: OBGYN and HCF-based certified midwife capabilities for EmONC signal function skills

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

OBGYN Skills: HCF Cadre Data: HCF assessment survey	Hospital	cPHC
# of Facilities assessed	5	2
Has OBGYN staff	5	1
General anaesthesia	● 3	NA
Spinal anaesthesia	● 4	NA
Caesarean section	● 4	NA
Intravenous / intramuscular oxytocic	● 5	● 0
Intravenous / intramuscular antibiotic	● 5	● 0
Intravenous / intramuscular anticonvulsant	● 5	● 1
Manual vacuum aspiration or dilation and curettage	● 4	● 0
Manual removal of a retained placenta	● 5	● 1
Resuscitation of the newborn with a bag and mask	● 5	● 1
Assisted childbirth - vacuum extraction	● 2	● 0
Assisted childbirth - forceps	● 2	● 0
Blood transfusion	● 5	● 0

Certified Midwife Skills: HCF Cadre Data: HCF assessment survey	Hospital	cPHC
# of Facilities assessed	5	2
Has certified midwife Staff	5	2
Intravenous / intramuscular oxytocic	● 4	● 1
Intravenous / intramuscular antibiotic	● 5	● 2
Intravenous / intramuscular anticonvulsant	● 5	● 1
Manual Vacuum Aspiration or Dilation and Curettage	● 4	● 0
Manual Removal of a Retained Placenta	● 4	● 2
Resuscitation of the Newborn with a Bag and Mask	● 5	● 2
Assisted Childbirth - vacuum extraction	● 1	● 0
Assisted Childbirth - forceps	● 1	● 0
Blood Transfusion	● 5	● 2

The below table provides additional information about the availability of key EmONC equipment in HCFs that reported EmONC capacities (five hospitals and one cPHC). Notably, less than half of facilities reported having infant or adult resuscitation devices, manual vacuum aspiration devices, or a separate patient post-operation room.

Table 24: Availability of CEmONC equipment in health care facilities

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

CEmONC Equipment Data: HCF assessment survey	# of HCFs with the Equipment
Number Assessed (n)	6
Surgical equipment, obstetric equipment	● 6
Sterilisation equipment for instruments	● 6
Personal protective equipment: gloves - masks - apron	● 6
Washers for surgical sheets and clothing	● 6
A place for sterilisation and hand washing for surgeons	● 6
Oxygen concentrator	● 6
Special devices for removing organic waste (incinerator - landfill)	● 5
Surgical equipment, laparotomy kit	● 5
Record for the operating room	● 5
Operation table	● 5
Adjustable operations light	● 5
Electrosurgical unit (electro-surgical coagulation)	● 5
Automatic vacuum suction	● 5
Lighting operating room	● 5
Automatic suction pump	● 5
Instruments for lumbar incision	● 5
Anaesthesia unit, respirator and accessories	● 5
Laryngoscope for adults	● 5
Children's laryngoscope	● 5
Machine for electrocardiogram	● 4
Resuscitation device, for infants	● 3
Manual vacuum aspiration	● 3
Resuscitation device, for adults	● 2
A separate room for the patient after leaving the operations	● 2

While CBPs do not provide EmONC services, some CBMs self-reported capacities for performing emergency skills, as detailed in Table 25.

Table 25: Emergency skills capacities by type of community-based provider²¹

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

Reported Skills of Provider Data: Data: Community-based midwife provider survey	Trained Midwife	Untrained Midwife
Respondents	6	3
Intravenous / intramuscular oxytocic	● 5	● 3
Intravenous / intramuscular antibiotic	● 6	● 3
Intravenous / intramuscular anticonvulsant	● 3	● 2
Manual vacuum aspiration or dilation and curettage of the uterus	● 2	● 1
Manual removal of a retained placenta	● 6	● 1
Assisted childbirth - vacuum or forceps extraction	● 1	● 1
Resuscitation of the newborn with a bag and mask	● 4	● 1
Blood Transfusion	● 1	● 0

6.4 Post-natal Care

All HCFs and CBMs surveyed reported offering PNC services.

