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ARMENIAN MATERNAL AND CHILD HEALTH REFERRAL SYSTEM STUDY



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ACRONYMS

ANC	Antenatal Care
ADHS	Armenian Demographic Health Survey
CHW	Community Health Worker
CBRHP	Community-Based Reproductive Health Project
FGD	Focus Group Discussions
GoA	Government of Armenia
GTZ	German Technical Cooperation
HP	Health Post
MCH	Maternal and Child Health
MCP	Mothercare Project
MOH	Ministry of Health
NGO	Non-Governmental Organization
NIS	Newly Independent States
Ob/gyn	Obstetrician-gynecologist
PHC	Primary Health Care
PHCR	Primary Health Care Reform (Project)
RH	Reproductive Health
SHA	State Health Agency
TBA	Traditional Birth Attendant
VHW	Village Health Worker
UN	United Nations
UNICEF	United Nations Children Fund
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WCC	Women's Consultation Center
WHO	World Health Organization

EXECUTIVE SUMMARY

As a post-Soviet legacy Armenia inherited a healthcare system largely focused on hospital level care with outdated facilities, medical equipment and supplies; providers with poor clinical skills; patients flocking to specialists for their primary health care and substantial inequities between urban and rural infrastructure and resources. In the mid-1990's Armenia began major health sector reforms to develop a balanced partnership between primary healthcare and in-patient services to prevent disease and promote a healthy lifestyle. In spite of this, provision of healthcare still remains inconsistent and as a result, infant, child and maternal mortality rates are higher in rural areas than in urban.

Nearly all the infant, child and maternal deaths could be avoided if the system of early identification of danger signs and viable referrals was put into place where emergency obstetric and newborn services are not available. Three well-known delays (delay in deciding to seek care, delay in reaching appropriate care and delay in receiving proper care at the health facility) relate directly to the issue of access to care and encompass factors in the family and the community. Therefore, a functioning referral system is critical to the provision of effective maternal and child health care.

This study focuses on the current status of the Armenian maternal and child healthcare system with a focus on the three delays mentioned above with particular attention given to referral system. This report also examines how various entities have confronted the complexities of referral systems to reduce delays, improve continuity of care and ensure emergency preparedness.

According to documented international experience, a comprehensive referral system should address community education, transportation plans, funding schemes, a unified records system, provider technical competence supported by training and supervision, equipping and renovating healthcare facilities, overall emergency preparedness and political support through policy and protocols. Key lessons learn from the international experience include the following:

- **A patient's lack of knowledge of maternal and child health will keep women from complying with referral advice. Educating the community can take many different forms: provider training, community education, and health communication campaign.** However, the most success can be achieved when the responsibility for education lies with providers and the community is directly engaged.
- International experience lists **prohibitive transportation costs, lack of transport, no community support for finding transportation and poor road conditions as key barriers to referral compliance. Transportation systems have the best chance of success where the community is involved in the creation and management of the system.** While a system that utilizes local transportation is more accessible, rather than an ambulance located at the referral center, when a health provider accompanies the patient, the patient has a better chance for a positive outcome.
- **Effective communication mechanisms need to be available to providers at all levels of healthcare.** It is not only useful in referring patients but links providers in a way that they can support one another and feel less isolated. It can also empower rural providers and establish their credibility in the community.
- Family expenses related to the cost of transportation, medical care, food and accommodations for accompanying family members prohibit patients from complying with referrals. **Resolving the cost issue in referral systems does not have a quick fix. It is not enough to reduce or remove the cost of services which may even create more**

problems. Community loan funds are an excellent way to mobilize the community around health issues but require significant subsidies to be maintained in a manner that keeps it affordable for the community to participate in.

- Overall emergency preparedness for maternal and child health encompasses **multiple factors at the family/community and service delivery levels, including the availability of a two-way functional communication system and timely transportation of emergency patients to the proper healthcare facilities; maintaining the physical infrastructure through provision of medications, equipment and supplies, and renovating healthcare facilities; training of healthcare providers in proper identification and management of danger signs and life-saving emergency interventions** using internationally recognized and nationally accepted evidence-based approaches and practices; and ensuring the continuum of care at all levels. In-service training of rural healthcare workers in the recognition of maternal and neonatal health danger signs, referrals and interpersonal communication skills coupled with a sensitivity training for healthcare providers at the referral hospital has proven to be an effective intervention. These multifaceted training events demonstrated significant increases in the number of timely referrals with subsequent reduction of stillbirths, perinatal and maternal deaths. Educating healthcare workers on so called “soft skills” (communication and patient-provider interactions) proves just as important as clinical knowledge.
- **A unified records system that links facilities and tracks patient care is necessary for a functional referral system.** Records should collect appropriate data for making decisions regarding referral patterns and continuity of patient care. Records enable providers continued learning opportunities and link facilities together in the continuum of care.
- **An element critical to an effective, functional referral system is national and local level policy and political support.**

Based on the international experience in regards to the essential components of a comprehensive referral system, the following recommendations are suggested by Project NOVA for Armenia:

- Improve the level of community awareness on the necessity and importance of maternal and child health referrals;
- Mobilize the community to solve issues surrounding transportation and funding for referrals;
- Enforce a unified records system from the rural health post to hospital levels with standards applicable to all;
- Improve the counter-referral system;
- Advance overall performance of healthcare providers by conducting training courses on maternal and child health organizational standards, reinforce supportive supervision of service providers and revise and reinforce the frequency of doctors’ supervisory visits to the health care facilities;
- Institutionalize national policies and protocols regarding the referral system; and
- Establish a monitoring and evaluation system for referrals.

PURPOSE

Considering the momentum of health reforms and the sizeable interest on the part of the Armenian Ministry of Health (MOH) to improve maternal and child health (MCH) and healthcare, Project NOVA explored existing MCH referral practices and pathways in rural Armenia to reveal any gaps in the continuum of service delivery. The authors also reviewed international experience for potentially applicable practices for sustaining a comprehensive, functioning MCH referral system.

METHODS

As a starting point, the study explored a vast number of resources, mainly Armenian MOH guidelines, provisions, MCH standards and state regulations to understand the overall Armenian MCH referral pathways as well as the gaps inherent to the referral system.

In addition, to compile the most comprehensive picture of the current MCH referral situation in Armenia, especially as it relates to rural areas, Project NOVA conducted non-structured interviews with health administrators and decision-makers. Project staff held one series of focus group discussions (FGD) with healthcare workers who provide MCH services in the rural and semi-rural areas: namely, family doctors and obstetrician/gynecologists (ob/gyn). The FGD included five family doctors and five ob/gyns from Armavir marz. Another set of FGD included village mayors, rural community nurses and their supervisors from a higher level healthcare facility to identify gaps at the community level and to discuss possible solutions from the community perspective. These discussions involved eight rural community nurses from the Vedi region of Ararat marz, six supervisory family doctors from Armavir Medical Center and rural medical ambulatories of Armavir marz, five ob/gyns from the Armavir Medical Center and five village mayors and community members from the Talin and Vedi regions. Summary and findings from these group discussions are reflected in the Background and Recommendation sections of the report.

The authors searched multiple databases to gather information on referrals in general, and referrals for MCH services in particular, including: PubMed; Medline; NCLIVE (North Carolina Library resources); University of North Carolina online resources; North Carolina State University online resources; USAID Development Experience Clearinghouse; World Health Organization (WHO) publications; various non-profit organizations' websites working in public health; The International Electronic Journal of Rural and Remote Health Research, Education, Practice and Policy; Oxford Journals and Google and other search engines. PubMed, Medline, NCLIVE and the two university resources allowed for an extensive search of peer-reviewed journals and other publications. The staff of the IntraHealth Resource Center performed a supplemental search to the authors' search to ensure that all relevant information was gathered.

Search terms included: referral system(s), referral system(s) Newly Independent States (NIS), referral system(s) Central Europe, referral system(s) rural health, continuum of care, continuity of care, integrated care, patient pathway(s), continuum of care referrals, continuum of care rural, referral(s) rural maternal healthcare, maternal and child health rural health referral system, maternal and child health referral(s), family planning referral(s), family planning referral system, maternal and child health referral system, family planning referral(s) rural, info and referral system(s), and health referral system(s). No restrictions were placed on date or publication type and documents both in English and Russian were accepted.