Availability of post-natal care services by type of health care facility

Type of HCF	# surveyed	Offering PNC services
Hospital	5	5
cPHC	2	2
PHC	5	5

Availability of post-natal care services by type of community-based provider

Type of CBP	# surveyed	Offering PNC services
Trained midwife	8	8
Untrained midwife	3	3

International standards recommend a minimum of four PNC visits after birth, with the first taking place on day three, the second between day 7-14, and the last 6 weeks after birth.²² However, according to the community- and HCF-based midwife survey, most midwives surveyed both in HCFs and the community recommend two visits, with the first taking place one week after birth. None of the CBMs recommended more than three visits and only one HCF-based midwife recommended four or more visits. This suggest there is a lack of awareness of the recommended protocols, and no standardised practice among RMNH providers in Ar Raqqa and Deir-ez-Zor.

²¹ Two of the eight trained midwives did not provide responses to this section of the survey.

²² WHO Postnatal Care for Mothers and Newborns: Highlights from the WHO 2013 Guidelines. Accessed to: https://www.who.int/maternal_child_adolescent/publications/WHO-MCA-PNC-2014-Briefer_A4.pdf?ua=1

6.4.1 Availability of services

Both community providers and HCFs were asked which components of routine PNC they perform. Their responses against a list of 23 key components can be found in the tables on the following page. This list of services was developed to include essential functions that should be part of every PNC contact with a health care provider with services selected for contextual relevance.

Table 26: Post-natal care practices in health care facilities and among community-based providers

● Green: > 75% ● Yellow: 75-33 ● Red: < 33%

PNC Visit Practices Data: HCF assessment survey and community-based midwife provider survey	Hospital	cPHC	PHC	CBM
Number Assessed (n)	5	2	5	11
1a. Measure blood pressure	● 4	● 2	● 5	● 11
1b. Check urine for protein	● 4	● 2	● 4	● 6
2. Assess mother's temperature	● 5	● 2	● 5	● 8
3. Blood test for haemoglobin	● 5	● 2	● 4	● 5
4. Examination of the breasts	● 2	● 2	● 5	● 6
5a. Palpate for fundal height of uterus	● 3	● 2	● 3	● 8
5b. Assess postpartum lochia	● 5	● 2	● 4	● 8
5c. Examine perineum	● 4	● 2	● 5	● 9
6. Discuss the danger signs in the mother	● 5	● 2	● 5	● 9
7a. Discuss family planning options	● 4	● 2	● 5	● 8
7b. Provide birth control options	● 5	● 2	● 5	● 10
8. Asking about mother's mental health	● 4	● 2	● 5	● 9
9. Ask about Gender Based Violence	● 2	● 2	● 3	● 6
10a. Measure weight of newborn	● 5	● 2	● 4	● 4
10b. Measure height of newborn	● 5	● 1	● 1	● 1
11. Check baby's temperature	● 5	● 2	● 4	● 5
12a. Examine umbilical cord	● 4	● 2	● 3	● 5
13. Head to toe exam for baby	● 5	● 2	● 3	● 10
14. Advise on breastfeeding	● 5	● 2	● 5	● 10
15. Advise on umbilical cord care	● 4	● 2	● 4	● 6
16. Advise about danger signs in the baby	● 5	● 2	● 5	● 9
17. Discuss childhood vaccinations	● 4	● 2	● 3	● 4

Elements of PNC most often missing for mothers were asking about GBV and conducting a breast exam.

Although the majority of providers and facilities indicated that they regularly conduct most assessed elements of PNC services, in exit interviews women reported that, in their experience, these services were not being provided. For example, while 100% of facilities reported taking the mother's temperature and providing birth control options, less than half of women reported that their last PNC appointment at a HCF included these elements. While 100% of CBPs reported they routinely take a patient's blood pressure during a PNC visit, only

30% of women reported this took place at their last appointment. While almost all community and facility providers reported that they advise mothers on breastfeeding, less than half of women reported getting this advice. This suggests that though providers are aware of these practices, they may not be delivered consistently to every patient at every appointment.

Exit interviews also indicated that, overall, CBMs are less likely to take blood pressure measurements, schedule follow-up appointments, and perform blood or urine tests. Conversely, 10% more women reported receiving contraception and PNC appointments with CBMs than at HCFs.

6.4.2 Services by type of provider

Average PNC scores were calculated based on the above 23 elements as well as three additional elements: scheduling follow-on PNC appointments, keeping records of PNC visits, and recording the baby's health data and providing a record to parents. Overall, facilities were found to provide more PNC elements on average than community-based midwives, reporting on average 21.6 of the 26 elements assessed compared to 16.6 by CBMs. Among providers, untrained midwives provided the lowest number of PNC services, averaging just 9.3 out of 26 elements overall.

CBMs were much less likely than HCFs to conduct blood tests for haemoglobin levels, with 45% and 92% respectively providing the service routinely. CBMs were also less likely to report basic measurements of the baby's temperature, weight, and height as part of their standard PNC practices or examine or advise on care for the umbilical cord.

Significant differences were found between the governorates. Most notably, CBMs in Deir-ez-Zor provided far fewer PNC elements overall (13.8) than CBMs in Ar Raqqa (20). Scores in HCFs were more consistent across the governorates, averaging 21 in Ar Raqqa and 22.2 in Deir-ez-Zor.

Table 27: Post-natal care score by type of community-based provider

Type of HCF Data: Health care facility assessment survey	Ar Raqqa	Deir-ez-Zor	Average PNC score (out of 26)
Hospital (n=5)	22.5	20.7	21.4
cPHC (n=2)	23.0	26.0	24.5
PHC (n=5)	19.3	22.5	20.6
Total Average (n=12)	21.0	22.2	21.6

Table 28: Post-natal care score by type of health care facility

Type of CBP Data: Community-based midwife provider survey	Ar Raqqa	Deir-ez-Zor	Average PNC score (out of 26)
Trained midwife (n=8)	21.0	17.8	19.4
Untrained midwife (n=3)	16.0	6.0	9.3
Total average (n=11)	20.0	13.8	16.6

6.5 Family Planning

All HCFs and CBPs reported offering FP services.

Availability of family planning services by health care facility

Type of HCF	# surveyed	Offering FP services
Hospital	5	5
cPHC	2	2
PHC	5	5

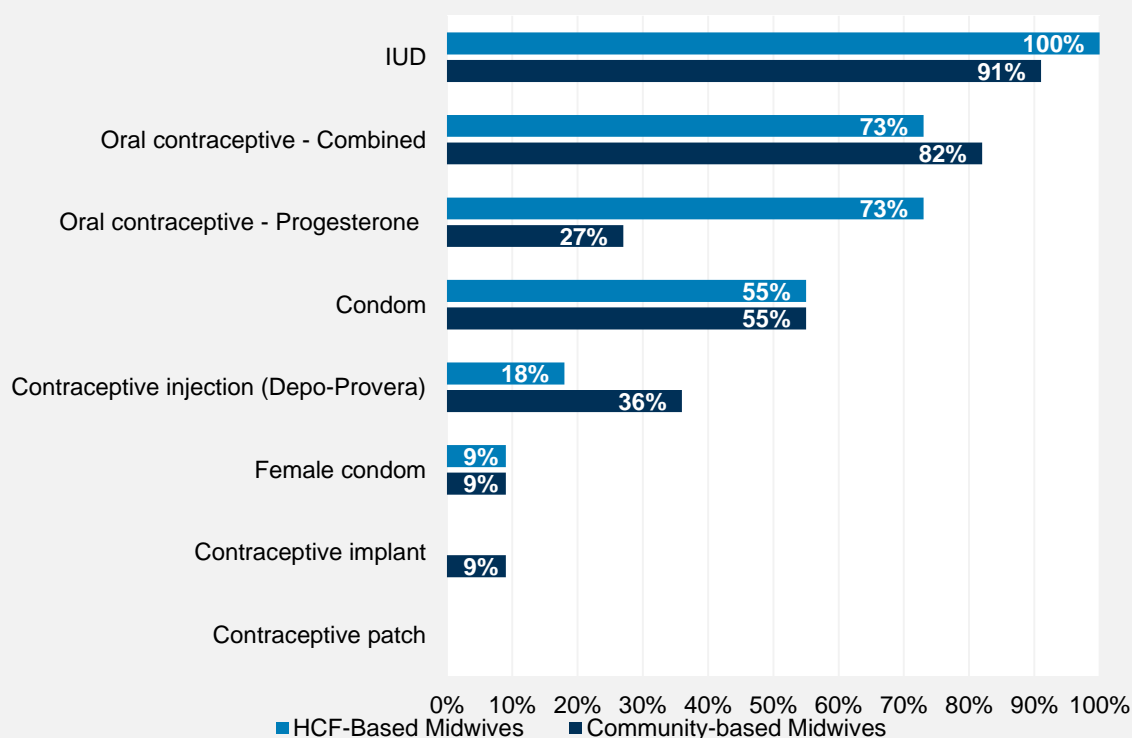
Availability of family planning services by community-based midwives