The main limitation to the international experience review aspect of this study is the lack of information. The authors found very few relevant documents, relative to the databases searched.

Of the 30 documents relating to health system referrals only a few were directly related to MCH. The authors did not find any documents that focused solely on the NIS of which Armenia is a part.

Despite this, the conducted review of international experience proved helpful in defining the factors of an effective and functioning MCH referral system as well finding experiences and approaches which could be, to some extent, helpful in addressing referral gaps similar to the Armenian context.

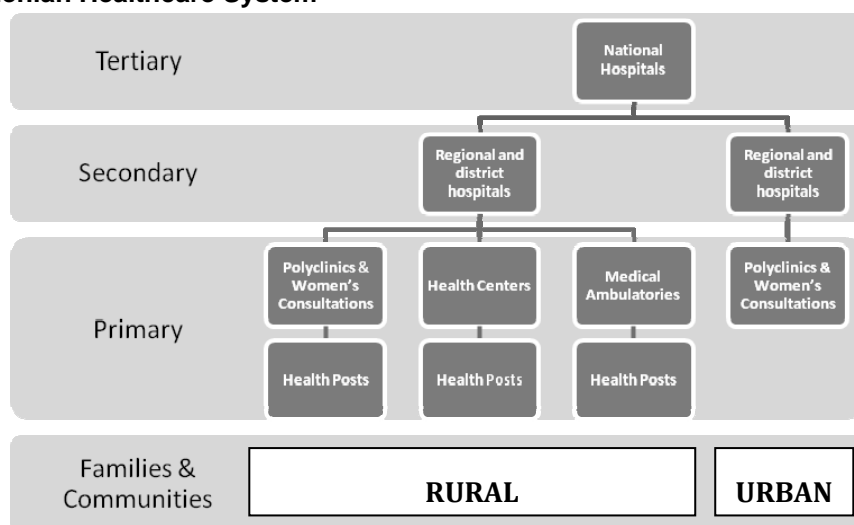
BACKGROUND

The Armenian Healthcare System

Armenia is a small mountainous country of 3.2 million people with 40% of its population residing in rural areas. As a post-Soviet legacy Armenia inherited a healthcare system largely focused on hospital-level care with outdated medical facilities and equipment; providers with poor clinical skills; patients flocking to specialists for their primary healthcare (PHC) and substantial inequities between urban and rural infrastructure and resources (ADHS, 2005; Hakobyan et al, 2006). Following its independence, Armenia struggled to support its centrally-controlled healthcare system with its unbalanced structure of services and limited financial resources. The urge for dramatic change became apparent, and in the mid-1990's Armenia began major health sector reforms to develop a balanced partnership between PHC and in-patient services. The focus shifted from the narrow biomedical model towards a social, multiprofessional and multisectoral approach (Hakobyan et al, 2006). Until recently PHC in Armenia did not serve its purpose, that is, as a means to group patients together (known as catchment area) and to refer them to specialists and hospitals only when necessary (Hakobyan et al, 2006). However, the provision of healthcare services remains inconsistent. As a result, child and maternal mortality rates are higher in rural areas than in urban. This rural/urban disparity can be attributed to delays in the identification of danger signs, delays in reaching proper care in time and the lack of proper referrals.

Armenian healthcare (Figure 1) is divided into three service delivery levels: primary, secondary (regional, district) and tertiary (national). The service delivery chain for the urban population is different from that provided in rural areas. In general, city dwellers receive their PHC at polyclinics; whereas, the first point of contact for rural dwellers varies from a health post (HP) or rural medical ambulatory to a regional/district level polyclinic. HPs are located in rural areas, run by community nurses and supervised by providers from nearby medical ambulatories or polyclinics. Located in rural and often isolated villages, HPs rarely fulfill crucial triage functions, and do not go beyond basic medical assistance and preventative activities.

Figure 1: Armenian Healthcare System



Continuum of Maternal and Child Healthcare in Armenia

Currently Armenia's overall healthcare referral system is not well structured: it does not clearly delineate functions, reporting or referral patterns nor does it address instances where the patient should be referred with certain conditions. Standards of care, more or less, exist for the PHC level due to reform processes, which include state-approved guidelines, job descriptions for family

“Referral of patients from basic to more sophisticated levels of care is considered an integral part of the allopathic health system. The formalized maternity referral system originated from the previously espoused strategy of risk screening during the antenatal period. Frontline health workers would attempt to identify women at high risk of obstetric complications and refer them on for specialized antenatal and delivery care at a higher (typically hospital) level facility. The effectiveness of this approach came under scrutiny when the lack of sensitivity and specificity of available risk-screening tools, combined with the low adherence to referral advice were highlighted.”

Murray & Pearson, 2005

doctors and referral reporting forms. In 2007 the Government of Armenia (GoA) developed and approved new Organizational Standards¹. The new Standards include referral forms and guidelines for both in- and outpatient MCH services. Moreover, the Standards outline the organization of the state-funded outpatient MCH services and clearly state the roles and responsibilities of each type of healthcare worker, including the specific roles and functions of a HP nurse in the overall organization and delivery of MCH services. They also contain a number of attachments that provide examples of MCH service delivery.

One of the Organizational Standards' attachments clearly delineates the functions of the “midwife or the trained nurse² “in the provision of antenatal care (ANC). More precisely, it includes the functions necessary for the early registration of pregnant women, referral to family doctors or to the ob/gyn for

the first ANC visit, corresponding monitoring of the pregnancy according to the schedule set by the ob/gyn, prevention of anemia during pregnancy, provision of psycho-social support during pregnancy, and coverage of referrals to women's counseling and for laboratory testing. However, according to leading MOH experts, there is a strong need for refresher trainings on the terms and correct use of the Organizational Standards. Such training would clarify the following issues:

1. Situations when an MCH patient should be referred (both from out and in-patient MCH care facilities).
2. Refresh the knowledge of MCH service providers (HP nurse, midwife, family doctors, ob/gyn) on who is responsible for what in the overall chain of MCH referrals.

At present, the only source document which delineates the clear roles of HP nurses in MCH referrals is the state-approved MCH Organizational Standards.

Dating back to 2005, the Armenian MOH, in collaboration with the WHO, developed a background document on the Role of the Nurse and the Strategy of Nursing care development. Following that, in 2006 a working group prepared a detailed job description for a community nurse. The job description included a special chapter which stated the essential components of the community nurse job functions, namely: completion of all forms needed for a referral, clarification of the reasons for referral as well as compliance with the action plan made at the referred facility. However, as of now the job description is not yet approved by the GoA and the HP nurse does not have any other supportive normative document which would clearly regulate his/her functions. Nor does the nurse have a document specifying his/her responsibilities in referrals. Furthermore, the

¹ MoH Order No. 1924-A dated December 25, 2007.

² The term “trained nurse” refers to the nurse who has undergone Project NOVA's Safe Motherhood Clinical Skills training course.

HP nurse gets reimbursed on a per capita basis with a base salary just above the poverty level. Referrals are an integral part of the nurse's duties and provide no extra compensation.

In 2006 the GoA, in collaboration with USAID's Primary Health Care Reform Project (PHCR), introduced a national open enrollment system for PHC providers, namely family doctors³. Based on governmental decrees, the population of Armenia now has the right to free and voluntary selection of their PHC provider. This will lead to more comprehensive and higher quality services at the primary level. As part of their job description, family doctors provide a broad spectrum of PHC services and refer patients in need of specialized care with either an internal or external referral. Internal referrals are referrals within the same facility. In external referrals the patients are referred to the next higher-level care facility where the necessary specialist is available to provide care and treatment. For internal referrals no formal state reimbursement is made. For external referrals the narrow specialists to whom the patient is referred, receive reimbursement for the referred patient. The basis for reimbursement is the referral form which the patient brings with her/him from the referred facility. The referral facility providers receive reimbursement on the basis of the duplicate referral form which stays at the referral facility.