Type of CBP	# Surveyed	Offering FP services
Trained midwife	8	8
Untrained midwife	3	8

6.5.1 Availability of services

The majority of providers in both facilities and the community provide recommendations about birth spacing, with 64% of CBPs and 83% of facilities reporting it as a standard part of an ANC visit. After birth, this number increases to over 90% in both settings as a common part of a PNC consultation. All HCFs and CBMs also reported discussing options and offering contraception. IUDs are the most commonly available form of contraception offered by over 90% of providers surveyed. Oral contraceptive is also common, although the progesterone-only pill is less common from CBPs. More than half of providers also offer condoms. Other forms of contraception, such as injections, the female condom, implants, and patches are less common.

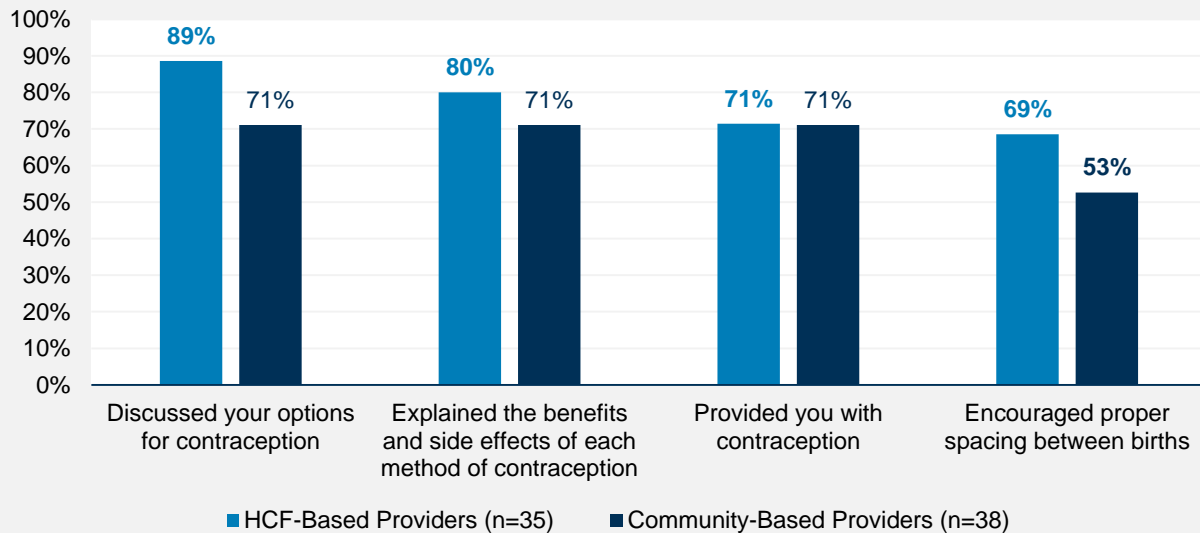
Figure 10: Types of contraception offered in HCFs and by CBMs (Data: Provider Survey for HCF-based (n=11) and Community-based Midwives (n=11))