In both scenarios, family doctors do not receive extra payment for the referrals they make; this is an essential part of their job description and necessary for providing comprehensive PHC services. The State Health Agency (SHA) pays family doctors through the PHC facilities based on the number of patients they see. Previously, practicing family doctors had a tendency to under-refer patients with the assumption that the money will remain in the facility and not follow the patient. Due to this practice, the SHA partially withheld the money it had allocated to the PHC facility (medical ambulatory), until the MOH clarified the process of reimbursement. The family doctors then revitalized the practice of referring clients since in both of the scenarios the money was not remaining in the facility: it was either following the patient (as an external referral) or being withheld by the State.

A special State-approved referral form exists which covers MCH referrals. A family doctor completes the referral form and sends it with the patient to the referral facility, a facility with an ob/gyn in the case of an MCH referral. The referral facility sends part of the form back to the facility where the initial referral was made. The SHA uses this duplicate form as proof for the reimbursement of the referral facility's narrow specialist. Most of the facilities offering MCH care services use the referral forms except for the HPs. HPs do not have any formal referral forms and the nurse refers the patient using a blank piece of paper. Referral forms are only physically in place starting from the Ambulatory level.

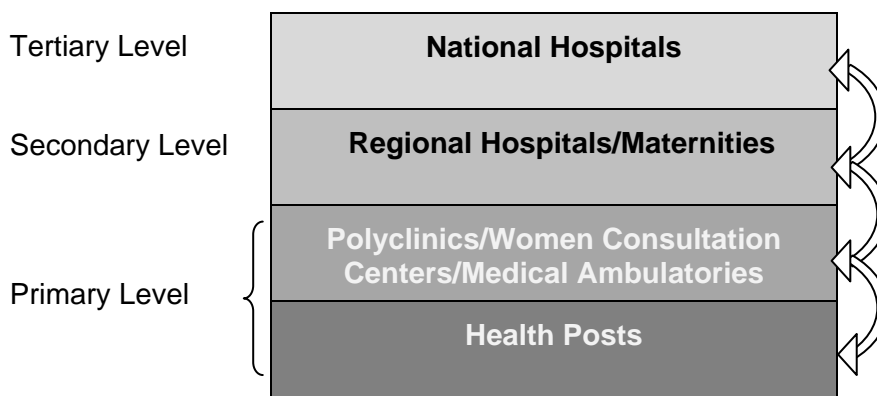
In order to give an objective assessment of the continuum of MCH care in the rural areas of Armenia, Figure 2 illustrates the overall MCH services delivery chain. Overall, the MCH service delivery in Armenia involves three essential chains/levels.

Primary level: In rural areas the first chain (or level) of MCH services is provided by a broad network of PHC facilities: rural HPs, medical ambulatories, health centers, and polyclinics/women's consultation centers (WCC). Each type of facility and its staff have a specific role in primary MCH services delivery. Rural HPs are responsible for the prevention of ill-health; promotion of a healthy pregnancy; community outreach activities on various MCH topics, including information on danger signs during pregnancy, childbirth and the postpartum period, early identification of danger signs; and timely organization of referrals. For example, in the case of ANC for a non-complicated pregnancy (See Figure 3), the HP nurse registers the pregnant woman and refers her to a family doctor at a medical ambulatory or an ob/gyn at a WCC. In the cases where an HP nurse refers a

³ RoA Decree No. 420-N dated March 30, 2006 "Approving the Order for Selection of Physicians Providing Primary Healthcare Services and Population Enrollment With the Letter"; RoA Decree No. 57-N dated January 18, 2007 "Approving Enrollment and Transfer Forms, and Guidelines on How to Complete The Forms".

woman to a family doctor, upon the woman's first visit and according to the new state order⁴, a family doctor should refer this woman to an ob/gyn at a WCC for development of a pregnancy plan. The pregnant woman's consecutive visits to the ob/gyn do not need a referral. The family doctor or the HP nurse both have the right to implement the pregnancy plan set by the ob/gyn. In communities with a HP nurse only, and especially during seasons when the roads are blocked and the woman cannot periodically visit the supervisory medical ambulatory, it is the HP nurse who most often attends the pregnant woman and monitors the course of her pregnancy. The results of a study conducted by Project NOVA on the overall rural HP attendance and referral patterns demonstrated that ANC patients were referred by HP nurses to hospitals in 41% of the cases, followed by polyclinics (39.7%) (NOVA, June 2008).

Figure 2: Continuum of MCH Care at Places of Caregiving in Armenia (Adapted from the chart by; Kerber, de Graft-Johnson, Bhutta, 2007)



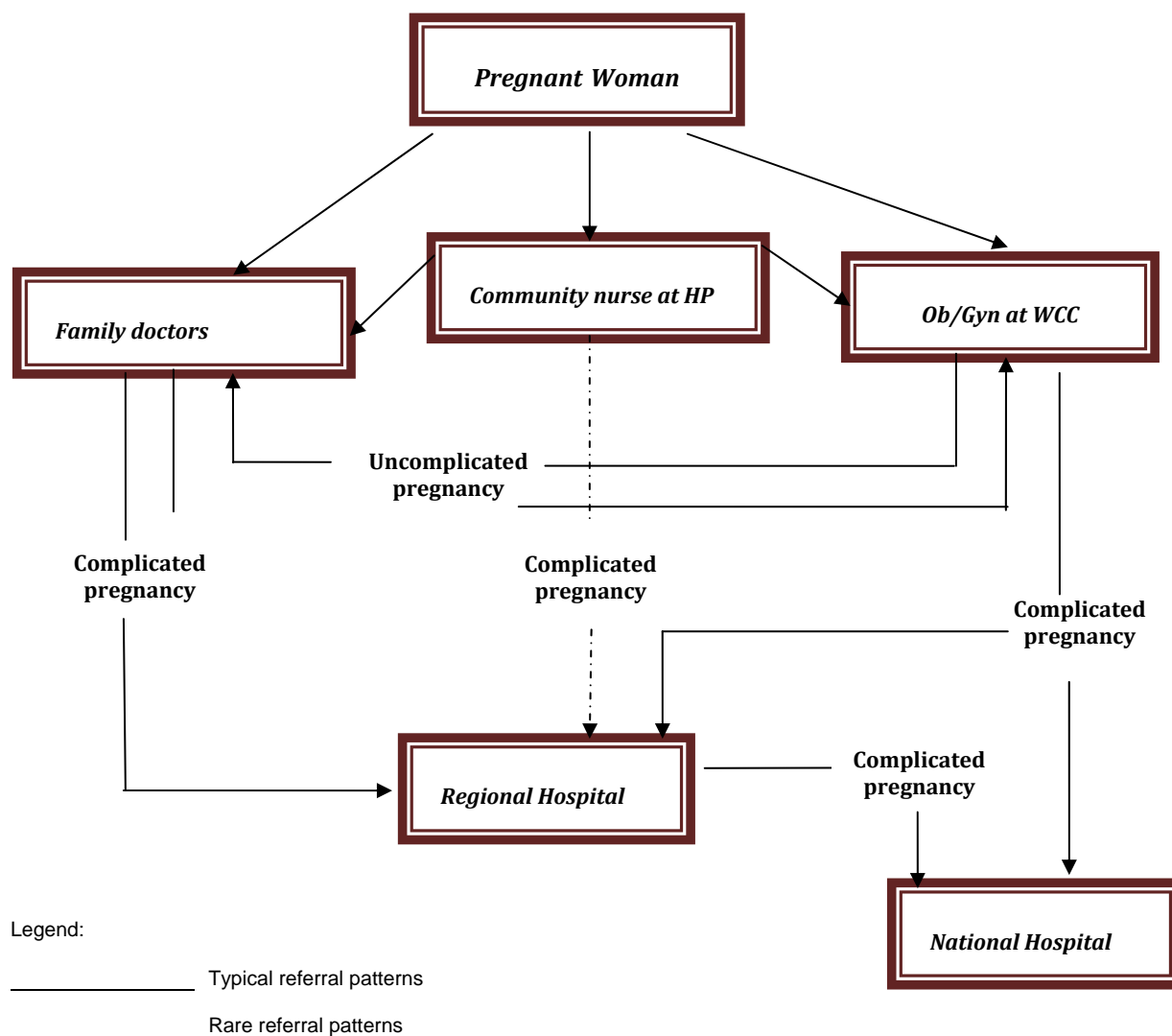
In many cases the population is unaware that the HP nurse has the right and the technical capacity to follow the course of a normal pregnancy; and therefore, bypass this chain by going directly to either the family doctor or an ob/gyn. Even though the State Order mentions that pregnant women can be referred by the HP nurse or the midwife, it is mostly the family doctor who refers pregnant women to ob/gyns. Ob/gyns are required to see pregnant women referred by family doctors or HP nurses four to six times in the course of a non-complicated pregnancy and more frequently for a complicated pregnancy. Their duties include: verifying the data sent with the woman referred, refer her for required laboratory tests, perform exams as needed, prevent and treat anemia as needed and organize two consultations by the internist for a general check up and one consultation by the dentist. Moreover, according to the State Order⁵, ob/gyns from WCCs are obliged to visit rural communities once a month to see pregnant women and other patients.

Ob/gyns at WCCs refer pregnant women, when necessary, to narrow specialists for consultations, additional diagnostic testing and treatment. The counter referral form is returned to the referring ob/gyn at the end of the consultation/treatment course. This includes cases of complicated pregnancy when pregnant women are often hospitalized at the secondary level health care facilities, e.g. regional/urban maternity hospitals. If the technical capacities of the secondary level facilities (mostly regional hospitals) are inadequate to provide the type of specialized care needed, then the woman is referred to the tertiary level maternity hospitals located in Yerevan.

⁴ MoH Order No.1924-A dated December 25, 2007.

⁵ MoH Order No.1565 dated December 29, 2006.

Figure 3: The Referral Pathways for Antenatal Care (Complicated and Non-complicated Pregnancy)



Secondary level: The secondary level of MCH service delivery is provided by regional maternity/general hospitals and rural health centers serving the rural and semi-rural population and urban maternity/general hospitals for urban dwellers. These healthcare facilities provide in-patient antenatal, intrapartum and postpartum services for complicated and non-complicated pregnancies as well as newborn care. According to the State Order, the above mentioned services are provided free-of-charge. When needed, secondary level MCH healthcare facilities organize emergency and non-emergency referrals of women and/or their newborns to the corresponding higher level facility. Such referrals include, but are not limited to, non-obstetrical complications during the normal course of pregnancy (i.e. deep vein thrombosis, cardio-vascular diseases, renal pathologies) which require specialized care, treatment, skills and equipment not available at the secondary level. Sixty obstetrical in-patient facilities exist in Armenia, including maternity departments in general hospitals, maternity hospitals and rural health centers which also provide delivery services. Ten secondary level maternity hospitals are located in Yerevan and the rest are throughout the country.

Tertiary level: The third level of MCH services provision includes inpatient care offered at four national healthcare facilities located in the capital city of Yerevan. These facilities provide

specialized MCH care, including management of complicated cases of pregnancy and delivery which require special emergency and procedure equipment, and specialized personnel. Examples include cases of intrauterine malformation in conjunction with pregnancy and when the pregnancy outcome jeopardizes both the mother and the newborn.

MCH referrals constitute an integral part of the overall MCH service delivery for which healthcare providers do not receive any additional payment from the State. Referral forms are in place for most of the facilities offering MCH care except for HPs, starting from the first level of MCH services provision (ambulatories, WCCs) and ending with the tertiary care hospitals. The HP nurses refer their patients using a blank piece of paper. This insufficient record flow from the HP has a number of risks. First, the pregnant woman can lose this form on the way to the referral facility if it is not backed-up at the HP, and more importantly, the HP nurse misses out on learning about the details of continued care since usually no counter referrals are made to the HP nurse. The HP nurses also miss the chance of learning about the patients' health outcome and the follow-up plan prescribed to the patient.

Perception of Referrals by Healthcare Workers

In order to understand how referrals are set and functioning and to identify inefficiencies, Project NOVA held a series of FGD with healthcare workers providing MCH services in rural areas: family doctors, ob/gyns and HP nurses. None of the FGD participants had received clear guidance on referrals, including MCH referrals. However, participants reported that the MCH referral system overall functions well with a few minor gaps. HP nurses and family doctors identify a pregnant woman and refer her to the regional WCC with her medical history form where she has a physical examination and required lab tests. At the WCC the ob/gyn records the examination results and gives the history chart back to the woman who returns it to the provider who referred her for any necessary follow up. A separate medical history card stays in the WCC for the same patient. During ANC visits, the WCC ob/gyn refers the pregnant woman if necessary to a narrow specialist and in case of any pathology, refers her to the corresponding regional inpatient facility. Some ob/gyns and family doctors expressed concerns regarding counter referrals. They reported that very often women referred to tertiary level facilities do not bring back counter referral forms, which impedes the continuum of MCH services delivery. All doctors reported that they have referral cards and a journal for keeping referral records, whereas HP nurses refer verbally or use a plain piece of paper, for specifying the referral facility. In the cases of referral refusal, both doctors (family doctors and ob/gyns) record it in the journal. If the clients do not return after the referral, the ob/gyn contacts the family doctor or family members. Among reasons for referral non-compliance, healthcare providers mentioned the following:

- Lack of funds to pay for referral services;
- Misunderstanding the reason(s) for referral;
- General unwillingness; and/or
- Lack of transportation.

In general, healthcare providers participating in the FGDs identified the following gaps in the existing referral system:

- A non-functioning counter referral system: counter-referral forms are often missing which makes it difficult to follow-up on a client's treatment administered/prescribed elsewhere; the counter-referral form is attached to a client – if something happens to the client, the referral facility has no way of knowing what happened to their client or too much time passes before the client returns the counter referral forms back to the referral facility.

- Clients are intimidated by referrals because referrals (especially to narrow specialist) often require out-of-pocket payments and do not guarantee free services.

Clients' Perception of MCH Services Quality and Affordability

Although officially MCH care is to be provided free of charge to the general population, the reality is somewhat different. Patients are forced to make cash payments to healthcare workers under the table. Only recently free provision of maternal health services was reinforced at the policy level with the introduction of the State Obstetrical Care Birth Certificates system which guarantee state stewardship for free obstetrical services⁶.

The results of a Project NOVA qualitative study on women's perception of MCH services' quality and affordability (NOVA, 2008) further illustrated the impact access to care has on MCH services utilization, including referrals. Twenty-three out of 25 women considered affordability as a barrier to seeking care even though the state guarantees free MCH services to the population. As mentioned by respondents, they feel uncomfortable visiting doctors when they do not have money to pay "cash amounts". Without those, women felt that they would not be provided the quality care. With respect to the quality of services received, more than half of the women expressed unprejudiced dissatisfaction with the services received. These results were obtained through carefully designed probing questions which enabled acceptance of a more objective perception on the quality of services received. The results of this study suggest that financial constraints and the quality of services provided were perceived as significant barriers to accessing health care services (MCH in particular). Respondents mentioned the following issues, among others, as obstacles to quality MCH services: negative interactions with providers, ill-managed providers, and a lack of awareness on the importance and need for check-up visits in cases of referral noncompliance.

DISCUSSION

Annually more than half a million women die and over 300 million women suffer from conditions brought on or aggravated by pregnancy and childbirth leaving many children motherless. Out of those 536,000 women that die in child birth, 533,240 represent the developing world and 2,760 women are from the countries of the Former Soviet Union and the developed world (WHO, UNICEF, UNFPA, World Bank, 2007). Although the figure from the Former Soviet Union seems almost nominal compared to the Africa and Asia regions, every maternal death is a tragedy. The health of mothers and newborns are intricately related: newborns are less likely to survive without their mothers, and most newborn deaths are attributable to the poor health of the mother or to inadequate ANC (Starrs, 2007). The latest WHO estimates indicate that 3.7 million children die within the first 28 days of life with three quarters of newborn deaths occurring within the early neonatal period (UNICEF, 2008). The rising proportion of neonatal deaths is a reason for a concern in many countries, and has become a major component of new strategies developed for diminishing child mortality.