In exit interviews, more women recalled receiving family planning counselling during PNC appointments in HCFs (43%) than during appointments with CBPs (35%). Among these, women reported that approximately three-quarters of providers discussed options for contraception, explained the options, and provided them with their

preferred method (if desired). Notably, 53% of women recalled CBMs offering advice on proper birth spacing compared to 69% of providers in HCFs. KI interviews stressed the importance of counselling on proper birth spacing. One KI reported treating women with complications from inadequately spaced births, who indicated that they were never informed of the potential complications during their prior pregnancies.

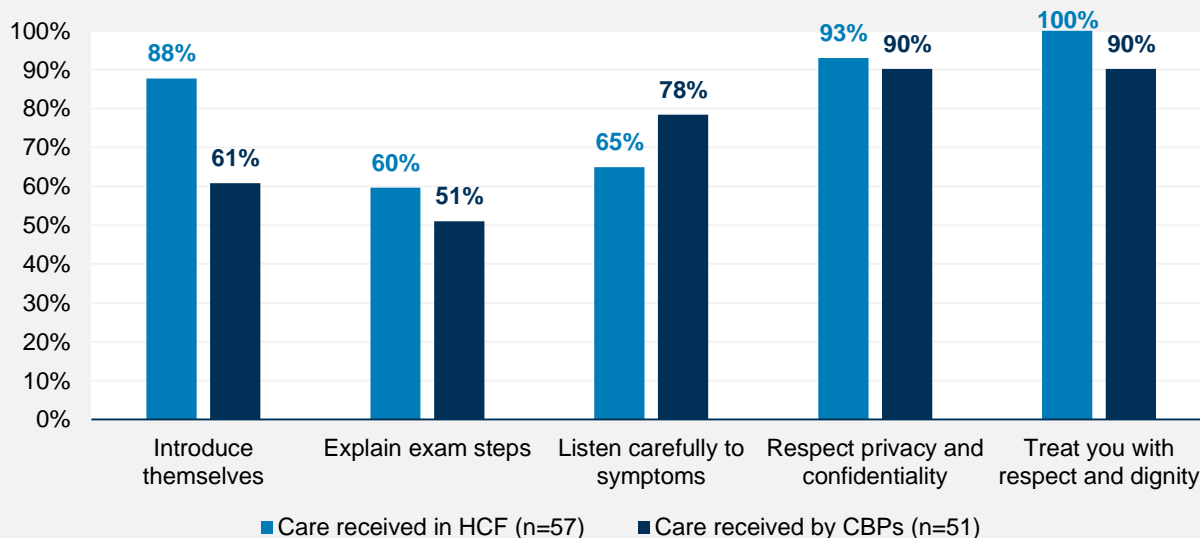
Figure 11: During your consultation of family planning, your health provider (Data: Exit Interviews with women at HCFs)



6.6 Respectful Maternity Care

Exit interviews revealed some providers to be lacking in respectful maternity care. Only 60% and 51% of women reported that providers in facilities and CBPs respectively explained exam steps as they were occurring. Notably, more women reported feeling that CBPs listened carefully to their symptoms (78%) compared to providers in HCFs (65%). KIs also noted this dynamic, reporting that women report feeling rushed through ANC and PNC appointments at hospitals and therefore may seek appointments with CBPs.