According to the Armenian MOH, the latest Maternal Mortality Ratio in Armenia for 2000 – 2007 is estimated at 27 deaths per 100,000 live births with the following three leading causes: postpartum hemorrhage, non-obstetrical causes, and hypertension (MOH unpublished, 2008; UNICEF, 2008). However, UNICEF's adjusted Maternal Mortality Ratio is estimated at 76 (UNICEF, 2008). If we

⁶ MoH Order No.761-A dated May 30, 2008

are to follow official MOH statistics, the maternal mortality rates in Armenia are lower than the average regional rates (34/100,000), higher than the average rates for Central and Eastern Europe (15/100,000), and considerably higher than those in Western Europe (8.8/100,000). Armenia is ranked 99 according to its under-five mortality rates – a critical indicator of the well-being of children. UNICEF’s State of the World’s Children 2009 reported a neonatal death rate of 18 per 1,000 live births; an infant mortality rate of 22 per 1,000 live births; and an under-five mortality of 24 per 1,000 (UNICEF, 2008). Child mortality indicators have improved significantly (See Table 1 below.) in part due to the MOH efforts towards improvement of immunization coverage and integrated management of childhood illnesses; however, neonatal deaths remained static demonstrating poor ANC coverage and inadequate newborn care and resuscitation. In addition, according to Armenian Demographic Health Survey (ADHS) rural under-five mortality rates (42 per 1,000 live births) in Armenia are almost twice as high as those among the urban population (26 per 1,000 live births) signifying a poor continuum of care and overall inequities in healthcare for rural dwellers (ADHS, 2005).

Research indicates that nearly all these lives could be spared if ANC, the system of early identification of danger signs and viable referrals was put into place where emergency obstetric and newborn services are not available (UN, 2007; UNICEF, 2008). Timing proves critical in

Table 1. Childhood Mortality in Armenia (number of deaths per 1,000 live births)			
Period	Neonatal Mortality*	Infant Mortality†	Under-five Mortality‡
1991 – 1995	17	41	48
1996 – 2000	20	30	36
2001 – 2005	17	26	30

Source: ADHS 2005
 *Probability of dying within the first month of life,
 †Probability of dying between birth and age one,
 ‡Probability of dying between birth and exact age five.

preventing maternal mortalities, although postpartum hemorrhage can kill a woman in less than two hours, for most other complications a woman has 12 hours to reach life-saving emergency care. Three well-known delays (delay in deciding to seek care, delay in reaching appropriate care and delay in receiving proper care at the health facility) relate directly to the issue of access to care and

encompass factors in the family and the community. Therefore, a functioning referral system is critical to the provision of effective MCH care. However, establishing such a system is a complex undertaking oftentimes “requiring much undoing of existing patterns of care provision, reconfiguring how organizations and sectors work together and giving the community a voice in the redesign of services” (Edwards & Roelofs, 2005). As suggested by Stefani (1994) the general goal of a “well-functioning” referral system is to ensure provision of effective treatment at the minimum cost. An additional important consideration in effective treatment for the major obstetric complications is the reduction of unnecessary delays (Murray & Pearson, 2005).

The purpose of this study is to summarize how various entities have confronted the complexities of referral systems using community education, transportation and funding schemes, and other interventions to reduce delays, improve continuity of care and ensure emergency preparedness; to identify to what extent they were effective; and then provide recommendations for an effective MCH referral system for the Armenian context.

Deciding to Seek Care

COMMUNITY EDUCATION

A patient's lack of knowledge of MCH keeps her from complying with referral advice. As mentioned previously, providers attributed referral non-compliance due to patient misunderstanding, which patients' responses also confirmed (NOVA, 2008). Women's lack of knowledge about their health and the potential or actual health threat is not uncommon (BASICS II and the Ghana Health Service, 2003; Bossyns & Van Lerberghe, 2004; Gupta & Gupta, 2000; Majoko et al, 2005). Oftentimes the most influential source of knowledge in regards to health comes from prevailing cultural beliefs. A cultural barrier is a set of norms, attitudes and actions that prevents a practice to be accepted and functional in a given community or social entity, whereas a traditional belief is an enrooted viewpoint of a specific group of people or ethnic entity. Cultural and traditional beliefs educate women in a way that can keep them from complying with medical advice and MCH referrals (Bari et al, 2006; Essien et al, 1997; BASICS II and the Ghana Health Service, 2003).

“An essential element of maternal and child health care is the linking of different levels of care to provide comprehensive care to patients. The referral system is that link that operates under the principle of treating patients as close to their homes as possible at the lowest level of care with the necessary expertise.”

Jahn & De Brouwere

An example from the Armenian context includes tight swaddling of newborns. A long held traditional belief, especially in rural areas, holds that a newborn should be tightly swaddled until at least five to six months of age in order to keep the baby warm and maintain a healthy posture. A corresponding cultural barrier includes the mother-in law's ongoing insistence to the new mother to swaddle the baby tightly and even prohibiting the mother to dress the baby in loose fitting clothing. It is proven by evidence-based medical sources that tight swaddling is not healthy for the baby, as it jeopardizes normal breathing, normal blood flow and leads to hypothermia (under warming) during winter season and hyperthermia during summer season (excessive warming). However, in rural Armenia there is clearly a lack of knowledge and awareness on healthy practices of infant care. Another traditional Armenian belief is to keep the newborn inside the house for the first 40 days of life to protect the baby from the “bad eye”. Opposition to this traditional belief, modern medicine suggests that the newborn needs fresh air and sunlight from the first days of his/her life for proper development and growth. Therefore, such dangerous traditions and beliefs need to be addressed properly through educating families and communities in order to improve overall MCH.

NOVA's baseline assessment in five southern Armenian marzes revealed further gaps in women's MCH knowledge (NOVA, 2007). Results showed that the vast majority of women residing in rural areas were not aware of the pregnancy, postpartum, newborn and infant danger signs, which require immediate intervention by a healthcare provider. On average women were able to report only one postpartum-related and one child care-related danger sign demonstrating the clear need for more comprehensive education and prevention activities in Armenia.

The international experience revealed three different approaches for educating the community on MCH and/or the appropriate use of the local referral system. These approaches focused either on provider training, community education, or in one example, the health center through the use of a health communication campaign. The most common approach to education and prevention activities was directed at healthcare providers who then educated the community (Bari et al, 2006; Ahluwalia et al, 2003; Population Council, Family Care International, 1995; Jahn & De Brouwere, n.d). In Armenia, community nurses, family doctors, midwives and ob/gyns are mandated to provide group education and individual counseling sessions (also known as “sanitary-educational work”) to raise general population awareness on key MCH issues, including danger signs during

pregnancy and the postpartum period. However, oftentimes rural nurses do not feel comfortable providing group health talks due to poor communication and/or clinical skills. Another approach focused directly on educating the community. Studies report an increase in referrals for obstetric emergencies after training community activists in health education, community mobilization and facilitation of referrals (Jahn & De Brouwere, n.d). According to the newly developed Armenian National PHC Strategy for 2008 – 2015, MOH mandates along with community nurses, local non-governmental organizations to contribute to the general awareness-building of key health subjects, including MCH, in rural areas through community mobilization and peer education. Part of the strategy also includes information provision on danger signs and referrals.

Educating the community can take many different forms; however, the international experience demonstrates that the most success can be achieved when the responsibility for education lies with providers and the community is directly engaged. For the Armenian context, community outreach health sessions on free-of-charge health care services, as well as general MCH topics with an emphasis on ANC, postpartum care, delivery and newborn/child health danger signs would be important strategies to ensure that women know when to seek care and why. They need to be aware of their rights to receive free state-funded healthcare services for MCH – which is a major barrier in women’s decision to seek medical attention in Armenia.

Reaching Care

TRANSPORTATION

Numerous studies list prohibitive transportation costs, lack of transport, no community support for finding transportation and poor road conditions as key barriers to referral compliance. (Ahluwalia et al, 2003; Bari et al, 2006; BASICS II and the Ghana Health Service, 2003; Bossyns & Van Lerberghe, 2004; Font et al, 2002; Musoke, 2002; Nkyekyer, 2000; Essien et al, 1997; Fawcus et al, 1996). Such barriers also exist for many of the rural Armenian settings. While much of the international experience on referrals mentions the need for a functioning transportation scheme, there are very few examples of successful approaches. ***In general, transportation systems have***

“Saving lives depends on high coverage and quality of integrated service-delivery packages throughout the continuum, with functional linkages between levels of care in the health system and between service-delivery packages, so that the care provided at each time and place contributes to the effectiveness of all the linked packages.”

Kerber et al, 2007

the best chance of success where the community is involved in the creation and management of the system. While a system that utilizes local transportation is more accessible, rather than an ambulance located at the referral facility, the research shows that when a health provider accompanies the patient, the patient has a better chance for a positive outcome.

In Armenia rural community nurses are required by the State to accompany pregnant women in emergency obstetrics situations and this requirement is followed for the most part. In spite of the fact that provision of emergency transportation is well

regulated by the State and is offered to its citizens free of charge as part of the Basic Benefits Package, it remains unreliable and often unaffordable to rural dwellers. In some regions taxi services and private cars are also commonly used in emergency situations with patients themselves paying for services.

COMMUNICATION

Radios are considered the most appropriate, reliable and inexpensive type of communication reported for rural areas to relay information back and forth between facilities and for use in an emergency. With the use of radio, PHC providers communicate with the hospital, refer patients in an emergency and relay epidemiological reports (Bossyns et al, 2006). For example, countries where solar radios were installed demonstrate that communication between rural healthcare facilities and hospitals increased, results of laboratory tests were communicated quickly, supplies were easily managed, rural providers ‘no longer felt isolated and abandoned’, fewer women and children died and rural centers gained credibility in the community (Bossyns et al, 2006). Studies also show that rural healthcare workers felt a sense of empowerment as they gained more credibility in the community, and the percentage of patients complying with their referral advice increased. Rural healthcare workers reported that the radios helped them to feel less isolated and it facilitated consultation between levels. Healthcare workers at the referral hospital appreciated the communication link because they could prepare for a patient before she arrived. The communities reported that the link gave them hope in emergency situations (Musoke, 2002).

While international experience discusses solar-powered radios and their effectiveness in rural, low-resource environments, the type of communication technology used in a referral system needs to be context specific. Other communication devices, such as a landline and cellular phone, can play this function in Armenia. Given that cellular phone use is still relatively expensive, especially for rural dwellers, MOH should try to negotiate with local telephone companies (Armentel and Viva Cell) special medical emergency airtime provided to all rural community nurses free of charge or at a discounted price. ***Most importantly, a functional communication system must be available to all providers. It is not only useful in referring patients but links providers in a way that they can support one another and feel less isolated. Communication can empower providers and establish their credibility in the community.***

EXPENDITURES

Family expenses related to the cost of transportation, medical care, food and accommodations for accompanying family members prohibit patients from complying with referrals (Ahluwalia et al, 2003; BASICS II and the Ghana Health Service, 2003; Bossyns & Van Lerberghe, 2004; Essien et al, 1997; Macintyre & Hotchkiss, 1999; Chiwzie et al, 1997). Approaches taken to make referral systems more financially affordable either focus on reducing the costs of healthcare services and transportation or on setting up community-managed loan or insurance schemes. Initiatives aimed at subsidizing the cost of referral transport and health services realized marginal success only through the synergism with other initiatives to improve health services but were not enough to encourage referral compliance on their own (Population Council, Family Care International, 1995; Majoko et. al, 2005; Omaha et al, 1998). Although community loan schemes are successful, they are not self-sustaining due to defaulted loans, low or no interest rates and the families of the women who die do not have to repay the loan (Chiwzie et al, 1997).

“Emergency evacuation systems justify themselves as a priority more through the rule of rescue than through their cost-effectiveness.”

Bossyns et al, 2005

Resolving the cost issue in referral systems does not have a quick fix. It is not enough to reduce or remove the cost of services which may even create more problems. Community loan funds are an excellent way to mobilize the community around health issues but require significant subsidies to be maintained in a manner that keeps it affordable for continued community participation.

Receiving Proper Care

Receiving proper care in general, and overall emergency preparedness for MCH in particular, relates directly to issues of access and quality, encompassing multiple factors at the family/community and service delivery levels, such as:

- Ensuring the continuum of care at all levels;
- Maintaining the physical infrastructure through provision of medications, equipment and supplies, and renovating healthcare facilities;
- Training of healthcare providers in proper identification and management of danger signs and life-saving emergency interventions using internationally recognized and nationally accepted evidence-based approaches and practices; and
- The availability of a two-way functional communication system and timely transportation of emergency patients to the proper healthcare facilities (as already discussed).

CONTINUITY OF CARE

As mentioned previously, providers in Armenia are frustrated with the lack of communication between referral facilities, mainly in regards to the lack of referral and counter referral forms. Unfortunately, this is not an unusual situation. International experience reports a lack of coordination between providers from the different levels of the referral chain as a reason why first-level providers do not use the system (Gupta & Gupta, 2000; Omaha et al, 1998; Fawcus et al, 1996). The lack of coordination can partially be attributed to the poor record keeping system for referrals (Omaha et al, 1998). In some cases, a skeleton system may be in place but no guidelines exist to tell the provider how to use it. Recordkeeping provides data on referral patterns, coordinates care between providers, and offers learning opportunities for the referring provider if used as a feedback mechanism. Records are also helpful to the referred patient because they document their health history and reason for referral leaving less room for patient error in recounting their information to referral facility providers

(Biem et al, 2003). Forms are the most common way to document referrals and patient health. International experience recommends a unified records system where referring facilities have a referral form in duplicate to keep for their records, referral facilities send back a standard reply form to the referring facility and all forms are in good supply (Murray & Pearson, 2006; Omaha et al, 1998).

ANC attendance cards and partogram that the patient carries to the referral facility can complement the referral forms (Majoko et al, 2000). Other types of recordkeeping evidenced in the research lean toward a health information system that uses Epi Info and records ‘maternal characteristics, medical and obstetric history... examination findings.’ and delivery details and then enters the information into an ANC database (Majoko et al, 2005). Providers use the information to analyze referral patterns, coordinate patient care within and between facilities, and to make future decisions to refer pregnant patients for ANC and/or delivery based on their maternal health history.

“In theory health [posts and higher level health facilities] should complement each other: whoever can be treated adequately at the health [post] level will be treated there, and the referral system will ensure that all others are referred to the [appropriate higher level facility] in a timely fashion... This appears straightforward, but everything indicates that referral systems are usually dysfunctional. Studies on maternal health in particular readily blame inadequate referral systems.”

Bossy et al, 2006

A unified records system that links facilities and tracks patient care is necessary for a functional referral system. Records should collect appropriate data for making decisions

regarding referral patterns and continuity of patient care. Records enable providers continued learning opportunities and link facilities together in the continuum of care.

EQUIPMENT AND RENOVATIONS

Renovating facilities, supplying them with the proper equipment and maintaining a steady drug supply is part of an integrated approach. (Edwards & Roelofs, 2005; Gupta & Gupta, 2000; Jahn & De Brouwere; Kerber et al, 2007; Kwast, 1996). Usually results from improved communication and transportation show a gradual increase in referrals initially which “only accelerated when the [referral] hospital was upgraded” (Bossyns et al, 2006). Many referrals can be made only after referral facilities were renovated and/or equipped (Chiwuzie et al, 1997; Essien et al, 1997). Upgrading referral facilities is an important complementary intervention to improve the referral system and one Project NOVA and the MOH have already undertaken.

PROVIDER TRAINING AND SUPERVISION

The need for continuous education of practicing healthcare workers to improve skills, knowledge, and behavior towards patients could not be emphasized enough. ***In-service training of rural healthcare workers in the recognition of maternal and neonatal health danger signs, referrals and interpersonal communication skills coupled with a sensitivity training for healthcare providers at the referral hospital has proven to be an effective intervention. These multifaceted training events demonstrated significant increases in the number of timely referrals with subsequent reduction of stillbirths, perinatal and maternal deaths.*** In addition to clinical and intrapersonal skills training, the research demonstrates that providers also need to understand the proper use and importance of the referral system and its terminology (Omaha et al, 1998).