Figure 12: Respectful Maternity Care: When you see your provider, do they do the following (Data: Exit interviews with women at HCFs)



7 Recommendations

RMNH care was found to be severely affected by general weaknesses affecting the health systems in Ar Raqqa and Deir-ez-Zor. Long term planning for the reconstruction of the health system in these two governorates and ensuring the provision of accessible and quality RMNH services should take into consideration:

- Large-scale investment in health infrastructure
- Improvements in the medical supply chain including for equipment, essential drugs and vaccinations
- The need to address financial barriers to ensure health access for the most vulnerable population without exacerbating their current financial vulnerability.

Within this context, RMNH actors operating in this region should consider:

- Making use of and strengthening existing health infrastructure, rather than working in other properties such as private homes or industrial buildings.
- An urgent review and improvement of the supply chain in relation to RMNH essential equipment, consumables, and supplies. This includes developing relevant procurement strategies, warehouses, distribution practices, and consumption tracking.
- Coordinating with the local health authorities to identify allocation strategies that can ensure best use of available resources to reach the widest possible coverage.

The Health Working Group should also consider reviewing and customising the Essential Health Service Package for northern Syria, which was initially developed by the health cluster in Gaziantep. This process should include reviewing RMNH interventions that should be provided at each level of care in consultation with all health providers in the region.

RMNH human resources

A major challenge facing RMNH services in Ar Raqqa and Deir-ez-Zor is the lack of certified and trained healthcare personnel. Safety and security threats, living conditions, and interruption of pre-service education including for doctors and midwives are all factors that have contributed to this challenge. To deal with this challenge, health actors should consider how to bolster health education and medical training as well as improved working conditions for health workers. Several points that should be considered include:

- The need for medium to long-term projects seeking to restore formal health education in universities and other pre-service training institutions. Currently, medical faculties are only functioning in Government of Syria-held areas that are inaccessible to many in NES. More partnerships with academic institutions as well as local health authorities could help in designing and initiating such projects.
- For short and mid-term planning, more investment in certified medical trainings, competency-based short courses, 'on-the job' clinical training and supportive supervision is needed. The design of all RMNH projects should include an element of clinical training focusing on the key gaps that are highlighted by this study. Based on this study's findings, specific areas of training for RMNH staff, including for OBGYNs and midwives should include all aspects of SBA and EmONC as well as an update to align with the recent guidelines for ANC and PNC provision.
- Health actors should develop specific human resources policies to ensure fair and dignified packages for health personnel. These policies should take into consideration remote placement, safety and security threats, working conditions and levels of qualifications and experience. These elements could be reflected in package of benefits and duty of care policies that include aspects of risk allowance, transportation, housing allowance, and compensation in case of incidents.
- CBMs currently play a significant role in delivering RMNH services in Deir-ez-Zor governorate. Given the lack of a functioning regulatory framework in NES, training should be part of a wider engagement between CBMs and local health authorities to ensure closer linkages with HCF are enabled. Minimal

equipment and supply lists can be established and distributed to CBMs so they can optimally provide all the components of care they are capable and legislated to provide.

- The mismatch between the level of training and actual qualification for all types of midwives, including facility-based midwives, requires health actors to properly assess the knowledge and level of trainings of midwives before engaging them in any training or provision of services regardless of their stated qualifications.
- Community-based pharmacists are likely providing basic health care and/or advice to women especially in hard to reach areas and it will be important to see how this cadre can be further harnessed to provide support.

Services accessibility and utilisation

Lack of and cost of transportation as well as other financial barriers (out of pocket expenses, private health care costs where public health care not available) were found to be significant challenges facing women when requiring facility based RMNH care. To deal with this challenge, health actors should:

- Improve the mapping of services to address specific gaps in the availability of services.
- Conduct a comprehensive mapping exercise for RMNH facilities and services across the NES. This should be followed by field coordination on the governorate level to establish a referral mechanism for RMNH cases between the various levels of care. This will also help in identifying gaps and planning for better resource allocations.
- Explore options for subsidising transportation for referred cases.
- Invest more in RMNH facilities in rural areas and improve referral mechanisms between rural and urban settings. This is especially important in Deir-ez-Zor governorate.