“Often hospital care is avoided mainly because of poor interpersonal skills and attitudes of health workers and to a lesser degree because of perceived technical incompetence.”

Jahn and De Brouwere

Supportive supervision of first level care providers, such as community nurses in Armenia, by higher level facility staff improves provider performance. This mentoring relationship not only provides a learning opportunity for the PHC workers but the supervisor can identify areas where additional training or supplies may be necessary. It also helps to build relationships between health facilities (Ahluwalia et al, 2003). Moreover, research proves that provider training and supervision improves the quality of services and MCH outcomes, increases patient satisfaction and improves provider performance. ***Educating healthcare workers on so called “soft skills” (communication and patient-provider interactions) proves just as important as clinical knowledge.***

Supportive Political Environment and Framework

An element critical to an effective, functional MCH referral system is national and local level policy and political support. National and local policies are different for different countries; however, international experience (Edwards & Roelofs, 2005; Gupta & Gupta, 2000; Kwast, 1996; Murray & Pearson, 2006; Siddiqi et al, 2001;) recommends focusing on the development and availability of:

- Operational guidelines including a unified records’ system, description of when and where a provider should refer, healthcare worker training and monitoring, and referral-receiving facility protocols;

- Standards of care and protocols for the management of normal and abnormal obstetric and neonatal conditions at all levels of the referral system;
- Provider performance targets, annual or semi-annual review sessions; and
- Monitoring and evaluation system.

In addition, there is a need for a mechanism to routinely update standards of care, medical service delivery guidelines and protocols as necessary. It is critical that stakeholders from the different levels are involved in policy formation and that transparency is maintained throughout the process (Siddiqi et al, 2001). And lastly, systemic changes across health facility levels need to be done

simultaneously if possible. Depending on the change needed, one level or facility may have extra demands made on them which can create resentment if staff do not see changes being made elsewhere.

“The final and underpinning requisite for well-functioning maternity referral systems is government support. Effective systemic change and prioritization of maternal health rights within policy and national resource allocation requires skilful engagement of political processes.”

Murray & Pearson, 2006

Some of these necessary changes have already taken place in Armenia: WHO’s Polyclinic and Hospital Integrated Management of Childhood Illnesses which addresses emergency referral protocols for newborns and children under five are adapted for local settings in the form of national standards. Training courses are underway for healthcare providers at primary and secondary level healthcare facilities. Separately, the

MOH is leading the efforts in the development of national standards of care for normal obstetrics, including development of referral protocols for obstetrical patients. However, new standards need to be institutionalized and a monitoring and evaluation system established.

RECOMMENDATIONS

International experience shows that a comprehensive referral system should address: community education, transportation plans, funding schemes, a unified records system, provider technical competence supported by training and supervision, equipping and renovating healthcare facilities, overall emergency preparedness and political support through policy and protocols. Based on NOVA’s investigation of the Armenian MCH referral system and the relevant literature on MCH referrals, the following are recommendations for the Armenian context:

- 1. Improve the level of community awareness on the necessity and importance of MCH referrals by:**
 - 1.1 Conducting health promotion activities for the general population, especially targeting rural communities, to inform community members of the importance of regular check-up visits, the value of complying with healthcare providers’ referrals, free-of-charge healthcare services, and general MCH topics with an emphasis on ANC, postpartum care, delivery and newborn/child health danger signs. This will ensure that women know when to seek care and why, and are aware of their rights to receive free state-funded healthcare services for MCH.
 - 1.2 Increasing the role of the community nurse in raising the rural communities’ awareness of MCH issues.

- 1.3 Introducing Medical Emergency Preparedness Plans within each community including a detailed description of resource mobilization and action steps and addressing financial and transportation issues in cases of an MCH emergency. This will raise the community's sense of ownership and responsibility towards the solution of emergency situations within their community. (See Attachment A, B and C for a proposed Community MCH Emergency Preparedness Checklist and Flowchart developed and field tested by Project NOVA). HP nurses, midwives and community leaders shall be directly involved in the community mobilization for emergency referrals.
- 1.4 Increasing the awareness of and demand in communities and families for their rights to receiving a full package of free MCH services which they are entitled by the Government.

2. Develop transportation plans and funding schemes for rural communities through

Mobilizing the community in solving issues tied to transportation which would include issuing an appropriate vehicle, covering the cost for fuel and/or transportation reimbursement. (See Attachment A and B for a proposed Community MCH Emergency Preparedness Checklist and Flowchart developed and field tested by Project NOVA).

Note: In 2009 Project NOVA conducted a series of emergency preparedness exercises and successfully introduced the Community MCH Emergency Preparedness Checklist in 20 rural communities in Vayk and Sisian marzes. This pilot proved very successful and raised ardent discussions among the participants (community nurses, village mayors, community activists, etc.) thus solving some of the key issues at the community level related to emergency gasoline supply and general transportation during health emergencies.

3. Establish a unified records system for all levels of MCH service delivery

3.1 Since forms are the most common way to document referrals, counter-referrals, patients' health status and continuity of care, a standard MCH or general referral form for rural HP nurses needs to be developed, introduced and institutionalized. With the use of special referral forms at HPs community nurses would be able to formalize their referral relationships with higher-level MCH facilities and play a more proactive role in the MCH referrals chain.

Note: Following Project NOVA focus group discussions with HP nurses, supervisory healthcare facilities and village mayors, select supervisory healthcare facilities in Ararat Marz have developed their own referral form for rural HP and successfully used them.

3.2 Reinforce a standard MCH records keeping system, whereby the referring facilities have a referral form in duplicate to keep in their records, and the referral facilities send back a standard counter-referral form to the referring facility. Moreover, if applicable, consider formation of a centralized record-keeping database within the MOH which would accumulate data on performed referrals, and provide a link between the use of referrals with decision making and successful referral actions.

3.3 Reinforce the counter-referral system through proper flow of referral forms and minimizing the time a patient spends taking counter-referral forms back to the referred facility.

3.4 Conduct a periodic review of the counter-referral records at each of the regional maternities to track the pathways, trends, and plan of actions as stated in the counter-referral forms.

4. Continuously update the knowledge and skills of healthcare workers and institutionalize clear and immediate performance feedback to improve overall performance by

- 4.1 Training healthcare providers in national MCH organizational standards, including referrals with a clear definition of roles and responsibilities of the referring and receiving facilities.
- 4.2 Reinforcing supportive supervision of all healthcare providers involved in MCH services delivery (HP nurse, midwife, family doctors, ob/gyns) by their respective supervising facility health staff.
- 4.3 Enhancing the frequency, duration and quality of doctors' supervisory visits to health care facilities.

5. Establish a supportive political environment to improve overall MCH referrals by

- 5.1 Developing and obtaining State approval for protocols for the receiving facility to show the extent of the role these facilities should have in the overall chain of MCH referrals.
- 5.2 Obtaining approval of the HP nurse job description including the chapter on MCH referrals which regulates referrals made by the HP nurse.
- 5.3 Actively promoting and advocating patients' rights for the full package of free MCH services, including emergency MCH referrals.

6. Create a monitoring and evaluation mechanism for MCH referrals

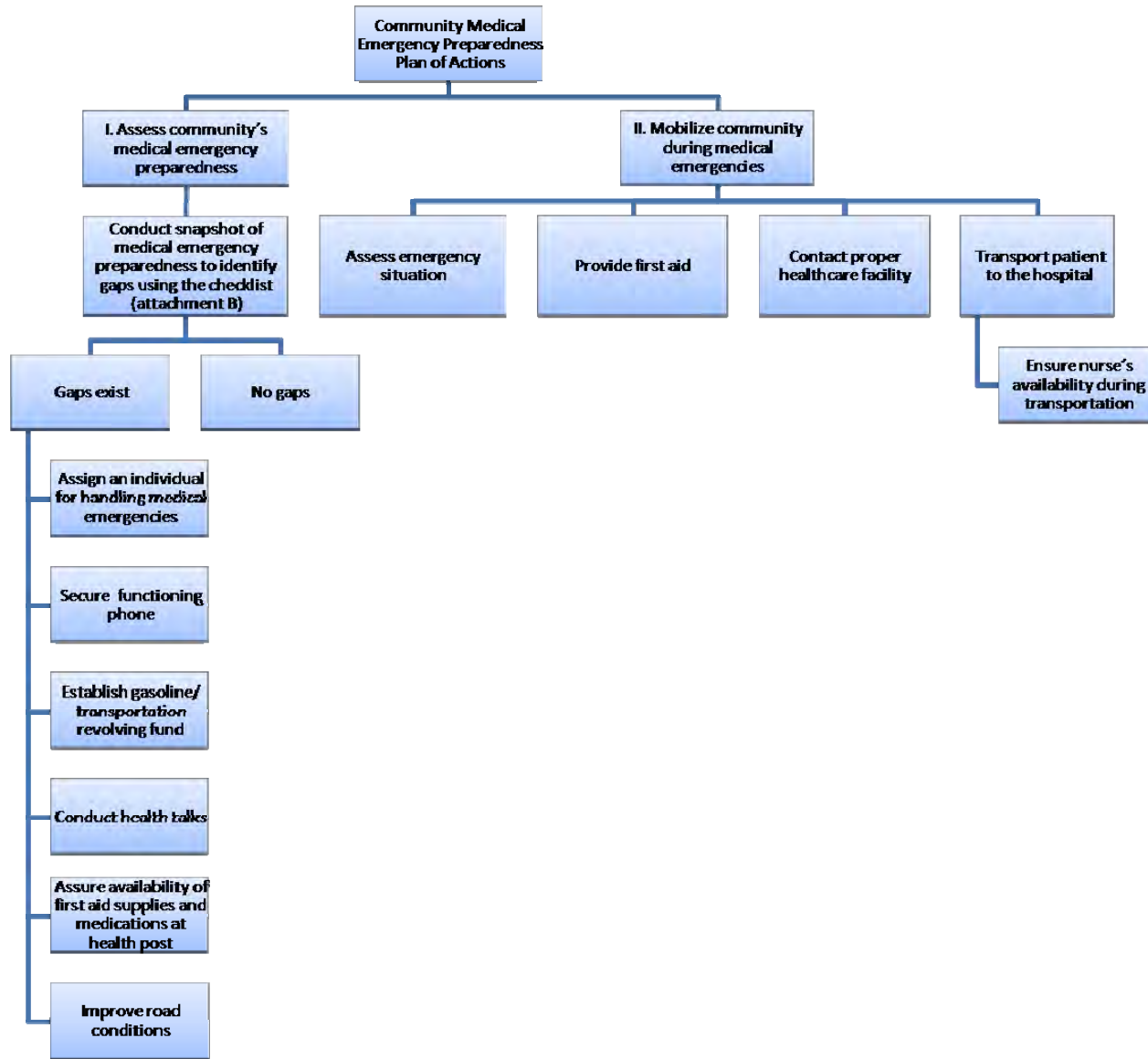
As a starting point, community activation teams can mobilize their resources to develop their own set of indicators to monitor available resources in emergency MCH referral preparedness, life-saving skills of local health care providers (HP nurse) and availability of urgent transportation and communication means.

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ATTACHMENT A. COMMUNITY MCH EMERGENCY MOBILIZATION FLOWCHART



ATTACHMENT B. COMMUNITY MATERNAL AND CHILD HEALTH EMERGENCY PREPAREDNESS CHECKLIST

Timing is critical in the prevention of maternal and newborn mortality and disability. For example, although postpartum hemorrhage can kill a woman in less than two hours, for most other complications a woman has 12 hours or more to get to life-saving emergency care. Three delays contribute to the vast majority of maternal and child mortality and disability: (1) delay in deciding to seek care, (2) delay in reaching appropriate care; and (3) delay in receiving proper care at the health facility. The first two "delays" relate directly to the issue of access to care, encompassing factors at the family and the community level, including transportation and general public awareness. The third "delay" relates to factors at the health facility. Community leaders, primary healthcare providers and hospitals need to work in unison to succeed.

This checklist is designed to assist rural communities in the evaluation of their overall preparedness for maternal and child medical emergencies situations. It shall be completed by the rural community nurse in the consultation with members of the community who play critical role during medical emergency at the community level. These people include, but are not limited to, village mayor or other community leader, and physician(s) from the supervisory healthcare facility. The checklist shall be filled out once a year and each item in the checklist shall be assessed separately. In the case of the positive answer, please check the box on the left side of the list. Items from the list receiving negative answer shall be left unchecked, discussed and corresponding solutions sought using the Community mobilization plan for emergency referrals.

- YOUR COMMUNITY HAS A DESIGNATED MEDICAL EMERGENCY TRANSPORTATION VEHICLE AND DRIVER AVAILABLE DAY AND NIGHT (VILLAGE MAYOR CAR, TAXI SERVICE, PRIVATE CAR OR TRUCK, OR MEDICAL AMBULATORY EMERGENCY VEHICLE)**
- YOUR COMMUNITY HAS GASOLINE SUPPLY SET ASIDE FOR MEDICAL EMERGENCY SITUATIONS**
- YOUR COMMUNITY HAS A FUNCTIONING PHONE TO CONNECT WITH SUPERVISORY AND/OR EMERGENCY REFERRAL FACILITY**
- HEALTH POST NURSE HAS PROVIDED ORIENTATION TO COMMUNITY MEMBERS ON MATERNAL AND NEWBORN HEALTH DANGER SIGNS (SEE BACK FOR THE LIST OF DANGER SIGNS)**
- HEALTH POST NURSE ALWAYS REFERS PATIENTS WITH EMERGENCY HEALTH CONDITIONS (LISTED AS MATERNAL AND NEWBORN DANGER SIGNS) TO THE CORRESPONDING HEALTHCARE FACILITY**
- HEALTH POST HAS FIRST AID SUPPLY AND MEDICATIONS WITH A VALID EXPIRATION DATE**
- HEALTH POST NURSE SECURES FIRST AID SUPPLY AND MEDICATIONS FROM THE SUPERVISORY FACILITY**
- HEALTH POST NURSE KNOWS WHERE TO REFER PATIENTS IN CASE OF EMERGENCY**
- HEALTH POST NURSE INFORMS AS SOON AS POSSIBLE HER SUPERVISOR AND CORRESPONDING REFERRAL HEALTHCARE FACILITY ON THE EMERGENCY SITUATION IN HER COMMUNITY**
- AS REQUIRED BY THE MINISTRY OF HEALTH, HEALTH POST NURSE ACCOMPANIES THE PATIENT TO THE CORRESPONDING EMERGENCY REFERRAL FACILITY**

Pregnant Women	Postpartum Women	Neonates
Sudden gush of fluid from vagina	<i>Severe vaginal bleeding that intensifies on the 3rd-4th day after delivery</i>	<i>Seizures</i>
<i>Vaginal bleeding</i>	<i>Chills/fever (38° C and above)</i>	<i>Uncontrollable vomiting</i>
Fever (38 °C and above)	Painful, red, warm lump in breast and change in milk appearance	<i>Marked chest retractions, fast breathing or difficulty in breathing</i>
Severe vomiting	Muddy vaginal discharge with foul odor	Swollen fontanel
<i>Dizziness, blurring of vision, spots before eyes</i>	<i>Acute pain in the lower abdomen and around perineum</i>	Umbilicus redness and pus discharge
Swelling of hands, face, feet	<i>Acute headaches, dizziness, disturbances in vision</i>	Body T <36.5°C or >37.5°C
<i>Convulsions</i>		Skin blisters
<i>Stomach pain</i>		Blue or yellow color of the skin
Decreased amount of urination		<i>The baby sucks worse than usual or does not suck at all</i>
Absence of fetal movement		<i>Lethargic, unconsciousness</i>
		<i>Decrease in hands and feet movements</i>
		<i>Pus discharge from ear</i>
		<i>Diarrhea for more than 7 days</i>
		<i>Sunken eyes</i>
	<i>Blood in feces</i>	

Danger signs that requires emergency referral to the hospital.