Study findings suggest that the availability of services and trust in HCF providers are important factors in women's decision making to access care. As such, health actors should:

- Engage local communities in the design phase of RMNH projects, including needs assessment, identification of locations, and package of services required.
- Community engagement plans should be based on connecting to trusted community leaders and health workers.
- Available RMNH services should be clearly communicated with targeted communities through community health workers and other communication channels.

Emergency obstetric services were significantly harder to access in Deir-ez-Zor. Health actors should address these gaps by:

- Providing targeted clinical trainings for current staff including for up-skilling and task-shifting to ensure a supportive working environment with all required equipment and essential drugs and vaccinations to hand.
- Coordinating with private providers to explore establishing referral arrangements to those providers for emergency obstetric services where public HCFs cannot be strengthened or are not yet available.

Continuum of care interventions

The study reveals key gaps in the availability, accessibility and comprehensiveness of the continuum of care interventions. Recommendations below are provided for each care bundle assessed in this study.

Antenatal care

- Review ANC practices and update protocols to ensure: 1) blood tests for Sexually Transmitted Illnesses, especially for Syphilis, are consistently conducted; 2) tetanus vaccines are provided; 3) mother height and the fundal height of the uterus are measured; 4) gestational age calendars are available and in use; and 5) providers are aware of the latest WHO guidelines for ANC visits and 'contact'.
- Provide training to improve CBM and HCF ANC service provision including all essential components.:
- Support CBMs by providing information on the required referral mechanisms to refer for basic blood tests and investigations as part of ANC visits if these cannot be provided.

Skilled birth attendance and neonatal care

- Review the following practices and protocols: 1) allowing a companion of choice to be present during birth process at hospitals; 2) the use of the partograph at HCFs; 3) ensuring Vitamin K is available in HCFs and community-based care settings; 4) vaccination schedule; 5) adequate tools for midwives are in place including methods to monitor the foetal heart rate and conduct basic 'one-stop tests' for urine and blood.
- Ensure all labour rooms are equipped with a basic set of essential equipment, drugs and vaccination to provide SBA and NC services. Examples include: partographs, foetal heart rate detector (e.g. hand-held doppler or Pinard stethoscope), baby scale, haemoglobin measuring device, and reflex hammer.
- Considering the critical lack of some of the essential medicines required in the labour room in the surveyed facilities, health actors should review the list of essential drugs for RMNH services, check the supply chain, and improve drug consumption reporting.

Emergency obstetric and neonatal care

- Review and bolster EmONC services at cPHCs to ensure they can provide all signal functions of BEmOC services. This should be in line with a customised EHSP that should be developed for NES.
- Monitor the availability of the signal functions of EmONC in the facilities that are supposed to provide such services. Study findings suggest is especially important for two signal functions: removing retained products of conception and performing assisted deliveries. However, other basic signal functions including iv/im uterotonic and anticonvulsant treatment, must also be in place
- Staff availability appears to be a major challenge behind the lack of some signal functions at facilities providing EmONC. Better planning for staff resourcing and mapping is required on the district or governorate level.

Postnatal care

- Review PNC practices at HCFs and provide training on the following: 1) Examining the mother's breasts; 2) palpating the height of the uterus; 3) asking about GBV; 4) provision of vaccines for newborns; and 5) providers are aware of the latest WHO guidelines for PNC visits. Similarly support CBM able to provide PNC with the required minimum equipment and essential drugs.
- Support CBMs with the required referral mechanisms to refer for blood and urine tests as well as for any danger signs during PNC visits.

Family planning

- Based on the good practices of birth spacing recommendations during all PNC visits (by all providers), develop a more comprehensive package of family planning recommendations and incorporate these into ANC and PNC practices.
- Since IUD and oral contraception are the most utilised contraceptive tools, the supply chain of these methods should be maintained. Additionally, health providers should ensure their staff are trained on all methods and are able to provide a woman with a wide range of choices.